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The temporal suffixes in Korean and their interpretations

by

Jihwan Kim, B.A.; M.A.

Report

Presented to the Faculty of the Graduate School of

The University of Texas at Austin

in Partial Fulfillment

of the Requirements

for the Degree of

Master of Arts

The University of Texas at Austin

December 2007

The temporal suffixes in Korean and their interpretations

**Approved by
Supervising Committee:**

David I. Beaver

John Beavers

Dedication

To my teachers, to my family, to my wife, and to God

Abstract

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Jihwan Kim, M.A.

The University of Texas at Austin, 2007

Supervisor: David I. Beaver

This report deals with the issue of tense and aspect system in Korean both semantically and syntactically. Previous accounts for tense and aspect in Korean have been based on the assumption that the suffix has a fixed meaning, either temporally or aspectually, and either perfect(ive) or imperfective, and so on. In this report, I argue that the interpretation of the temporal suffix in Korean must be more flexible. The interpretation of the suffix is dependent on the occurrence conditions such as the characteristics of the verbs (or the predicates) and the temporal adverbials. For this claim, I argue how to understand tense and viewpoint aspect in Korean based on ‘two-component theory of aspect’ (Smith 1997) along the line of ‘boundedness’ of the grammaticalized aspect (Depraetere 1995) and ‘Event realization’ by Bohnemeyer and Swift (2004): *-ess* is either past tense or perfective aspect suffix and *-nun* is a present

tense suffix with imperfective aspect meaning, because *-nun* only occurs with [+dynamic] predicates.

Further, I argue how we can reflect the semantic tense and aspect onto the syntactic representation properly. Following Demirdache & Uribe-Etxebarria (1997, 2000), I show how tense and aspect in Korean can be mapped onto the syntactic representation. To treat the temporal adverbials, I follow Thompson (2005) that temporal adverbials are linked to [spec, AspP] position when they play a role as Reference Time (RT). Finally, I argue how the relations of the temporal arguments are syntactically realized in Korean. And *-ess* is interpreted as perfective aspect when the RT and ST (Speech Time) overlap.

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1. Introduction

The goal of this study is to provide an account of the temporal (including both tense and aspect) suffixes in Korean – how they are semantically interpreted and syntactically represented. To illustrate the point of the paper, let us consider the following examples¹:

- (1) ku saram-i chayk-ul ilk-**nun**-ta
that person-Nom book-Acc read-**NUN**-decl
‘That person *reads* a book’
- (2) ku saram-i chayk-ul ilk-**ess**-ta
that person-Nom book-Acc read-**ESS**-decl
‘That person *read* a book’

Generally, *-nun* in (1) is considered as present tense suffix and *-ess* in (2) as past tense suffix. However, this may not be the case if we consider the other examples:

- (3) *ku saram-i chayk-ul ilk-ko iss-**nun**-ta
that person-Nom book-Acc read-Prog-**NUN**-decl
‘That person *is reading* a book’
- (4) ku saram-i cikum mak chayk-ul tep-**ess**-ta
that person-Nom ‘now right: right now’ book-Acc close-**ESS**-decl
‘That person *closes* the book just now’

Traditional studies have mainly regarded both *-ess* in (2) and that in (4) are either past tense suffix ((2) and (4) are past tense) or perfective aspect suffix (the occurrences of each event – reading a book or closing a book – is located in the past or the before the moment of the utterance). Such explanation, however, does not account for the allowance of the temporal adverbs other than past time (e.g., *now* in (4)). Further, if we simply regard *-nun* in (1) and (3) as present tense suffix, we cannot answer why the sentence (3) is ungrammatical which is identical to (1) except the progressive suffix *-ko iss*.

When it comes to tense and aspect in Korean, this topic has usually been regarded as a

¹ In this study, I follow the Yale Romanization for Korean.

matter of semantics – what the suffixes mean. Their distributions and the occurrence conditions, however, have been less paid attention to among the traditional approach. In this study, I argue that the distributions of the suffixes is also important to show the nature of the suffixes, so that suffixes can be categorized either tense or aspect syntactically. Also, I argue that it is necessary to take the conditions of the temporal suffixes into consideration to interpret them more correctly. Instead of adopting the traditional classification of the temporal suffixes, I propose the ‘compositional’ approach for the temporal suffixes: the interpretation of the suffix depends on the conditions where the suffix appears. In other words, the temporal suffixes can be classified only after a sentence is composed². I will show that the classification of the temporal suffixes in Korean should be, instead of following the *a priori* definition of the suffixes, dependent on their usage; i.e., temporal suffixes in Korean are condition-dependent.

For this purpose, I address the issue(s) of this topic in the following ways:

- 1) the meanings of the temporal suffixes, especially *-ess* which is known as either ‘past’ or ‘perfective’, are determined by the conditions where they occur; and,
- 2) how the semantic relationship(s) can be captured within the syntactic framework.

For the first goal, I will specify the meanings of the suffixes according to their occurrence conditions in chapter 3. As the answer for the second question, I will propose how the syntactic functional categories such as AspP and TP are realized in accordance with the semantic tense and aspect. As the basic semantic framework throughout this study, I follow the traditional Reichenbachian temporal semantics (Reichenbach 1947, Hornstein 1990, etc. cf. Klein 1994): the basic assumption of this approach is that both tense and aspect are relational. As for aspect, the two-component theory of aspect (Smith 1997) is adopted as the theoretical background of the discussion which argues that Situation type aspects are more related to the lexicons (or lexical items) whereas the Viewpoint aspects to the morphology, more specifically, to the suffixes.

Linguistics in general, there have been a number of studies how to capture tense and aspect from the syntactic point of view. The main concerns of the syntactic approach are their

² The discussion of this study is limited to the understanding of tense and aspect in the predication constructions, because the patterns in the attributive constructions such as embedded clauses or relative clauses show different patterns from those in the predicate constructions; and tense and aspect in the attributive construction require a different approach from that in the predicative construction.

morphological realization or the syntactic head movement, such as Pollock (1989), Chomsky (1995), Radford (2004), and among others. This is also the case in Korean and there are discussions of the head movement about Tense and/or Aspect, especially along the line of the generative syntax, such as Yoon (1990), Cho (1994), and others.

However, the relationship between the semantics of tense and the syntax of the verb or the verb phrase is not fully taken into consideration in the society of Korean linguistics, whereas there are numerous discussions of the syntax-semantics interface of tense and aspect linguistics in general, such as Zagana (1990), Giorgi & Pianesi (1991), Stowell (1996), Demirdache & Uribe-Etxebarria (1997, 2000), and others. Besides, Thompson (2005) proposes the syntax of temporal adverbials that the positions of the temporal adverbials are sensitive to their modification. So, the goal of the paper is to connect the issues about the semantic tense and aspect with the syntactic representation in Korean.

For the discussion of Korean, I will use observations of the suffixes and the predicates from Ahn (1995), which proposes the categorization of the Korean aspects (both situation type aspects and viewpoint aspects) based on Smith's 'two component theory'. And I will introduce "the duality³ of *-ess*" in Korean (Choi 1993), and show how we can capture the appropriate meaning of the suffix in a given situation.

The structure of this paper is as follows: in chapter 2, I briefly review some of the pertinent studies of Korean tense and aspect system (in 2.1), and also review how temporal semantics were treated in syntax in general (in 2.2). In chapter 3, I will explain the semantics of the temporal suffixes and argue for the need of new understanding of the temporal suffix. In chapter 4, I will show how we can treat the semantic tense and aspect in Korean syntactically, by mapping the temporal arguments into syntactic frameworks. Finally, the general issues of tense-aspect in Korean and the remaining questions will be mentioned.

The main focus of this study is tense and viewpoint aspect in Korean both of which are conveyed by the grammatical morpheme, and the effect of the temporal adverbials⁴.

³ She argues that, between tense and aspect, *-ess* is not ambiguous but 'vague or unspecified'. However, my proposal is that *-ess* is still ambiguous and the meaning of the suffix can be disambiguated according to the occurrence condition. We will discuss this issue in the next section. See more Choi (1993).

⁴ Although the situation type is also a subset of aspect, and is related to tense and aspect, these types of aspect are conveyed by the verb or the verb constellation, and the domain of the current discussion is restricted to the verbal morphemes. See Smith (1997) for the general discussion of aspect and Ahn (1995) for the situation type aspects in Korean.

2. Pertinent Background

2.1 Tense & aspect in Korean

Since Choe (1929), numerous linguists have proposed accounts for the temporal system and the classification of the suffixes in Korean. While most linguists agree that Korean has aspects – viewpoint aspects and situation type aspects, the existence of tense – either syntactic (Tense) or semantic (tense) – has been one of the hottest issues in Korean linguistics.

Lee (1985) proposes a general but simple overview of the temporal system in Korean by arguing that aspect in Korean is optional but tense is not in a sentence. His claim on tense and aspect was that “... temporal ordering (= tense) is generally external to a situation, whereas aspect is internal to a situation with endpoints or process (Lee 1985: p. 436)”. According to him, *-ess* has the truth-conditional meaning of some event occurring in the past and the pragmatically implicated meaning of the result state of the event continuing until the speech time (Lee 1985: p.436). As well as *-ess*, he simply assumed that *-nun* is the present tense marker, but does not provide a detailed discussion about *-nun*. More detailed explanation for both *-ess* and *-nun* would have given us a clearer picture for the suffixes.

The question about the classification of the *-ess* suffix was more deeply dealt with in Choi (1993). She proposes that *-ess* is not ambiguous (either past tense or perfective aspect) but ‘vague’ or ‘unspecified’: her claim is that *-ess* is not solely the past tense nor the perfect aspect, but actually both (tense and aspect). Her claim is based on the observation that the usage of *-ess* as past tense and as (present) perfect are not in complementary distribution; and one cannot systematically disambiguate the usages of this suffix one from the other. Consider the following examples from Choi (1993: p.538ff):

- (1) a. na-nun ecey ku salam-ul manna-ss-ta
I-Top yesterday the man-Acc meet-Pst-Dcl
‘I met the man yesterday.’
- b. kunye-nun 1990 nyen-ey paksa hakwuy-lul pat-ass-ta
she-Top 1990 year-ey Ph.D degree-Acc receive-Pst-Dcl
‘She got her Ph.D degree in 1990.’

- (2) a. na-nun ku salam-ul manna-ss-ta
 I-Top the man-Acc meet-Pst-Dcl
 'I met the man. / I have met the man.'
- b. kunye-nun paksa hakwuy-lul pat-ass-ta
 she-Top Ph.D degree-Acc receive-Pst-Dcl
 'She got her Ph.D degree. / She has got her Ph.D degree.'

The difference between (1) and (2) is that (1) have temporal adverbs such as 'yesterday' or 'in 1990' whereas (2) do not have the adverbs. She proposes three interpretations of the sentences (2). First, sentences in (2) can describe situations where a definite time for the event is though not overtly specified by temporal adverbs, i.e., they describe simple past situations. Secondly, sentences in (2) can be indefinite, in that they can describe situations, the event time of which can be any time before the speech time. Finally, these sentences can also indicate the continuing present relevance of the past events (perfect reading).

Her claim that *-ess* is not ambiguous but vague is the claim that "[U]nless given a more specific context, every sentence with *-ess* can describe either a simply past event or a past event with the present relevance. That is, one can never systematically disambiguate one from the other." (p.541) She also claims that "... *-ess* is not an absolute tense which takes the speech time as its datum point; rather, it is a relative tense in the sense that it anchors the time of an event to a "past" time with respect to a certain other time" (p.537). She keeps arguing that there is no clear perceptual and no semantic distinction in the denotation of *-ess*. Choi further introduces a modified Reichenbachian model of tense and aspect with another time point, *P*, a perspective point, to capture the characteristics of *-ess*. By introducing *P*, she argues that the general meaning of *-ess* can be represented by the relation between the event point *E* and the perspective point *P*. *P*, according to her, "... provides a time point from which an event is viewed regardless of the time we are really interested in or talking about, i.e., the reference time *R*." (p.546) According to her, *P* is a common past moment when the event happens. *P* coincides with *R* in the perfect interpretation; *P* follows *R* in the past interpretation. Thus, *R* is not essential part of the denotation of *-ess* in her analysis and the meaning of the *-ess* is determined by the relation between *E* and *P*.

However, there are some questions about her *P*. First of all, each relation among *S*, *R*, *E*, and *P* is not clear. According to her, *P* overlaps *S* and it is preceded by *E*, and *R* is identical to *E* in the simple past and *R* is identical to *P* the present perfect ($R = E < P = S$ for simple past, and $E < R = P = S$ for present perfect). However, it is not clear what the function of *P* in these cases is and

how P is related to R. It seems that the purpose of P is to explain the relative tense. However, although she mentions that P is needed for the “shifted speech time” in the past perfect and future perfect tense, it is quite hard to follow her claim, because of the lack of the concrete data. Besides, we can still capture the meaning of the past- and future perfect with the Reichenbachian model (if we separate tense as the relation between S and R from aspect as the relation between R and E) or Klein (1994)’s model of tense and aspect (TU: Time of utterance, TSit: Time of situation, and TT: Topic Time)⁵.

Now, returning to the meaning of *-ess*, it seems that the claim ‘*-ess* is vague’ is valid, especially when we think that *-ess* itself is hard to tell whether it is used for past tense or perfective aspect. However, if we consider the following examples and how the Korean native speakers understand them, it will show the preferred understanding of *-ess* suffix, according to their occurrence conditions:

- (3) a. pi-ka o-ass-ta
rain-Nom come-ESS⁶-Dcl
‘It rained.’
- b. suphike-eyse nolay-ka hule-ss-ta
speaker-from song-Nom flow-ESS-Dcl
‘A song came from the speaker.’
- (4) a. ku kicha-ka yek-ey tochakhay-ss-ta
that train-Nom station-at arrive-ESS-Dcl
‘The train gets arrived at the station.’
- b. ku haksayng-tul-un sukce-lul kkutnay-ss-ta
that student-PI-Top homework-Acc finish-ESS-Dcl
‘Those students get finished their homework.’

When we compare sentences in (3) and (4), which do not carry any temporal adverbials, we can see that *-ess* in (3) are interpreted more as past tense than as perfect/perfective aspect, whereas *-ess* in (4) are more aspect than tense. The difference between (3) and (4) is the class of the verb, i.e., the situation type aspects are different in (3) and (4). According to Smith’s ‘two component

⁵ In his model, Klein claims tense is determined by the relation between TU and TT, and aspect is by the relation between TT and TSit. The critical difference between the traditional Reichenbachian model and Klein’s model is the treatment of R or TT. See more Klein (1994).

⁶ Because we did not discuss the characteristics of *-ess* yet, I glossed *-ess* as *-ESS* in this chapter.

system', verbs in (3) are 'activity' whereas those in (4) are achievement ((4a)) or accomplishment ((4b)). More specifically, verbs in (3) do not have the boundary of the event whereas verbs in (4) do. So, *-ess* may be vague by itself; still, it is necessary to consider its occurrence condition when we classify this suffix. Choi's claim is that *-ess* is always vague unless temporal specification by the temporal adverb. But the claim which will be developed in this study is that *-ess* can be classified not only by the temporal adverbs but also other factors such as situation type aspect.

As a summary, it is worth paying attention to her arguments in some ways, especially the "Relativity of *-ess*" or, in other words, "the duality of *-ess*". Although there are several questionable points in her analysis, the idea of the "duality" of *-ess* is interesting and related to our current study. We will discuss this idea further in the later section.

Besides the above directions of the tense and aspect in Korean that suffixes are understood either as tense or as aspect, there is another approach to the tense-aspect system in Korean. Lee, H.-S. (hereafter LHS) (1991) claimed that the Korean temporal system has two dimensions of perfectivity: temporality and totality. Temporal dimension is related to the temporal properties of the situations such as the beginning, middle, or terminal point of the situation. On the other hand, totality dimension is related to which the viewpoint is positioned; namely, inside or outside of the event duration. Based on these two criteria, he argued that *-ess* is characterized as 'anterior' marker which denotes that "... a situation is described takes place prior to a reference point provided in the discourse context (LHS 1991: p. 176) (ET < RT). He argued that *-ess* was historically derived from *-e iss*, a resultant state marker which is opposed to *-ko iss*, the progressive marker; and that *-nun* is a present imperfective marker which is contrast with *-te*, a past imperfective marker.

For our study, his claim is worth considering in that his classification term "anterior" for *-ess* can cover the previous discussions about *-ess* (whether this suffix is past tense or perfective aspect) together, in that the notion of "anterior" resembles the 'vagueness' of *-ess* (Choi 1993). "Anterior" is classified neither tense nor aspect in his terminology; rather, it is a tense/aspect-neutral concept. This claim, however, raises a question how anterior is neutral to tense and aspect: since anterior is a relational concept of the events and its occurrence on the time axis, this anteriority concept cannot be captured without the notions of tense and aspect. Another question that I'd like to raise is, although his approach is focused on temporal semantics, this approach seems to overlook the syntactic properties of the suffixes, especially on the distributional- and

combinational characteristics of these suffixes. In other words, it is not clear how we can posit a new functional phrase for this “anterior” concept within current syntactic theory.

Ahn (1995) shows how the ‘two-component (situation type- and viewpoint aspect)’ theory of aspect can be realized in Korean. She shows how Smith’s theory of tense is applied to Korean by the ‘situation type’ and ‘viewpoint’. First, she proposes that the traditional classification of ‘situation type’ aspect should be revised, especially predicates which had been traditionally considered as ‘stative’ type aspect should be classified as ‘resultative achievement’ type aspect⁷. For viewpoint aspect, she proposes that temporality of Korean is realized, following LHS’s claim, by means of perfectivity and (or) anteriority: she argued that perfective viewpoint is marked by a null morpheme, whereas imperfective is marked by *-ko iss* for the general imperfective, *-e iss* for the resultative, and *-nun* for the present imperfective. She further discusses the temporal location by the suffixes: *-ess* for the anterior, and $-\emptyset$ for the non-anterior. Both *-ess* and $-\emptyset$ are aspectual suffixes which mark the relation between RT and ET (SitT in her term, following Smith 1997). Her observation of ‘situation type’ aspect has a strong point in that her classification of the situation type is based not only on the semantic meaning of the predicate but also the syntactic conditions of the occurrence of the predicate at hand. However, her claim of the viewpoint aspect failed to capture 1) the duality of *-ess* suffix and 2) the temporal location of the suffix is not a matter of aspect – especially anteriority versus non-anteriority, but a matter of tense – past versus present/non-past. In the next chapter(s), I’ll argue that *-ess* is not an anterior suffix but a tense-aspect suffix whose meaning is determined by the conditions whereas $-\emptyset$ is present tense suffix.

More detailed discussion on Ahn (1995) will be provided in the later chapters, especially viewpoint aspect and some arguments of the situation type aspect.

2.2 Studies of Temporal Argument Structure

In this section, we will review some of the previous studies of temporal argument structure. Most of the studies in this field aim at how the semantic argument can be implemented on the syntactic representation. This approach is different from the syntactic explanation how

⁷ Detailed discussion will be given in chapter 3.

tense- and aspect are overtly expressed by auxiliaries or inflections: the basic concept of this trend is how temporal arguments in the temporal semantics can be captured in the syntactic structure.

In the area of tense and aspect in syntax, Zagona (1990) is one of the pioneering works. With the Principle & Parameter (P&P) framework, she presents a syntactic analysis of tense in English and Spanish with the assumption that “... temporal entities are lexically and syntactically encoded as arguments of a predicate (Zagona 1990)”, and ‘F’ is a dyadic predicate which takes two ‘times’ as its arguments (‘F’ stands for Finite, and it has [\pm Finite] values). The times referred to here were ST, and ET; ST is the external temporal argument of F^0 which occupies [Spec, FP] position, and ET is the internal temporal argument as the complement of F^0 . Her assumption is that FP is positioned between AgrP and VP. A simplified representation of FP for a tensed sentence is as follows:

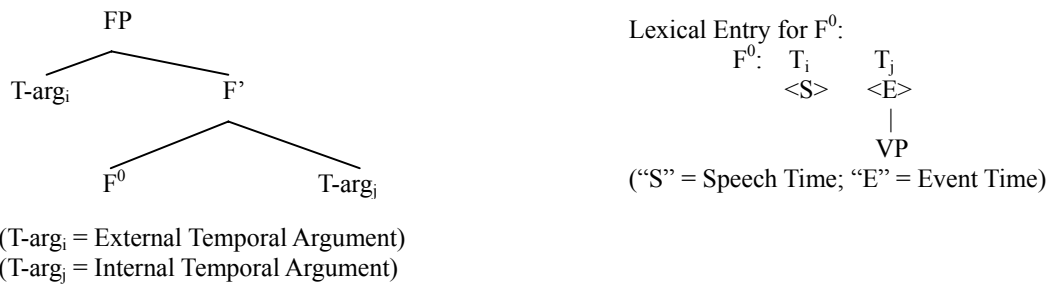


Figure 1: Representation of F in the simple tense

She also says that “VP is a theta-marked complement of F^0 , and VP is the syntactic constituent that is temporally evaluated relative to the moment of speech. (Zagona 1990: p. 10)”⁸ She supports the claim of VP as the internal temporal argument of F^0 by showing that VP is theta-governed by F^0 . Regarding the position of F and its maximal projection, she gives an account for the argument structure of English that F^0 directly takes VP as its internal argument; and FP is the daughter of Agr^0 , which is now T^0 in the Minimalist Program framework. Her idea that tense is a dyadic predicate which relates two temporal arguments is adopted in following studies such as Stowell (1996), Demirdache & Uribe-Etxebarria (1997), Thompson (2005), etc.

⁸ The claim that VP is temporally evaluated relative to the moment of speech, however, raises a question in that this claim means that tense is the direct relation between ET and ST. Tense is the relation of ST and RT, or, at least, ST and ET is mediated by RT even in the simple tense; and this is widely adopted in the current temporal semantics (Hornstein 1990, Klein 1994, among others).

Stowell (1996), in the similar fashion of Zagona (1990), tries to give an explanation of how the temporal relationships between ST and RT, and RT and ET can be mapped into the syntactic representation. His assumption is that tense is a predicate head, taking two time-denoting arguments (ET as its internal argument and RT, instead of ST, is its external argument), as Zagona (1990) did. Further, he also argues that “...(he) posits an additional functional category ZP (*Zeit-Phrase*) intervening between TP and VP which serves as the time-denoting internal argument of T, denoting the E” (p. 280). According to him, ZP is a referential category in that ZP denotes a time, and that some element at the ZP-level binds a temporal variable within VP. His model of the structure for the sentence *John hit the ball* is illustrated as in figure 2 (Stowell 1996).

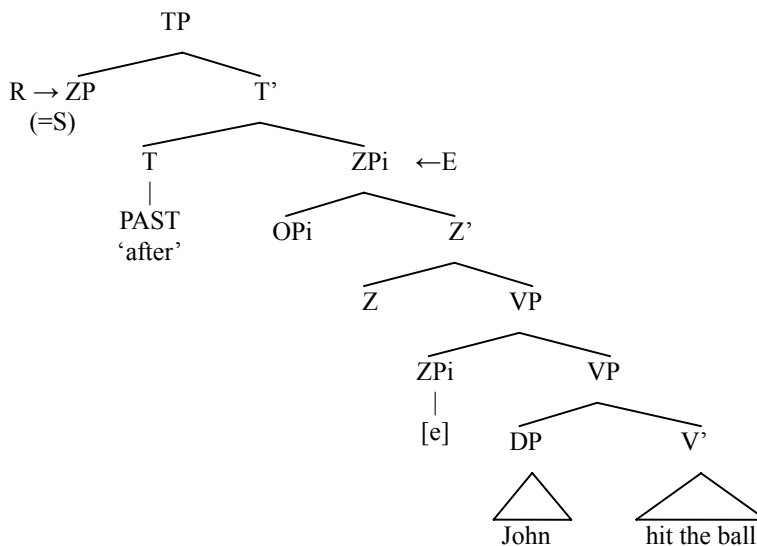


Figure 2: Temporal structure in Stowell (1996)

His claim is quite plausible, in that he introduced a functional category which is responsible for the notion of tense in the syntactic representation. Although his argument for dyadic treatment of tense shows a way to map the semantic tense and aspect in syntactic structure, it is unclear the status of ZP in his claim. It seems that Z is similar to Asp(ect), which is related with RT in the current semantic approach. But he didn't clearly say if ZP is identical to AspP: it seems that Z does not show remarkable difference from Asp.

Now, I will review the recent studies of the temporal argument structure of Demirdache & Uribe-Etxebarria (hereafter, D&U) (1997, 2000). Their proposal is the unitary treatment for the

compositional interaction of Tense and Aspect, by reducing them to the same set of semantic and syntactic theoretical primitives (*after/within*), and then establishing a strict parallelism between the syntax and semantics of Tense and Aspect. D&U, extending the proposals in Zagona (1990) and Stowell (1993, 1996), claim that Aspect, as well as Tense, is a dyadic predicate ordering two times. Further, Aspect is a head that projects a maximal projection (ASP-P), as Tense is to TP. While Tense is the predicate which takes, according to their terms, the utterance time (UT-T) as its external argument and the Assertion Time (AST-T)⁹ as its internal argument, Aspect takes AST-T as its external argument and EV-T (Event Time) as its internal argument, denoted by the VP. Thus, the role of AST-T is either the internal argument of Tense, or the external argument of Aspect. Their claim can be illustrated in figure 3:

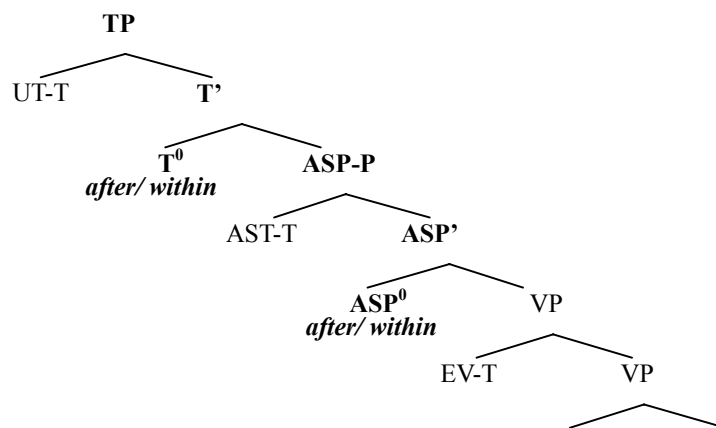


Figure 3: The Phrase-Structure of Tense and Aspect (D&U 1997)

As above mentioned, each T⁰ and ASP⁰ has two meaning primitives, *after* and *within*. As for tense, *after* is for past tense and *within* for present tense. Aspect, as well as tense, can be divided into two classes, *after* and *within*; and *after* corresponds to ‘perfective’ viewpoint aspect and *within* to ‘imperfective/progressive’. Such simplification is valid in some languages like English, French, Basque, or even Korean. Although this simplification may not account for other viewpoint aspect, such as neutral viewpoint aspect in Chinese and Navajo (Smith 1997), this relationship between *after* and *within* is enough to explain our current topic, *-ess* and *-nun*

⁹ D&U adopted the idea of tense- and aspect relation and the terminologies of the temporal arguments from Klein (1994) (UT-T for TU, AST-T for TT, and EV-T for TSit). See more Klein (1994).

suffixes in Korean. So, I will adopt their claim as the basic distinction of tense and aspect in Korean.

We can still raise questions about the position of each temporal argument, S, R, and E, and the position of the temporal adverb. These questions will be discussed in chapter 4 with the proposal by Thompson (2005) as well as D&U (1997, 2000), Zagana (1990), etc.

In addition, it seems possible that we can relate the aspectual distinction by D&U with the notion of ‘boundedness’ (Depraetere (1995)). Boundedness is, in short, the notion whether or not the event is closed (she notes “bounded”) (either to the left or to the right) by tense as well as aspect, and this concept of ‘boundedness’ helps us to capture the meaning primitives of tense-aspect in the following way: if it is possible to assume that past tense is bounded and present unbounded, and further, *after* is bounded and *within* unbounded, we can represent the semantic notion of ‘boundedness’ with the above syntactic representations. More detailed discussion will be presented in 3.3, along with the discussion of the ‘event realization’ by Bohnemeyer & Swift (2004).

So far, we have reviewed some relevant background studies in this topic: Korean tense and aspect - especially the viewpoint aspect. The classification of *-ess* suffix has been the hottest issue in this discussion. Among them, several studies pointed out the duality of *-ess* either tense or aspect. Not so many studies addressed *-nun*, by the way.

In 2.2, the temporal argument structure, we have seen that tense can be treated as a dyadic predicate which takes two arguments: ST and RT. The treatment of aspect is similar to that of tense: (viewpoint) aspect is the relation of RT and ET. As D&U argued, both tense and aspect have the same meaning primitives: *after* and *within*; and such meaning primitives will be related with the notion of boundedness later.

In the next chapter, I will show in which conditions the suffixes are allowed to appear, how they are understood, and what restrictions are applied to the occurrence of the suffix semantically, and, if applicable, syntactically.

3. The semantics of the temporal suffixes

3.1 The temporal suffixes in Korean

3.1.1 The existence of the –Ø suffix in Korean

Before we go further into our discussion about the temporal suffixes in Korean (both tense and aspect), it is essential to answer the question: How many tenses does Korean have? This question is quite important, in that the answer for this question allows us to set the boundary of our current discussion as well as the subject of the study. The answer for this question, however, requires broader studies from diverse angles than our current study. In fact, various studies have tried to figure out how many tenses Korean has, and the claims are converged to the point that Korean has two dimensional distinctions in its temporal meanings. Some argue for the two tense distinctions: past and present (or non-past) (Choe 1929, Sohn 1995, etc.). On the other hand, others claim that Korean has temporal aspect which serves as the temporal-order determiner (anterior vs. non-anterior (LHS 1991, Ahn 1995), complete vs. incomplete (Nam 1978), etc.). In any cases, most of the studies of this topic agree that Korean has two dimensional distinction in its tense- or tense & aspect system. And, in this study, I will adopt the widely accepted the wide convention that Korean has past-present tense distinction¹⁰.

Accepting that Korean has two dimensional distinctions in tense-aspect system, the goal in this study is to show how to interpret temporal suffixes in Korean. Now, consider the examples:

- | | | | |
|-----|--|------------|-----------------|
| (1) | Ecey-nun | nun-i | o-ass-ta |
| | Yesterday-Top | snow-Nom | come-ESS-Decl |
| | ‘It snowed yesterday’ | | |
| (2) | Onul-un | pi-ka | o-n-ta |
| | Today-Top | rain-Nom | come-NUN-Decl |
| | ‘It rains today’ | | |
| (3) | Kkot-i | pangkum ta | situl-ess-ta |
| | Flower-Nom | now all | wither-ESS-Decl |
| | ‘The flowers all became withered just now’ | | |

¹⁰ The modal suffix *-keyss* is used to represent the time following the speech time ($T_{\text{-keyss}} > T_{\text{ST}}$). However, this suffix is also widely used to express the intention of the speaker. For this reason, this suffix is excluded from our current study.

- (4) Ku-nun kaykwuli-cherem cal ttuuy-n-ta
 He-Top frog-like well jump-NUN-Decl
 ‘He jumps well like a frog’ (Ahn (1995): p. 129)

Each sentence from (1) to (4) has a suffix for the temporal information. The interpretations of the suffixes are, however, dependent on the conditions in which they occur. Sentence (1) means that the event of snowing occurred before ST, yesterday; (2) means that raining event occurs at ST, now. And (1) may imply that it is likely to continue to snow till at ST, but this implication can be canceled as follows:

- (5) ecey-nun nun-i o-ass-ta. kurena onul-un nun-i an-o-ass-ta.
 Yesterday-Top snow-Nom come-ESS-Decl but Today-Top snow-Nom not-come-ESS-Decl
 ‘It snowed yesterday, but it did not snow today’

Sentence (5) clearly shows that the function of *-ess* in the first conjunctive is to locate the snowing event before ST, i.e., the event occurred in the past. Further, it is not necessary to understand *-ess* in the first conjunctive as the completion of snowing event by itself. In other words, there is no moment for the completion of snowing in nature

However, it is not the case that *-ess* suffix always locates the event in the past. In sentences (3) and (4), the suffixes *-ess* and *-nun* are interpreted differently from those in (1) and (2); *-ess* in (3) differs from that in (1), in that *-ess* in (3) is less likely understood as the past tense suffix. Although it may be reasonable to think that flower’s withering event began in the past (unless we assume that something happens to the bundle of the flower all at once, so that the whole flower becomes withered instantaneously), it is unlikely for *-ess* in (3) to be understood to locate the event into past; rather, *-ess* in (3) is understood to show the completion of flower’s withering. In other words, although the process of flower’s being withered began in the past time, its completion is done at the moment of utterance. So, we can say that *-ess* in (3) is used as an aspectual suffix rather than a tense one. This is also true in sentence (4). Indeed (4) can be interpreted as pointing out the event that he jumps well at a given circumstance, but (4) sounds more natural when this sentence is understood as describing his normal ability to jump well like a frog (=habitual meaning). In any case, it is clear that the suffixes in the sentences from (1) to (4) are related with the temporal interpretation of the sentences and the temporal elements of the sentences.

Suppose *-nun* and *-ess* are the suffixes to locate the event on the time axis, namely, temporal suffixes, we can also ask a question about the suffixes: does Korean have temporal suffixes other than *-ess* and *-nun*? Among the Korean linguists, there have been discussions about the existence of the zero suffix, $-\emptyset$. The necessity of the $-\emptyset$ is supported by various studies (LHS 1991, Ahn 1995, Sohn 1995, among others), and the evidence will be provided in the following section. The question is, however, whether $-\emptyset$ is temporal or aspectual. LHS (1991) claimed that *-ess* and $-\emptyset$ suffix are used for the temporal contrast between past and non-past for the descriptive predicates, respectively, whereas *-ess* and *-nun* are used for the non-descriptive predicates. Ahn (1995) adopted LHS's (1991) claim that $-\emptyset$ is used for the temporal location as non-anterior. She also provided three types of sentences where $-\emptyset$ occurs: "1) present tense sentences have the time reference of the non-anterior $-\emptyset$, 2) stative situations take the construction of a verb stem followed by the null morpheme and a sentence-terminal suffix, and 3) non-stative situations take the construction of a verb stem followed by an aspectual suffix (such as the present imperfective *-nun-* or a periphrastic suffix *-ko iss-* or *-e iss-*) and a sentence terminal suffix. (Ahn 1995: p. 162)"¹¹ As well as above discussion, Sohn (1995) also argues for the $-\emptyset$ suffix in Korean, and claims that $-\emptyset$ suffix must be as *pro* which receives its temporal interpretation from the preceding noun whereas *-ess* must be understood as R-expression so that it cannot be bound by the preceding tense morpheme¹². However, her claim is more related to so-called "Sequence of Tense" in the embedded clause, and seems to have little relationship with our current study. Still, what we can see is that the existence of $-\emptyset$ can be supported by this claim.

In addition to the preceding arguments, a crucial reason that $-\emptyset$ is needed can be found in the following: in Korean, the temporal non-final suffixes are placed between a verb stem and the Mood marker (*-ta*) in the predicative clauses. The presence of these suffixes is obligatory in Korean sentences.

(6) *John-i sakwa-lul mek-ta¹³

11 The numeration is mine.

12 Her claim is that Korean tense can be understood in the fashion of Binding Theory (BT): she argued that there are two tenses in Korean, past and non-past, and that there are two forms of expressing tense, *-ess* and $-\emptyset$. According to her, *-ess* must be understood as R-expression which is subject to Principle C of the Binding Theory; and it also must be understood to have interpretive patterns as names or Reference expressions. On the other hand, zero form ($-\emptyset$) is a pronominal thus understood to have interpretive patterns as *pro*. This approach is based on the semantic- and the syntactic treatment of Partee (1973) and Enç (1987).

13 Sentence (6) sounds bad, since it does not specify the temporal location on the time axe. Detailed

- John-Nom apple-Acc eat-Decl
 ‘John eat an apple’
- (7) John-i sakwa-lul mek-nun-ta
 J-Nom apple-Acc eat-NUN-Decl
 ‘John eats an apple’
- (8) John-i sakwa-lul ta mek-ess-ta
 J-Nom apple-Acc all eat-ESS-Decl
 ‘John ate an apple’

The grammaticality is not changed even by the addition of the temporal adverbs:

- (6’) *John-i cikum sakwa-lul mek-ta
 John-Nom now apple-Acc eat-Decl
- (7’) John-i cikum sakwa-lul mek-nun-ta
 J-Nom now apple-Acc eat-NUN-Decl
 ‘John eats an apple.’
- (8’) John-i cikum sakwa-lul mek-ess-ta
 J-Nom now apple-Acc eat-ESS-Decl
 ‘Lit.: John ate an apple completely now.’
- (6’’) *John-i ecey sakwa-lul mek-ta
 John-Nom yesterday apple-Acc eat-Decl
 ‘*John eat an apple yesterday.’
- (7’’) *John-i ecey sakwa-lul mek-nun-ta
 J-Nom yesterday apple-Acc eat-NUN-Decl
 ‘*John eats an apple yesterday.’
- (8’’) John-i ecey sakwa-lul mek-ess-ta
 J-Nom yesterday apple-Acc eat-ESS-Decl
 ‘John ate an apple yesterday.’

From the above, we can see that a temporal suffix is obligatory in the predicative clause. One may argue against the above claim by saying that present/non-past tense is unmarked whereas past tense is marked. This claim may seem reasonable at first sight. Consider the examples:

discussion will be given later.

- (9) Sakwa-ka ppalkat-ta
apple-Nom red-Decl
‘The apples are red.’
- (10) Sakwa-ka nora-yss-ta
apple-Nom yellow-ESS-Decl
‘The apples were yellow.’
- (11) *Sakwa-ka ppalka-n-ta
apple-Nom red-NUN-Decl
‘The apples are red.’

Predicates in the above examples are classified as ‘adjectives’ which can also be analyzed as ‘statives’ in terms of aspect¹⁴. Sentence (9) says that the current color of the apple is in the state of being red, whereas (10) says about the past status of apple’s appearance (the ungrammaticality of (11) will be discussed later). It does not seem that (9) has a covert tense suffix whereas (10) overtly specifies the temporal location in the past with *-ess* suffix. This assumption that no temporal suffix in (9), however, can be rejected by adding the temporal adverbs in these sentences:

- (12) Yocum sakwa-ka ppalkat-ta
These days apple-Nom red-Decl
‘Apples are red in these days.’
- (13) *Ilcuil-cen-e sakwa-ka ppalkat-ta
A week ago apple-Nom red-Decl
‘Apples are red one week ago.’
- (14) ?Yocum sakwa-ka nora-yss-ta
These days apple-Nom yellow-ESS-Decl
‘Apples were yellow in these days.’
- (15) Ilcuil-cen-e sakwa-ka nora-yss-ta
A week ago apple-Nom yellow-ESS-Decl
‘Apples were yellow a week ago.’

¹⁴ Kim (2002) rejects the traditional claim that these predicates are adjectives. Instead, she claims that they must be classified as “stative” verbs, in that they show the same syntactic pattern of verbs, not adjectives when they are in the relative clauses. In this study, however, I simply regard them as traditional adjectives. See more Kim (2002).

What property allows or disallows the occurrence of the temporal adverbs in (13) and (14)? If there exists only the predicate itself and nothing is with it, the grammatical judgments of (12) and (13) are not possible, in that the predicate *ppalkat-ta* ‘to be red’ does not require a specific time period of being red or not being red¹⁵. In other words, (12) and (13) are grammatically fine as long as apples are red in these days or a week ago. This is also the case in the nominal predicate cases, such as *haksayng-i-ta* ‘to be a student’:

- (16) John-un tayhaksayng-i-ta
 J-Top college student-copula-Decl
 ‘John is a college student.’
- (17) John-un kotunghaksayng-i-ess-ta
 J-Top highschool student-copula-ESS-Decl
 ‘John was a high school student.’
- (18) Hyencay John-un tayhaksayng-i-ta
 Currently J-Top college student-copula-Decl
 ‘Currently, John is a college student.’
- (19) *Hyencay John-un tayhaksayng-i-ess-ta
 Currently J-Top college student-copula-ESS-Decl
 ‘Currently, John was a college student.’
- (18’) Il-nyen-cen-e John-un kotunghaksayng-i-ess-ta
 1-year-ago-at J-Top high school student-copula-ESS-Decl
 ‘One year ago, John was a college student.’
- (19’) *Il-nyen-cen-e John-un kotunghaksayng-i-ta
 1-year-ago-at J-Top high school student-copula-Decl
 ‘One year ago, John was a high school student.’

Thus, it is reasonable to postulate a covert suffix which controls the co-occurrence with the temporal adverbs; and above examples give us a good reason to think that Korean has a covert temporal suffix, $-\emptyset$, in its temporal suffix inventory.

The necessity of $-\emptyset$ also can be supported by the syntactic explanation. Suppose we provide the syntactic structure of Korean, the first step is to postulate the functional phrases

¹⁵ The grammaticality in (14) and (15) shows a different pattern from (12) and (13). It is because of the duality of *-ess*, and I will discuss this issue in the later part of this chapter.

where the suffixes can be realized. A simplified structure of the normal (verbal) predicate in Korean can be as follows:

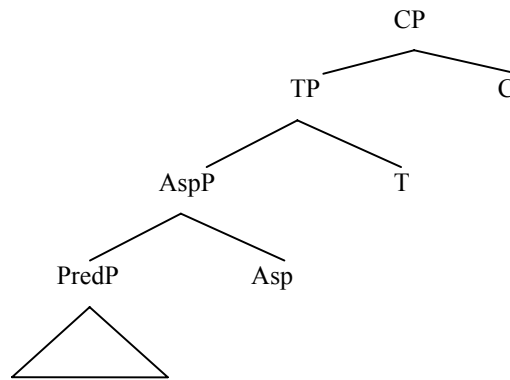


Figure 4: A simplified structure of Korean

If we do not postulate a functional suffix $-\emptyset$ in the position of T, we then need another structure for the syntactic explanation:

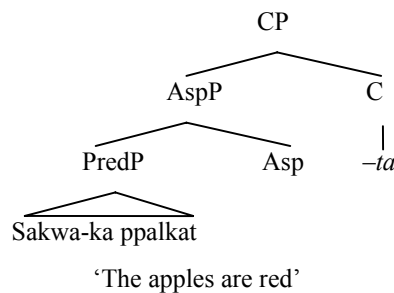


Figure 5: An alternative structure of Korean

Figure 5 is enough for the explanation of the sentences such as (9) which does not have overt temporal suffixes. But suppose that we need to explain the structure of both (9) and (10) together, we will confront difficulty to explain the structures because (9) has no temporal suffix whereas (10) has. If we assume that Figure 5 is the right structure of sentence (9), we cannot explain the structure of (10) because Figure 5 cannot provide a suitable terminal node for $-ess$ suffix. Therefore, we have to postulate another structure for (10).

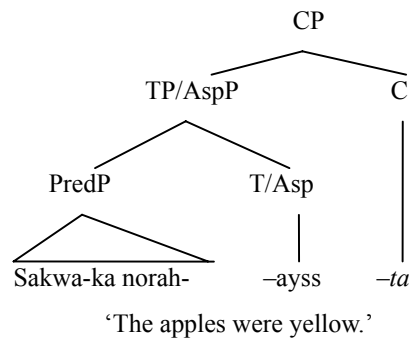


Figure 6: Structure of (10)

So, this non-null suffix approach requires the predicates in the same class to postulate two different syntactic structures. This duality of the structure, however, does not seem intuitively adequate in that two different structures are always required to explain Korean predicate phrases. This inconvenience can be solved if we postulate the $-\emptyset$ suffix as the temporal suffixes in Korean. From (9) to (19), we can see that adjectival- and nominal predicates take $-\emptyset$ as its present tense suffix, and $-ess$ as its past tense suffix ($-ess$ vs. $-\emptyset$). And, verbal predicates take $-nun$ as its present tense suffix¹⁶ and $-ess$ as its past tense suffix ($-ess$ vs. $-nun$), as in (6) to (8).

This approach has an advantage over the previous non-null approach, in that the former allows the unitary treatment of the syntactic explanation for functional phrases in the generative syntax. Suppose that T (or INFL) takes either VP or AdjP (or Nominal Phrase) as its complement, and also suppose that the suffix $-ess$ is generated at the T node. This null suffix approach, further, allows the unitary treatment of the functional phrase in Korean. This can be illustrated as follows:

¹⁶ Although we will discuss the status of $-nun$ suffix whether this suffix is temporal (present or past) or aspectual (completive or incomplete) in the later part of this study, I simply regard this suffix as present tense here, for the simplicity of the discussion.

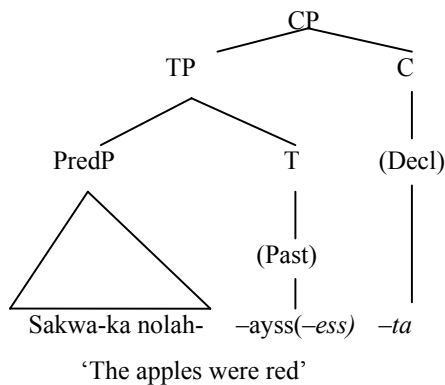


Figure 7: Predicates with *-ess* suffix

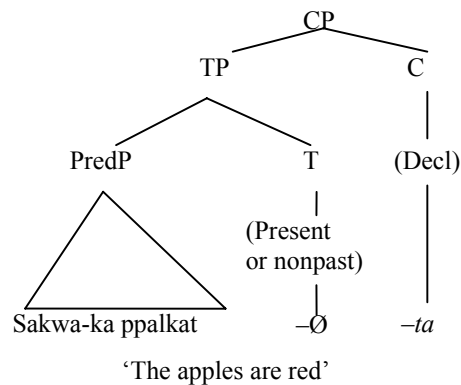


Figure 8: Predicates without *-ess* suffix

Because the existence of $-\emptyset$, as we can see in Figure 7 and 8, we can have the unitary treatment for functional phrases such as TP or AspP (if we assume that these suffixes are aspectual). Thus, I’ll assume that there exists $-\emptyset$ suffix in the temporal suffix inventory in Korean. Sohn (1995) discussed the meaning/interpretation of $-\emptyset$ suffix more deeply. Her focus is the interpretation of $-\emptyset$ where $-\emptyset$ appears in the embedded clause. She also treated *-ess* as deictic, $-\emptyset$ as either deictic or anaphoric, according to the conditions ($-\emptyset$ is anaphoric when there is an antecedent temporal suffix). Here, it is enough to say that $-\emptyset$ is a present, or, at least, non-past suffix, and this suffix syntactically fills the head position of TP when it appears in the tensed predicative matrix clause.

If this is the case, there still leaves an important question about the derivation of the zero suffix: how a semantically meaningful suffix can be realized by a syntactically empty surface form? In other words, if the suffix is syntactically empty, how the semantic meaning of this suffix can be realized without a concrete form? This is a very important question, and this question will be addressed in the later section (§3.3) and Chapter 4.

3.1.2 The distribution and the meaning of the suffixes

In the previous section, we have seen that a predicate in the predicative clause needs at least one suffix among *-ess*, *-nun*, or $-\emptyset$ for the temporal location (of event). Indeed, they may look as tense suffixes at the first look; we didn’t have the exact answer whether they are temporal

or aspectual. Some clues can be found if we take other temporal suffixes into consideration. Consider the following examples:

- (20) [Mary-nun chayk-ul ilk-ko iss]-Ø-ta
M-Top book-Acc read-Prog-Ø-Decl
‘Mary is reading a book.’
- (21) *[Mary-nun chayk-ul ilk-ko iss]-nun-ta
M-Top book-Acc read-Prog-NUN-Decl
‘Mary is reading a book.’
- (22) [Mary-nun chayk-ul ilk-ko iss]-ess-ta
M-Top book-Acc read-Prog-ESS-Decl
‘Mary was reading a book.’
- (23) [Mary-nun chayk-ul ilk-ko iss]-keyss-ta
M-Top book-Acc read-Prog-Modal-Decl
‘Lit.: Mary will be reading a book (Mary is expected to read a book).’

*-ko iss*¹⁷ suffix in the brackets in (20) to (23) is known as a progressive suffix, or the ‘general imperfective’ suffix in Korean¹⁸ (Ahn 1995). And its occurrence has nothing to do with the temporality of the sentence in which *-ko iss* appears, i.e., *-ko iss* is not a tense suffix. It is also the case that in (23), where *-keyss* suffix refers to the strong possibility of Mary’s reading a book, *-ko iss* suffix can appear with *-keyss* suffix (this does not necessarily mean that *-keyss* suffix is a future suffix, as in footnote 1). Thus, we can be sure that this suffix is not a tense suffix but an aspect one. Consider following examples:

As well as *-ko iss* is an aspect suffix, this suffix can occur with other temporal suffixes except *-nun*. Such incompatibility of *-nun* with *-ko iss* raises a question about the status of *-nun* as a tense suffix: if *-nun* is a tense suffix, for what reason is the suffix not possible to occur with the aspect suffix, *-ko iss*, unlike *-ess* or *-Ø* can?

One possible answer for above question is that there are some properties which both *-ko*

¹⁷ Although this marker looks that it has two different morphemes, *-ko* and *-iss*, *-ko iss* is a complex suffix which mainly expresses a continuing process, and semantically a single unit. For this reason, I will regard *-ko iss* as a single aspectual suffix (progressive), regardless its syntactic property.

¹⁸ *-ko iss* is also argued as the general imperfective suffix. In general, progressive can be regarded as a subcategory of the general imperfective (Smith 1997). Ahn (1995) argued that *-ko iss* is not a progressive, but a general perfective marker. However, it doesn’t seem that she draws a strict distinction between these two classes. In this paper, I’ll simply regard this suffix as a progressive one, for the purpose of avoiding the expansion of the discussion. See more Ahn (1995).

iss and *-nun* have in common. First, neither *-ko iss* nor *-nun* can occur with the adjectival and the nominal predicates. Consider the following examples:

- (24) ku kkot-un yeppu-Ø-ta
 that flower-Top pretty-Ø-decl
 ‘The flower is pretty.’
- (25) ku kkot-un yepp-ess-ta
 that flower-Top pretty-ESS-decl
 ‘The flower was pretty.’
- (27’) *ku kkot-un yeppu-n-ta
 that flower-Top pretty-NUN-decl
- (27’’) *ku kkot-un yeppu-ko iss-Ø-ta
 that flower-Top pretty-Prog-Ø-decl
 ‘*The flower is being pretty.’
- (29’) *Tony-nun enehakkwa haksayng-i-n-ta
 Tony-Top linguistics student-Cop-NUN-decl
 ‘Tony is a linguistic student.’
- (29’’) *Tony-nun enehakkwa haksayng-i-ko iss-Ø-ta
 Tony-Top linguistics student-Cop-Prog-Ø-decl
 ‘*Tony is being a linguistic student.’
- (26) Tony-nun enehakkwa haksayng-i-Ø-ta
 Tony-Top linguistics student-Cop-Ø-decl
 ‘Tony is a linguistic student.’
- (27) Tony-nun enehakkwa haksayng-i-ess-ta
 Tony-Top linguistics student-Cop-ESS-decl
 ‘Tony was a linguistic student.’

While neither *-nun* nor *-ko iss* are allowed to occur with adjectival- or nominal predicates, *-ess* is compatible with these two predicates. This restriction means that *-nun* and *-ko iss* must be classified differently from *-ess* in that both *-nun* and *-ko iss* occur only in some limited conditions, such as verbal predicates in (20) or (22), whereas *-ess* can occur relatively freely. It seems that such incompatibility with adjectival- and nominal predicates comes from the semantic reason, in that both predicates and the suffixes do not contain the temporal boundary in

them. The predicates at issue are widely analyzed as ‘statives’ (Ahn 1995, Kim 2002, etc.). Ahn, following Smith’s two components theory, argued that statives in Korean cannot occur with ‘imperfective’ suffixes, in that both ‘statives’ and ‘imperfective viewpoint’ exclude endpoints of a given situation, and statives “... does not need any affix in order to exclude its endpoints since the statives itself excludes its endpoints. (Ahn 1995: p.112)” From this view, both imperfectives and statives seem to have something in common about the internal boundaries of the ‘endpoints’ of the situation (neither imperfectives nor statives have internal boundaries), and their functions are overlapping semantically (as ‘imperfectives’). This redundancy seems to cause the incompatibility of *-nun* with *-ko iss* suffix. And this semantic reason that both *-ko iss* and *-nun* share the imperfective property can be supported syntactically: it seems that the exclusion of the endpoints is related to rather aspect than tense because tense has nothing with the internal boundaries of the event. If *-ko iss* is related to aspect, thus generated from the head position of the aspect phrase (Asp), it is also plausible that *-nun* is also related to aspect and also generated from Asp position, instead of Tense position, because of their complementary distribution. This can be illustrated as follows:

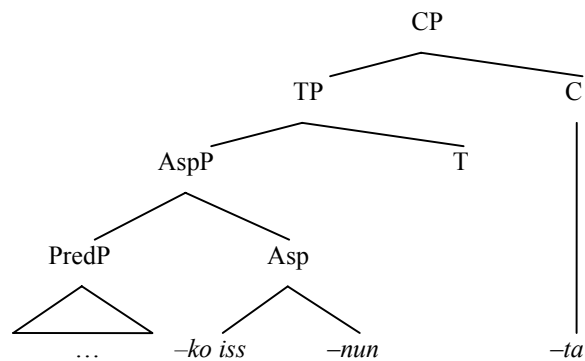


Figure 9: Incompatibility of *-nun* with *-ko iss*

It is not likely that two lexical items can be generated at the same position simultaneously (here, Asp node). Thus, figure 9 shows that only either *-nun* or *-ko iss* can be generated from Asp position, not together simultaneously.

Now, let us consider the meaning of *-ess* suffix. To understand the meaning of this suffix, it is essential to see the conditions of the suffix occurrence in Korean. As we have briefly seen in

the previous section, *-ess* can occur relatively freely than *-nun*:

(28) temporal location:

- (i) ecey-nun nalssi-ka cot-ass-ta
 yesterday-Top weather-Nom good-ESS-Decl
 ‘As for yesterday, the weather was good.’
- (ii) cikum mak yelcha-ka platform-e tochakh-ayss-ta
 now just train-Nom platform-at arrive-ESS-Decl
 ‘The train has just arrived at the platform right now.’
- (iii) nayil ittay-ccum-ey-nun machi-ess-ul kesi-ta
 tomorrow this:time-around-Loc-Top finish-ESS-Modal-Decl
 ‘It will be finished by this time tomorrow.’ (Ahn 1995: p.142)

Above examples show that *-ess* suffix is allowed to occur with any kind of temporal adverbs, i.e., past-, present-, or even future tense adverbs. Thus, it seems, at first, that this suffix is more an aspectual than a temporal suffix because this suffix does not cause the inconsistency of the temporal meaning with the temporal adverb. However, this is not the case when the suffix occurs with other predicates. The verb in (28ii), *tochakha-ta* ‘to arrive’, is classified, according to Smith (1997) and Ahn (1995), as Achievements situation type, which has a change point of the state. This type of verb cannot have the duration of the result state of the event: the train cannot arrive at the platform not in a very short interval; rather, its arrival at the platform always occurs punctually, not gradually (although the pre-stages of the arrival are gradual, not punctual). In other words, the arrival moment cannot be simultaneous with ST, even though a speaker utters the sentence at the very moment of train’s arrival. In this case, *-ess* suffix must be understood to express the completion of the event, rather than the pastness of the event. On the other hand, *-ess* can be understood as a past tense suffix in the following examples (Ahn 1995: p.145f.):

- (29)a. Chelswu-ka chayk-ul sa-ss-ta
 Chelswu-Nom book-Acc buy-ESS-Decl
 ‘Chelswu bought a book.’
- b. ku-nun caknyen-ey hankuk-ey ka-ss-ta
 he-Top last:year-Loc Korea-Loc go-ESS-Decl
 ‘He went to Korea last year.’

Although one may understand (29a) as the completion of ‘buying a book’ prior to ST, this sentence is more likely understood that ‘buying a book’ event occurred in the past, rather than its completion. If the completion is more focused than the pastness in this sentence, the completion must be specified by lexicons such as *wanlyohata* ‘to complete’ or *kkutnayta* ‘to finish’:

- (29') a. Chelswu-ka chayk-ul sa-nun-kes-ul kkutnay-ss-ta
 Chelswu-Nom book-Acc buy-ESS-DN-Acc finish-ESS-Decl
 ‘Chelswu finished buying books.’

Beside of the completion or the pastness of an event, *-ess* suffix is also used to express ‘Past Experience’ and ‘Relative Past tense’, as well as ‘Completion or termination’ and ‘Present perfect’ (LHS 1991, Ahn 1995), as in (28).

Now, the question is how we categorize *-ess*: it seems that *-ess* is either aspect or tense, but we are not sure from which position *-ess* comes from. The answer is not easy, because *-ess* has “duality” (Choi 1993): as in 2.1, Choi (1993) claimed that the disambiguation of *-ess* is dependent on the given context. The argument in this study is that the context can be not only the traditional context, i.e., the discourse level context; the context can also be sentence-internal level. If we observe the occurrence condition of *-ess*, we can systematically predict the classification of *-ess*, and have the appropriate meaning, according to the conditions. In other words, there are some conditions where *-ess* tends to be understood as more aspect than tense, vice versa. Such conditions will be given in the following section.

3.2 The meaning of the suffix

3.2.1 *-ess*

In this section, we will see the conditions where *-ess* can be understood as the past tense suffix or the aspect suffix, respectively. Choi (1993)’s claim is that *-ess* is vague and unspecified without the temporal specification, I argue that this suffix can be specified by its occurrence condition, not only by the temporal specification, but also by the situation type of the predicate.

First, it seems that *-ess* is understood more temporally than aspectually when it appears without temporal adverbs:

- (30) John-i swule-lul mil-ess-ta.
John-nom cart-acc push-ESS-decl
'John pushed a cart.'
- (31) John-i mwun-ul twutulk-yess-ta.
John-nom door-acc knock-ESS-decl
'John knocked the door.'
- (32) John-i kil-ul kenneka-ss-ta.
John-nom street-acc across:go-ESS-decl
'John crossed the street.'
- (33) John-i cip-ul ttena-ss-ta.
John-nom home-acc leave-ESS-decl
'John left home.'
- (34) John-i ku sasil-ul al-ass-ta.
John-nom fact-acc know-ESS-decl
'John knew the fact.'
- (35) sakwa-ka ppalka-yss-ta.
apple-nom red-ESS-decl
'The apple was red.'
- (36) John-un haksayng-i-ess-ta
J-Top student-cop-ESS-Decl
'John was a student'

By the classification of Smith (1997), the situation type of the verb in (30) is classified as Activity: (30) says that the event of John's pushing a cart occurred in the past, and does not say whether the pushing event is completed or still in the on-going state at ST. (31) is Semelfactive type, which "... are single-stage events with no result or outcome." (Smith 1997: p.29) (32) is Accomplishment, (33) as an Achievement. (34) is, according to Ahn (1995), resultative achievement; (35) is an adjectival predicate, and (36) is a nominal: both of which can be regarded as also statives.

Now, consider the next examples where a past temporal adverb is added:

- (37) Ecey John-i swule-lul mil-ess-ta.
 Yesterday John-nom cart-acc push-ESS-decl
 ‘John pushed a cart yesterday.’
- (38) Ecey John-i mwun-ul twutulk-yess-ta.
 Yesterday John-nom door-acc knock-ESS-decl
 ‘John knocked the door yesterday.’
- (39) Ecey John-i kil-ul kenneka-ss-ta.
 Yesterday John-nom street-acc across-go-ESS-decl
 ‘John crossed the street yesterday.’
- (40) Ecey John-i cip-ul ttena-ss-ta.
 Yesterday John-nom home-acc leave-ESS-decl
 ‘John left home yesterday.’
- (41) Ecey John-i ku sasil-ul al-ass-ta.
 Yesterday John-nom fact-acc know-ESS-decl
 ‘John knew the fact yesterday.’
- (42) Ecey sakwa-ka ppalka-yss-ta.
 Yesterday apple-nom red-ESS-decl
 ‘The apple was red yesterday.’
- (43) Ecey John-un haksayng-i-ess-ta
 Yesterday J-Top student-cop-ESS-Decl
 ‘John was a student yesterday.’

(37) through (43) are acceptable in Korean (sentences (42) and (43) are more acceptable when the apple turned in yellow today or John graduated the school today, respectively). So, we can confirm that *-ess* functions as a past tense suffix when it occurs with the past temporal adverb(s). Now, consider the following examples where a present temporal adverb is added to the sentences (30) to (36):

- (44) ?? palo cikum John-i swule-lul mil-ess-ta.
 right now John-nom cart-acc push-ESS-decl
 ‘John pushed a cart right now.’
- (45) ?? palo cikum John-i mwun-ul twutulk-yess-ta.
 right now John-nom door-acc knock-ESS-decl

- ‘John knocked the door right now.’
 (46) palo cikum John-i kil-ul kenneka-ss-ta.
 right now John-nom street-acc across:go-ESS-decl
 ‘John crossed the street right now.’
- (47) palo cikum John-i cip-ul ttena-ss-ta.
 right now John-nom home-acc leave-ESS-decl
 ‘John left home right now.’
- (48) palo cikum John-i ku sasil-ul al-ass-ta.
 right now John-nom fact-acc know-ESS-decl
 ‘John knew the fact right now.’
- (49) *palo cikum sakwa-ka ppalka-yss-ta.
 right now apple-nom red-ESS-decl
 ‘*The apple was red right now.’
- (50) *palo cikum John-un haksayng-i-ess-ta
 right now J-Top student-cop-ESS-Decl
 ‘*John was a student right now.’

Among the above sentences, (44) and (45) are acceptable only when each sentence is used to report the event more vividly, as a reporter delivers news instantaneously, whereas (46) through (48) are acceptable with the present temporal adverb. None of the sentences are acceptable when a future temporal adverb is added¹⁹:

- (51) *hantal hwu-ey John-i swule-lul mil-ess-ta.
 one month after-at John-nom cart-acc push-ESS-decl
 ‘John pushed a cart one month later.’
- (52) *hantal hwu-ey John-i mwun-ul twutulk-yess-ta.
 one month after-at John-nom door-acc knock-ESS-decl
 ‘John knocked the door one month later.’
- (53) *hantal hwu-ey John-i kil-ul kenneka-ss-ta.
 one month after-at John-nom street-acc across:go-ESS-decl
 ‘*John crossed the street one month later.’
- (54) *hantal hwu-ey John-i cip-ul ttena-ss-ta.

19 (51) through (57) can be acceptable only when they appear in a narrative where the point of the narrative is after the event. These sentences are, however, not acceptable when the temporal deictic point is the present moment, as in the normal discourse.

- one month after-at John-nom home-acc leave-ESS-decl
 ‘*John left home one month later.’
- (55) *hantal hwu-ey John-i ku sasil-ul al-ass-ta.
 one month after-at John-nom fact-acc know-ESS-decl
 ‘*John knew the fact one month later.’
- (56) *hantal hwu-ey sakwa-ka ppalka-yss-ta.
 one month after-at apple-nom red-ESS-decl
 ‘*The apple was red one month later.’
- (57) *hantal hwu-ey John-un haksayng-i-ess-ta
 one month after-at J-Top student-cop-ESS-Decl
 ‘*John was a student one month later.’

Returning to the acceptability of (46) through (48), it is apparent that they are classified either as Accomplishment or as Achievements situation types ((48) as resultative Achievements)²⁰. In both cases, we can see that sentences are acceptable and sound more naturally when *-ess* in each sentence is used to show the completion of the pre-stage or the change, not used to show the pastness of the event. So, it is possible to conclude that *-ess* is sensitive to the situation type aspect only if the situation type is related to Accomplishment type- or Achievement type class. In other words, *-ess* carries ‘completion’ meaning which is closely related with [+ telic] and; and this feature is one of the features of Achievement situation type as well as Accomplishments situation type. Otherwise, *-ess* basically carries past tense meaning of the event.²¹

Further, we have also seen the relation between the temporal adverb and the classification of *-ess*. So, it is possible to claim that *-ess* has two features which are [+ past] and [+ perfective]. When this suffix occurs with a temporal adverb which has [+ past] feature, namely, past temporal adverbs, the past meaning of *-ess* is fortified and become dominant, so this suffix is understood as a past temporal suffix. On the other hand, [+ past] feature is cancelled out when it occurs with

²⁰ (46) is more acceptable than (44) and (45), when the sentence focuses more on the endpoint of ‘crossing the road’ event. Otherwise, the acceptability of (46) can be degraded although the sentence is still acceptable. (47) and (48) are fine, especially when these sentences focus more on the post stage of the changing point (in (47), ‘not leaving home’ to ‘leaving home’; in (48), ‘not knowing the fact’ to ‘knowing the fact’).

²¹ It seems that both Accomplishment type and Achievement type aspect in Korean focus on the telicity. The difference between these two aspects is whether the change of state is cumulative (for Accomplishment) or punctual (for Achievement). However, this paper more focuses on the telicity of the predicate, instead of the cumulativity or the punctuality. So I will leave this question unanswered in this chapter. For the difference between these two types, see more Smith (1997) or Ahn (1995).

a [+ present] featured temporal adverb, say, a present temporal adverb; so *-ess* only contains [+ perfective] feature, and *-ess* is understood as ‘completion’ aspectual suffix. This accounts for the acceptability of (51) and (52), even further (50): Accomplishments- and Achievements type are [+ telic], and this feature implies that they have an inherent or intended endpoint; namely, bounded. The ‘completion’ meaning from *-ess* also implies that this suffix also contains the bounded feature; and this explains why Achievements type and Accomplishments type fit well with *-ess* suffix even the [+ past] feature is overridden or cancelled out by the [+ present] feature from present temporal adverbs.

This account goes along with the idea of “duality of *-ess*” from Choi (1993). Her account was that *-ess* is vague or unspecified without temporal specification by temporal adverb. However, we have seen that we can specify the meaning of *-ess* not only by the temporal adverb, but also by the situation type aspect which derives from the predicate. So, the claim that I propose in this section is that the meaning of *-ess* can be specified through the situation type aspect as well as the temporal adverb, although *-ess* itself may be vague or unspecified.

In next section, we will see how so-called present tense suffix, *-nun*, should be understood.

3.2.2 *-nun*

Unlike *-ess*, *-nun* cannot be compatible with adjectival- and nominal predicates:

(58) John-i swule-lul mi(l)-n-ta.

John-nom cart-acc push-NUN-decl

‘John pushes a cart.’

(59) John-i mwun-ul twutulki-n-ta.

John-nom door-acc knock-NUN-decl

‘John knocks the door.’

(60) John-i kil-ul kenneka-n-ta.

John-nom street-acc across:go-NUN-decl

‘John is in the middle of crossing the street (Lit.: John is crossing the street).’

(61) John-i cip-ul ttena-n-ta.

John-nom home-acc leave-NUN-decl

‘John leaves home.’

(62) John-i ku sasil-ul a(l)-n-ta.

- John-nom fact-acc know-NUN-decl
 ‘John knows the fact.’
- (63) *sakwa-ka ppalka-n-ta.
 apple-nom red-NUN-decl
 ‘The apple is red.’
- (64) *John-un haksayng-i-n-ta
 J-Top student-cop-NUN-Decl
 ‘John is a student’

Even with any temporal adverbs, *-nun* is still incompatible with those predicates (note that *-nun* can only occur with present temporal adverbs. We will discuss this point later):

- (63’) *hyencay sakwa-ka ppalka-n-ta.
 currently apple-nom red-NUN-decl
 ‘The apple is red currently.’
- (64’) *hyencay John-un haksayng-i-n-ta
 currently J-Top student-cop-NUN-Decl
 ‘John is a student currently.’
- (63’’) *apulo sakwa-ka ppalka-n-ta.
 toward:front apple-nom red-NUN-decl
 ‘The apple is red in the future.’
- (64’’) * apulo John-un haksayng-i-n-ta
 Toward:front J-Top student-cop-NUN-Decl
 ‘John is a student in the future.’

Like the incompatibility of *-nun* with *-ko iss* in the earlier section, it seems that those above predicates and *-nun* have in common, in that both refer to stativity of the state. The incompatibility of *-nun* with the non-verbal predicates is different from the incompatibility of *-nun* with *-ko iss* is that the latter cannot be explained syntactically whereas the former can be: I mentioned that the incompatibility of *-nun* with *-ko iss* is also a matter of syntax in that both suffixes are generated from ASP position, so that they have to be in the complementary distribution. The relation between above predicates and *-nun* is, on the other hand, not syntactic matter in that predicates are generated from VP or PredP which are the complement of Asp. By contrast, *-nun* is generated from AspP, more precisely, from Asp node. Their positions do not

overlap each other in this instance. So, the incompatibility must be semantic reason, not syntactic one.

Then, what kind of property does not allow them to occur together? An easy answer to this question is that, as discussed earlier in 3.1, statives exclude their endpoint and both *-ko iss* and *-nun* also do not allow to contain any endpoint(s) in the interval to which they refer (in fact, statives cannot be bounded within the duration to which the statives themselves refer). If a predicate allows internal endpoints in its lexical meaning, that predicate cannot be [+ static] in that the change caused by the endpoint has to violate [+ static] property, i.e., [+ static] property requires the state to remain unchanged within given durations. Consider the following table:

Situation type	Features		Compatible w/ <i>-nun</i>
Activity	Dynamic	Yes	Ok
	Telicity	No	
	Duration	Yes	
Semelfactive	Dynamic	Yes	Ok
	Telicity	No	
	Duration	No	
Accomplishment	Dynamic	Yes	Ok
	Telicity	Yes	
	Duration	Yes	
Achievement (including resultative achievement)	Dynamic	Yes	Ok
	Telicity	Yes	
	Duration	No	
Adjectival- or Nominal predicate	Dynamic	No	No
	Telicity	No	
	Duration	Yes	

Table 1: situation types in Korean, their features, and the compatibility with *-nun*

From the above table, we can see that *-nun* is only compatible with [+ dynamic] featured type. Telicity does not matter in this case because *-nun* can occur with every situation type except Adjectival- and nominal predicates which are [- dynamic].

Now, let us consider *-nun* again. We discussed that *-ko iss* and *-nun* commonly have [+ imperfective] property in 3.1 and the following sections. We also saw that both suffixes can occur with any types of situation type aspects other than statives. It is time to see how *-ko iss* and *-nun* are different. Consider the following examples:

(65) John-i swule-lul *akka/cikum/*nayilmi(l)-n-ta.

- John-nom cart-acc ago/now/tomorrow push-NUN-decl
 ‘John pushes a cart *ago/now/*tomorrow.’
- (66) John-i mwun-ul *akka/cikum/*nayil twutulki-n-ta.
 John-nom door-acc ago/now/tomorrow knock-NUN-decl
 ‘John knocks the door *ago/now/*tomorrow.’
- (67) John-i kil-ul *akka/cikum/*nayil kenneka-n-ta.
 John-nom street-acc ago/now/tomorrow across:go-NUN-decl
 ‘John is in the middle of crossing the street *ago/now/*tomorrow (Lit.: John is crossing the street).’
- (68) John-i cip-ul *akka/cikum/*nayil ttena-n-ta.
 John-nom home-acc ago/now/tomorrow leave-NUN-decl
 ‘John leaves home *ago/now/*tomorrow.’
- (69) John-i ku sasil-ul *akka/cikum/*nayil a(l)-n-ta.
 John-nom fact-acc ago/now/tomorrow know-NUN-decl
 ‘John knows the fact *ago/now/*tomorrow.’
- (70) John-i swule-lul *akka/cikum/*nayil mil-ko iss-Ø-ta.
 John-nom cart-acc ago/now/tomorrow push-Prog-Pres-decl
 ‘John pushes a cart *ago/now/*tomorrow.’
- (71) John-i mwun-ul *akka/cikum/*nayil twutulki-ko iss-Ø-ta.
 John-nom door-acc ago/now/tomorrow knock-Prog-Pres-decl
 ‘John knocks the door *ago/now/*tomorrow.’
- (72) John-i kil-ul *akka/cikum/*nayil kenneka-ko iss-Ø-ta.
 John-nom street-acc ago/now/tomorrow across:go-Prog-Pres-decl
 ‘John is in the middle of crossing the street *ago/now/*tomorrow (Lit.: John is crossing the street).’
- (73) John-i cip-ul *akka/cikum/*nayil ttena-ko iss-Ø-ta.
 John-nom home-acc ago/now/tomorrow leave-Prog-Pres-decl
 ‘John leaves home *ago/now/*tomorrow.’
- (74) John-i ku sasil-ul *akka/cikum/*nayil al-ko iss-Ø-ta.
 John-nom fact-acc ago/now/tomorrow know-Prog-Pres-decl
 ‘John knows the fact *ago/now/*tomorrow.’
- (75) John-i swule-lul akka mil-ko iss-ess-ta.
 John-nom cart-acc ago push-Prog-Past-decl

- ‘John was pushing a cart ago.’
- (76) John-i mwun-ul akka twutulki-ko iss-ess-ta.
 John-nom door-acc ago knock-Prog-Past-decl
 ‘John was knocking the door ago.’
- (77) John-i kil-ul akka kenneka-ko iss-ess-ta.
 John-nom street-acc ago across:go-Prog-Past-decl
 ‘John was in the middle of crossing the street (Lit.: John was crossing the street).’
- (78) John-i cip-ul akka ttena-ko iss-ess-ta.
 John-nom home-acc ago leave-Prog-Past-decl
 ‘John was leaving home ago.’
- (79) John-i ku sasil-ul akka al-ko iss-ess-ta.
 John-nom fact-acc ago know-Prog-Past-decl
 ‘John knew the fact ago (Lit.: John was in the state of knowing the fact a time ago).’

Above examples clearly show that *-ko iss* can be compatible with any temporal adverbs, if a proper tense suffix is added (present time adverb with $-\emptyset$, as in (70) through (74), past time adverb with *-ess*, as in (75) through (79)), whereas *-nun* can only occur with the present temporal adverb ((65) to (69)). That is, *-nun* is related with not only imperfective ‘aspect’ but also present ‘tense’; *-nun* has tense as well as aspect. One can may argue that the surface form of *-nun* is not a single unit, but a combination of *-nun* and $-\emptyset$, like *-ko iss* and $-\emptyset$, as in (80) to (84), so that *-nun* functions as the present tense suffix. This kind of claim may sound plausible, if we assume that *-nun* has [+ imperfect] and $-\emptyset$ has [- past] so they together form a sequence of suffix such as “*-nun- \emptyset -*” for imperfective present tense. However, this cannot be true if we compare the sentences (80) to (84) with the sentences (85) to (89):

- (80) John-i swule-lul *akka/cikum/*nayilmi(l)-n- \emptyset -ta.
 John-nom cart-acc ago/now/tomorrow push-NUN-Pres-decl
 ‘John pushes a cart *ago/now/*tomorrow.’
- (81) John-i mwun-ul *akka/cikum/*nayiltwutulki-n- \emptyset -ta.
 John-nom door-acc ago/now/tomorrow knock-NUN-Pres-decl
 ‘John knocks the door *ago/now/*tomorrow.’
- (82) John-i kil-ul *akka/cikum/*nayil kenneka-n- \emptyset -ta.
 John-nom street-acc ago/now/tomorrow across:go-NUN-Pres-decl
 ‘John is in the middle of crossing the street *ago/now/*tomorrow (Lit.: John is crossing the

- street).’
- (83) John-i cip-ul *akka/cikum/*nayil ttena-n-Ø-ta.
 John-nom home-acc ago/now/tomorrow leave-NUN-Pres-decl
 ‘John leaves home *ago/now/*tomorrow.’
- (84) John-i ku sasil-ul *akka/cikum/*nayil a(l)-n-Ø-ta.
 John-nom fact-acc ago/now/tomorrow know-NUN-Pres-decl
 ‘John knows the fact *ago/now/*tomorrow.’
- (85) *John-i swule-lul akka mi(l)-n-ess-ta.
 John-nom cart-acc ago push-NUN-Past-decl
 ‘John pushed a cart ago.’
- (86) *John-i mwun-ul akka twutulki-n-ess-ta.
 John-nom door-acc ago knock-NUN-Past-decl
 ‘John knocked the door ago.’
- (87) *John-i kil-ul akka kenneka-n-ess-ta.
 John-nom street-acc ago across:go-NUN-Past-decl
 ‘John was in the middle of crossing the street ago (Lit.: John is crossing the street).’
- (88) *John-i cip-ul akka ttena-n-ess-ta.
 John-nom home-acc ago leave-NUN-Past-decl
 ‘John left home ago.’
- (89) *John-i ku sasil-ul akka a(l)-n-ess-ta.
 John-nom fact-acc ago know-NUN-Past-decl
 ‘John knew the fact ago.’

If one argues that *-nun* is only aspectual and $-\emptyset$ is responsible for the present tense, then one has to explain why the sentences (85) through (89) are not acceptable in Korean. In (85) to (89), it may seem that *-nun* shows [+ imperfective] aspect and *-ess* refers to past tense. If *-nun* is composed with *-nun* and $-\emptyset$ (*-nun-\emptyset*), it must be also possible to allow *-nun-ess* combination, which is impossible in Korean. In other words, the combination of *-nun* with other suffixes is not possible whereas that of *-ko iss* with others is fine. So, the claim that the surface form of *-nun* is the combination of *-nun* and $-\emptyset$ must be rejected, and it is apparent that *-nun* is a syntactically single unit.

This is also supported by Ahn (1995)’s observation. She claimed that one of *-nun*’s meaning is ‘present on-going situation (Ahn 1995: 134f.). She pointed out that “[S]entences

containing *-nun-* can be understood as ‘present on-going processes’ only if a proper context is given (explicitly or implicitly)²². In this meaning, she claimed that *-nun* is interchangeable with *-ko iss* only if a sentence is present tense. Consider the following examples:

- (90) a. onul-un congil pi-ka o-n-ta
 today-Top all:day:long rain-Nom come-NUN-Decl
 ‘It is raining all day long today.’
 b. ku-nun cikum naccam-ul ca-n-ta
 he-Top now nap-Acc sleep-NUN-Decl
 ‘He is taking a nap now.’
- (91) a. onul-un congil pi-ka o-ko iss-ta
 today-Top all:day:long rain-Nom come-Prog-Decl
 ‘It is raining all day long today.’
 b. ku-nun cikum naccam-ul ca-ko iss-ta
 he-Top now nap-Acc sleep-Prog-Decl
 ‘He is taking a nap now.’

(Ahn (1995: 134-135))

According to her, sentences in (90) are interpreted as conveying a present progressive meaning with the adverbs, whereas those in (91) are interpreted as having a progressive meaning regardless of the presence or absence of temporal adverbials. The point here is that *-nun* is only used to convey present tense, not any other tenses whereas *-ko iss* is not. So, we can classify *-nun* as ‘present imperfective’ suffix. The ‘present imperfective’ still leaves a series of questions to us. The first question is where *-nun* is generated between T and ASP. The answer is *-nun* is generated in ASP node because of the [+imperfective] feature of *-nun*. Then the next question is how *-nun* can check the features of T. This question can be paraphrased as follows: does *-nun* raise from ASP position to T position to check the features at T node, or, if so, how? Such question has to be answered more syntactic approach than in the domain of semantics, and this point will be discussed in chapter 4²².

²² There can be another possible explanation of the incompatibility of *-nun* and other suffixes. If we assume that both *-nun* and $-\emptyset$ are present tense, but they differ from each other in that *-nun* only occurs with verbs with [+dynamic], as we saw in Table 1, and $-\emptyset$ elsewhere. John Beavers, by personal communication, gave me a very interesting idea that progressives may not be ‘dynamic’. It can coerce a predicate with [+dynamic] to not to have [+dynamic] feature when the progressive is applied to the predicate.

It seems that the basic assumption of his idea is similar to De Swart (1998). She claims that “[S]entences

3.3 Boundedness, meaning primitives, and suffixes in Korean

At the last part of chapter 2, I simply mentioned the relationship between ‘boundedness’ versus ‘tense and aspect’. Now, let us first see how they can be related to each other.

First, let us see how tense and aspect is formalized with temporal arguments: under Reichenbachian approach, tense is determined by the relation between ST and RT. Aspect, on the other hand, can be captured by the relation between RT and ET. Such relations (ST versus RT, RT versus ET) can be captured by the ‘lexical meaning primitives’ by D&E (1997) that tense and aspect have *after/ within* relations, as in figure 3. So, present tense is understood as ‘ST *within* RT’, past as ‘ST *after* RT’; imperfective is understood as ‘RT *within* ET’, perfective as ‘RT *after* ET’. This idea that tense and aspect can be understood by ‘*after/ within* relation’ also can be connected to the “Boundedness Event Constraint” (Depraetere 1995).

According to her, ‘boundedness’ is related to the actual termination of the situation which is signaled by means of linguistic elements. On the other hand, telicity is related to the inherent endpoints of the situations. “Boundedness” is more related to how the sentence is viewed

in the Progressive are always stative, whether the underlying sentence is characterized as a process or as an event. ... The progressive does not normally combine with stative eventuality. ... Progressive maps dynamic eventuality descriptions, denoting either processes or event, onto the state of that process or event being in progress” (p. 354) Consider the following examples from De Swart (1998):

- (1) Susan was writing letters.
- (2) Susan was writing a letter.
- (3) #Susan was being in the garden.

In (1) and (2), the predicate ‘to write letters’ or ‘to write a letter’ are either a process (for (1)) or an event (for (2)). However, each output of the progressive does not describes the actual process or the event anymore, but it describes that the output is the “state” of the process being in progress (in (1)) or the “state” of the event being in progress (in (2)). If we adopt this idea that progressives coerce a process- or an event predicate into stative, we can also explain why *-nun* cannot occur with *-ko iss*, the progressives, because *-nun* only takes predicates with [+dynamic] but the predicate with *-ko iss* cannot be [+dynamic] anymore. If this assumption is right, we can detach the aspectual property of *-nun* from its function inventory, [+present] and [+imperfective]. This approach may allow us to treat *-nun* as a present tense suffix which only takes a [+dynamic] predicate. If this is the case, we can also explain why *-ess* as [perfective] cannot occur with *-nun*, because *-ess* lacks [+dynamic] feature. On the other hand, it can also predict the occurrence of $-\emptyset$, another present tense suffix, that this suffix occurs ‘elsewhere’ conditions, i.e., $-\emptyset$ occurs where the predicate or the output of the predicate are [-dynamic].

The answer for the question about the coercion of the progressive (dynamic to stative) requires more speculation on situation types in Korean in depth. I will address the question in later study.

or described by the linguistic elements whereas ‘telicity’ is more related to how the situation of the sentence is changed by its inherent boundaries from the lexicon, i.e., the lexical meaning of VP. The linguistic elements are mainly the temporal suffixes. So, it is possible to claim that D&E’s ‘lexical meaning primitives’ can be related to ‘boundedness’ in that both notions are realized by the temporal affixes. In this connection, we can relate ‘boundedness’ to the ‘lexical meaning primitives’. *After* in terms of tense is bounded in that *after* refers to the situation where RT is bounded by ST, i.e., no RT is allowed after ST and it yields $RT < ST$ relation. Aspectual *after* is also bounded in that ET cannot be stretched further over RT and ET is bounded by RT.

By contrast, *within* in tense is unbounded in that ST must be within the time span of RT, and this constraint always yields the result that unbounded tense must always be present because ST must stay inside RT and ST cannot be on the endpoints of RT. This can be illustrated as follows:

(92) $RT_1 \dots ST \dots RT_F$

(where RT_1 is the initial endpoint of RT and RT_F is the final endpoint of RT)

Aspectual *within* is also unbounded in that RT must be within time span of ET, or, at least, RT cannot be on the same point of ET’s internal endpoints:

(93) $ET_1 \dots RT \dots ET_F$

(where ET_1 is the initial endpoint of ET and ET_F is the final endpoint of ET, and both endpoints are determined by the situation type or the telicity of the verb)

From the above combination of boundedness and the ‘*after/within*’ relation, we can have the following conclusion that ‘unbounded’ tense must always be a *within* relation and it must be present tense whereas ‘bounded’ tense must be *after* relation and past tense. As for aspect, ‘unbounded’ aspect must be a *within* relation and it must be ‘imperfective’ viewpoint aspect whereas ‘bounded’ aspect must be *after* relation and ‘perfective’ viewpoint aspect.

Now, the question is how the relationship between ‘boundedness’ and the ‘meaning primitives’ can be realized in Korean suffixes discussed in this study. In previous sections, we discussed the meaning(s) of the suffixes, *-ess*, *-nun*, and $-\emptyset$: in terms of tense, *-ess* has past meaning which refers that an interval or a time point at issue (RT) is prior to ST, i.e., ST is *after*

RT, whereas *-nun* has the function of positing ST *within* the time span of RT. From the aspectual point of view, *-ess* delimits ET prior to RT, i.e., ET is bounded by the (right) endpoint of the situation set by the suffix thus RT is *after* ET (or, at last, RT is on the right boundary of ET); *-nun*, on the other hand, locates RT *within* the temporal boundaries of ET so that ET is not bounded by RT.

As for $-\emptyset$, I argued that this suffix only has present tense meaning in 3.1.1. But the question how a semantically meaningful suffix can be realized by a syntactically empty surface form was raised but unanswered in that section. So, the answer for that question should be given before we go further about the syntactic treatment of $-\emptyset$ suffix in the next chapter.

For the answer to the question, I introduce the discussion of the existence of zero-marked aspectual reference from Bohnemeyer & Swift (2004). They argue that, in some languages whose aspect system is governed by the ‘telicity’ such as German, Dutch, etc., “... clauses that lack overt viewpoint operator are assigned aspectual reference on the basis of an implicature or entailment of ‘event realization.’” (B&S 2004: p. 266) According to them, telic predicates prefer perfective viewpoint aspect whereas atelic predicates prefer imperfective viewpoint aspect in nature, and the lack of the overt aspect marking can be made up by the implication of the preferred viewpoint aspect associated with the predicate types. In other words, no overt expression is less likely to be needed if something is going on as they are expect, and the expectation comes from the lexicon, more precisely, from the situation type. Their points can be summarized as the following table:

predicate \ Viewpoint	Atelic	Telic	Process	State change	Stative	dynamic
Imperfective	∅	Overtly expressed	∅	Overtly expressed	∅	Overtly expressed
Perfective	Overtly expressed	∅	Overtly expressed	∅	∅	∅

Table 2: Aspect marking preferences between viewpoint aspect and the predicate/ verb class from B&S 2004

From the above table, imperfective marking is less expected when the predicate is atelic, because atelic does not expect the internal change. If the predicate is telic, perfective marking is less likely to be expected, because telic predicates expect the internal change of the state, or they expect the change is already completed.

The question is how their idea can be applied to our current discussion of zero-marked present tense in Korean. Now, recall the conditions when present tense is marked with $-\emptyset$ suffix in Korean. This suffix appears in the following conditions:

- (a) with a nominal predicate,
- (b) with an adjectival predicate,
- (c) after $-ko\ iss$ ‘progressive’ aspectual suffix, or
- (d) after $-ess$ when it is used only as ‘perfective aspect’

First, both nominal- and adjectival predicates are essentially atelic and stative: they cannot be bounded by the temporal boundaries of the state they refer to. Consider the following examples ((9) and (16) are repeated here as (94) and (95));

(94) Sakwa-ka ppalkat-ta

apple-Nom red-Decl

‘The apples are red.’

(95) John-un tayhaksayng-i-ta

J-Top college student-copula-Decl

‘John is a college student.’

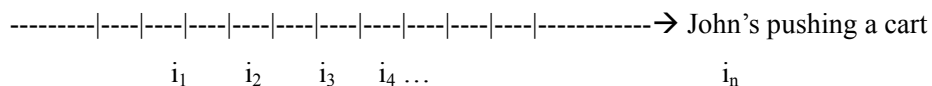
Each predicate in above examples represents the current state/property of the subject, i.e., the

apple's redness and John's being a college student, neither the change of the state nor the dynamicity of the subject. Further, these predicates do not have telicity in them: the first predicate does not have any endpoint indicating the apple's redness (after being red, it may turn yellow), and the second predicate does not entail John's graduating the college.

-ko iss is, as we have seen in 3.1.2, a "general imperfective (Ahn 1995)" or a progressive aspectual suffix by nature. Consider the following examples:

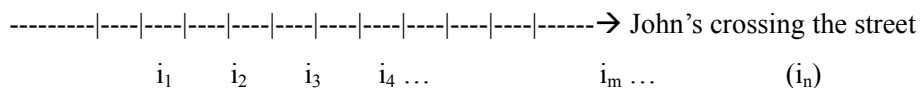
- (96) John-i swule-lul mil-ko iss-Ø-ta.
 John-nom cart-acc push-Prog-Pres-decl
 'John is pushing a cart.'
- (97) John-i kil-ul kenneka-ko iss-Ø-ta.
 John-nom street-acc across:go-Prog-Pres-decl
 'John is crossing the street.'

In above examples, *-ko iss* describes the situations (John's pushing a cart in (96) and John's crossing the street in (97)) as what is happening at the moment of speech. When the predicate is [-telic], such as 'to push a cart' in (96), it is very clear that the 'process' of the predicate is strengthened by the progressive, in that progressive coerces the predicate to hold the same quality (here, *to push a cart* at any small subinterval within the time duration at issue). Consider the following diagrams how the progressive suffix describes the given situations:



Through i₁ to i_n, each interval shows the dynamicity of the state, i.e., *John-i swule-lul mil-ko iss-ta* 'John is pushing a cart' at each interval.

This is also true in the case of the telic predicate. In (97), the event 'John's crossing the street' cannot be completed within the visible duration picked up by the progressive suffix:



In above diagram, i_1 is the first subinterval of *John's crossing the street* (i.e., John steps on the street for the purpose of crossing the street), i_m is the last subinterval of *John's crossing the street* picked up by the progressive suffix, and i_n is the subinterval where *John's crossing the street* is completed²³. From i_1 to i_m , each subinterval shows that John is moving forward to the other side of the street, or the other side of the sidewalk; no single subinterval from i_1 to i_m can be regarded as the completion of the 'crossing the street.' This is well known as 'Imperfective paradox (Dowty 1979)'. So, when the progressive is applied to a predicate, that predicate can be understood as neither 'change of state' nor the completion or termination of an event or a situation.²⁴

These conditions (stativity/ atelicity of the predicates other than verbal predicate and no changeability of the internal state) lead us to apply the idea of B&S (2004) to our current discussion, especially why $-\emptyset$ suffix occurs in present tense in Korean. The remaining question is how we can associate the viewpoint aspect, especially imperfective viewpoint, with present tense.

Language in general, there are many languages which lack tenses – grammatically categories that express time reference. On the other hand, aspect can be provided either grammatically, i.e., affixally, or lexically, i.e., the semantic meaning of the given lexicon (mostly from the predicate). In our discussion, viewpoint aspect is the first one and situation type is the second one. The aspectual distinction for the first case is the distinction between "whole" of the event and "part" of the event²⁵. In other words, aspect can be classified as either 'perfective' or 'imperfective'. Traditional view of aspect says that "... perfectivity indicates the view of situation as a single whole, without distinction of the various separate phrases that make up that situation... (Comrie 1976)." On the other hand, imperfective focuses on a specific time or duration within the whole situation. So, to see the situation as a whole, the view over the situation must be posited after the completion of the situation or the natural termination of the event, or at least at the very moment of the completion or termination.

Such temporal sequence (the viewing point of the situation must follow that situation) gives us an analogy that perfective must be related to 'pastness' of the event. As well as this

²³ Note that this subinterval is only inferred by the meaning of the predicate *to cross the street*, not by the progressive suffix. This last subinterval i_n is excluded by the progressive suffix.

²⁴ I already mentioned in Footnote 23 that progressives may not describe the event or the process, but it can describe that the process or the event are in the "state" which is being in progress. See De Swart (1998).

²⁵ Here, 'part' refers to the case where the grammatical category describes only the part of the entire situation. In other words, the part is chosen by the grammatical category – here, the affix – to render the intention of the speaker for the purpose of focusing on what he intends to deliver in linguistic form.

relation, perfective viewpoint aspect sometimes takes the place of past tense in some languages, such as Mandarin Chinese (Smith 1997), Inuktitut (B&S 2004), and others. Such replacement of past tense with perfective viewpoint aspect allows us to argue that past tense is closely related with perfective viewpoint aspect. For present tense, it is less likely for present tense to have a close tie with perfective aspect; rather, present tense is more related to imperfective viewpoint aspect. Unless the situation is completed right at the moment of ST (e.g., English present perfect tense), present tense overlooks a specific time period or a duration including ST. So, we can also argue that present tense is more related to imperfective aspect.

This analogue between aspect and tense (imperfective \approx present, perfective \approx past) gives us the idea that B&S's model presented above can be, although they may not have a one-to-one relation, applied to the current issue of the temporal suffixes in Korean. So, B&S's idea of the aspect marking can be applied to the present tense marking in Korean as follows:

Predicate \ Viewpoint	Atelic, Process, or Stative	Telic, State change, or dynamic	→	Predicate \ Tense	Atelic, Process, or Stative	Telic, State change, or dynamic
	Imperfective	∅			Overtly expressed	Present

Table 3: The application of B&S (2004)'s aspect marking model to Korean present tense marking

In Table 3, predicates with atelic, process, or stative does not need to be temporally specified when tense is present, because the events described by these predicates are expected to extend to the moment of the speech (ST). In contrast, predicates with telic, state change, or dynamic need to be temporally specified by *-nun* when tense is present, because the events described by the predicate are expected to be finished/completed before ST.

Finally, consider the last condition of the zero suffix, where this suffix occurs after the perfective *-ess*. As we have seen in 3.2.1., *-ess* has two features: [past] and [perfective]. [Past] feature, however, can be overridden by the present temporal adverbials. If this is the case, aspectual *-ess* must choose ∅ suffix as the present tense suffix, not *-nun* suffix, because *-nun* has both [present] tense- and [imperfective] aspect features, and neither features are cancellable in any case.

So far, we have discussed the relations among tense, viewpoint aspects, 'boundedness'

and *after/within*, and how they are realized in Korean. These relations can be schematized as follows:

suffix	Tense	Viewpoint aspect	Boundedness	<i>After/within</i>
<i>-ess</i>	past	perfective	Bounded	<i>after</i>
<i>-nun</i>	present	imperfective	unbounded	<i>within</i>
$-\emptyset$	present	N/A	unbounded	<i>within</i>

Table 4: The relations among tense, viewpoint aspect, boundedness, and the meaning primitives, and the application to Korean temporal/aspectual suffixes.

With this schema in mind, let us see how we can deal with the temporal elements syntactically in the next chapter.

3.4 Summary

So far, we have seen how the suffixes appear under various conditions. We also saw briefly how the suffixes can be interpreted according to the conditions. It is shown that the occurrence of the suffixes is affected by the type of the predicates, the temporal adverbs, and the situation type aspect. Predicates with the static property (for adjectives, and NPs) do not allow the ongoing-state-referring suffixes, while predicates with the dynamic property (for most verbs except statives) do.

We also saw that *-ess* has two meanings, temporally past or aspectually perfective, whereas *-nun* has a single ‘present imperfective’ meaning. I argued that the meanings of *-ess* are separable by means of the temporal specification or the situation type, so that the past meaning can be cancelled out with the present temporal adverb ((46) and (48)); the meaning of *-nun* is, on the other hand, not separable, so that the present meaning cannot be cancelled out by other temporal adverbs than present adverbs.

In 3.3, I argued how the notion of ‘boundedness’ can be related to the lexical meaning primitives proposed by D&E (1997), tense, and viewpoint aspects. And, we saw how these relations can be applied to Korean suffixes, with the discussion of the aspectual references based on B&S (2004).

In the next chapter, let us see how these suffixes can be represented on the syntactic structure in next chapter.

4. Syntactic representation of the temporal suffixes in Korean

In the previous section, we saw some temporal- and aspectual suffixes in Korean which play an important role in the temporal interpretations: *-ko iss* is solely aspectual, *-nun* is aspectual which also has the present tense property, and *-ess* is ambiguous between (past) tense and aspect suffix, according to the conditions. These conditions were determined by several factors such as temporal adverbs, the situation type of the verbs, the types of the predicate, etc. Further, we argued that there exists a zero suffix, $-\emptyset$, and the occurrence condition(s) of it.

In this chapter, I will address the issue of how the temporal system in Korean can be explained syntactically. Such a syntactic representation will show how the semantic relations between the temporal arguments can be captured by syntactic structure. Syntactic theories, especially generative syntactic theories, have concentrated to show why a given sentence is grammatical while the other is not. This is the reason for syntactic representation of tense and aspect in this study. If a sentence is a semantically appropriate one, the syntactic representation of the sentence must be suitable as well. In this process, we will see how the semantic relations work together with syntactic structure, so that the semantic tense and aspect and the syntactic Tense and Aspect can be realized and understood within one single structure.

4.1 The basic assumptions

Before we discuss the temporal arguments in Korean, let us recall the list of the temporal elements in Korean we discussed so far. First of all, there are temporal adverbs. We also discussed the temporal suffixes which are related to tense and the viewpoint aspect in chapter 3. The situation type aspect also has an influence on the tense-aspect system. The predicate types can be included in the temporal elements, as well.

Before we go further, it is necessary to make clear the terminology: ‘lexical level (L-level)’ refers to the level where the semantic meaning of the constituent comes from ‘lexicon’, or the lexically determined meaning such as nouns, verbs, adverbs, etc. ‘Functional level (F-level)’, on the other hand, means that the meaning comes from the functional categories such as suffixes, auxiliaries, etc. In other words, the F-level is the level whose meaning is grammatically

determined, not lexically defined. These two levels are different in that the meaning of the latter is realized only according to the conditions in which they appear. The meaning of the former, ‘L-level’, is not affected by the conditions; the lexical meaning is inherent. By contrast, the meaning of the functional category can be dependent on the conditions where they appear.

We have seen that temporal suffixes are controlled by either adverbs or the lexical meaning of the predicate (including situation type), or both. The below schema gives us an idea that there exists a special relation among the temporal elements: structurally, both situation types and predicate types are inherent from the word meaning, i.e., lexicon, whereas suffixes are positioned in relation to temporal aspect. The position of the temporal adverbs will be discussed in section 4.2. Such relation gives us an idea that these elements can be divided according to their level whether they are functional or lexical:

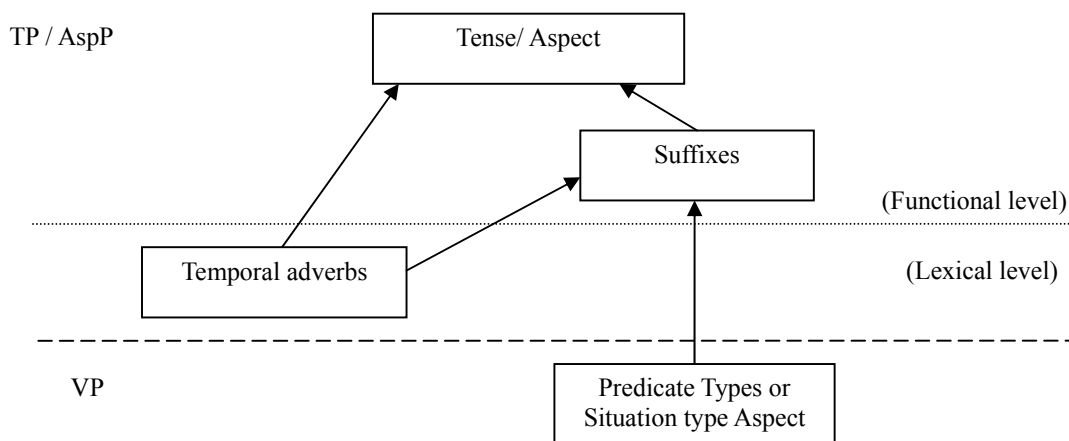


Figure 10: The formation of the temporal elements

Figure 10 reflects the characteristics of both levels in that the suffixes are rather functional than lexical, whereas the meaning of the adverbs, the situation type aspect, and the predicate types are more lexical. The temporal adverbs must be distinguished from the other two lexical elements, since it can directly affect tense and aspect, whereas the others cannot. Now, let us compare figure 10 with the canonical syntactic structure of functional projections in figure 11:

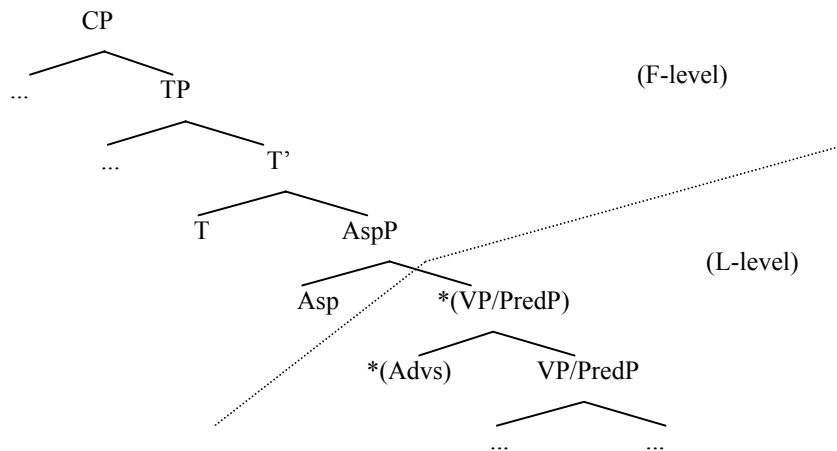


Figure 11: The canonical functional projection structure

In figure 11, the Kleene star on AdvS indicates zero, one or possibly more occurrences. The adverbs are the adjuncts of VP²⁶, temporal suffixes (both tense and aspect) are generated from the functional phrases, T and/or Asp. The situation types and the predicate types are under the domain of the lower VP/PredP in figure 11.

With the similarity between figure 10 and figure 11, let us now consider the temporal arguments. Recall that there are three temporal arguments, ST, RT, and ET. Then, what is needed next is how we can match these temporal arguments to the temporal element.

4.2 The position- and the movement of the suffixes

In figure 10 & 11, we saw that the projections of TP, AspP, and VP are needed for a syntactic account of the data. Now, the question is whether Korean verbs raise to the functional head(s) or they simply remain in their *in-situ* position. In SVO languages, V to T movement has been proposed and supported by a series of evidence. By contrast, verb movement is hardly visible superficially in SOV languages such as Korean or Japanese, in that the verbs always remain in the final position of the sentence.

To see whether Korean verbs raise to higher positions or remain inside VP, let us consider

²⁶ In this study, for the simplicity's sake, I do not consider other types of adverbs than the temporal adverbs, unless they are necessary.

the following examples:

- (1) a. John-i swule-lul mi-n-ta
J-Nom cart-Acc push-NUN-Decl
'John pushes a cart'
b. John-i swule-lul mil-ess-ta
J-Nom cart-Acc push-Past-Decl
'John pushed a cart'
- (2) a. John-i swule-lul mil-ko iss-Ø-ta
J-Nom cart-Acc push-Prog-Prs-Decl
'John is pushing a cart'
b. John-i swule-lul mil-ko iss-ess-ta
J-Nom cart-Acc push-Prog-Past-Decl
'John was pushing a cart'
- (3) a. John-i swule-lul an mi-n-ta
J-Nom cart-Acc Neg push-NUN-Decl
'John does not push a cart'
b. John-i swule-lul an mil-ess-ta
J-Nom cart-Acc Neg push-Past-Decl
'John did not push a cart'
- (4) a. John-i swule-lul an mil-ko iss-Ø-ta
J-Nom cart-Acc Neg push-Prog-Prs-Decl
'John is not pushing a cart'
b. John-i swule-lul an mil-ko iss-ess-ta
J-Nom cart-Acc Neg push-Prog-Past-Decl
'John was not pushing a cart'
- (5) a. John-i swule-lul mil-ko iss-ci anh-Ø-ta^{27 28}

²⁷ As for negative sentences in Korean, negative sentences with negative markers have traditionally been classified into two groups, short form negation (SN), and long form negation (LN). (7) and (8) are SN and (9) and (10) are LN. There is a phonological difference between SN and LN in that negation in SN is *an* while the negation in LN is *an-h*. The attachment of *-h* in LN is the vestige of the light verb *-ha*, which is equivalent to English light verb 'do'. In this study, I will not put any difference between *an-* and *an-h*, and treat them as negation, unless the different treatment is required. Although the scope of the negation may differ according to the negation form, their truth-conditions are identical, and the topic of the scope is not relevant to our current discussion. See more Kim (1995).

²⁸ *-ci* is traditionally treated as the head of CP, COMP, which makes the negated VP as [+N], allowing the

J-Nom cart-Acc push-Prog-Neg-Prs-Decl

‘John is not pushing a cart’

b. John-i swule-lul mil-ko iss-ci anh-ass-ta

J-Nom cart-Acc push-Prog-Neg-Past-Decl

‘John was not pushing a cart’

From (3) to (5), we can see that Neg, *an*, can appear before or after the verb *mil-* ‘to push’, but not after the tense marker, *-ess*. This observation follows the (syntactic) hierarchy of Projection (T > (Neg) > Asp > v > V) (Adger: 2003). Since Pollock (1989), syntactic treatment of negation has regarded NegP as a higher functional projection than VP. If we follow this syntactic tradition, we can have the following structure:

(6) [CP [TP [NegP [VP ... <V_i> ...]] V_i + T]]

In (3) through (4), *an-* is followed by the verb *mil-*. If the verb remains in its *in-situ* position, the sentence should be as follows, none of which are grammatical:

(7) a. *John-i swule-lul mil-an-n-ta

J-Nom cart-Acc push-Neg-NUN-Decl

‘John does not push a cart’

b. *John-i swule-lul mil-an-ess-ta

J-Nom cart-Acc push-Neg-Past-Decl

‘John did not push a cart’

(8) a. *John-i swule-lul mil-an-ko iss-Ø-ta

J-Nom cart-Acc push-Neg-Prog-Prs-Decl

‘John is not pushing a cart’

b. *John-i swule-lul mil-an-ko iss-ess-ta

J-Nom cart-Acc push-Neg-Prog-Past-Decl

‘John was not pushing a cart’

From above examples, we can see that the verb must raise to higher functional phrase(s)

head of NegP, *an-* to take the VP as its complement. In this study, however, I simply regard *-ci anh* as a single semantic and syntactic unit for negation for the simplicity’s sake. See more Yoon, J.-M. (1990), Yoon (1994), or Kim (1995).

in Korean. This V-raising can be confirmed by adverbial adjunction. Adverbs, especially manner adverbs, can appear between the object and the verb:

- (9) a. John-i swule-lul **yelsimhi** mi-n-ta
 J-Nom cart-Acc hard push-NUN-Decl
 ‘John pushes a cart hard.’
 b. John-i swule-lul **yelsimhi** mil-ess-ta
 J-Nom cart-Acc hard push-Past-Decl
 ‘John pushed a cart hard.’
- (10) a. John-i swule-lul **yelsimhi** mil-ko iss-Ø-ta
 J-Nom cart-Acc hard push-Prog-Prs-Decl
 ‘John is pushing a cart hard.’
 b. John-i swule-lul **yelsimhi** mil-ko iss-ess-ta
 J-Nom cart-Acc hard push-Prog-Past-Decl
 ‘John was pushing a cart hard.’

This adverb adjunction, as well as negation, shows that the verb *mil-* raises to its higher projection to T, not remains in *in-situ* position²⁹.

- (11) [CP [TP [VP [VP ... <V_i> ...] Adv] V_i + T]]

The position of negation shows more concrete idea about the position of V-raising:

- (12) a. John-i swule-lul **yelsimhi** an mi-n-ta
 J-Nom cart-Acc hard Neg push-NUN-Decl
 ‘John does not push a cart hard.’
 b. John-i swule-lul **yelsimhi** an mil-ess-ta
 J-Nom cart-Acc hard Neg push-Past-Decl

²⁹ It is true that Korean allows scrambling between arguments. However, it is not the case we can find any evidence of the verb scrambling in Korean. If Korean allows verb scrambling, both sentences must be grammatical in Korean, which is not true. In other words, the post position of the verb associated with Neg is obligatory, not an optional:

- (1) John-i swule-lul yelsimhi mi-n-ta
 J-Nom cart-Acc hard push-NUN-Decl
 ‘John pushes a cart hard.’
 (2) * John-i swule-lul mil yelsimhi nun-ta

‘John did not push a cart hard.’

- (13) a. John-i swule-lul **yelsimhi** an mil-ko iss-Ø-ta
J-Nom cart-Acc hard Neg push-Prog-Prs-Decl
‘John is not pushing a cart hard.’
b. John-i swule-lul **yelsimhi** an mil-ko iss-ess-ta
J-Nom cart-Acc hard Neg push-Prog-Past-Decl
‘John was not pushing a cart hard.’

- (14) [CP [TP [NegP [VP [VP ... <V_i> ...] Adv] Neg] V_i + T]]

Now, let us consider the position of AspP. In previous chapter, we have seen that *-ko iss* is an aspect suffix with progressive meaning. Consider the following examples (4) to (5), repeated here as (15) to (16):

- (15) a. John-i swule-lul an mil-ko iss-Ø-ta
J-Nom cart-Acc Neg push-Prog-Prs-Decl
‘John is not pushing a cart’
b. John-i swule-lul an mil-ko iss-ess-ta
J-Nom cart-Acc Neg push-Prog-Past-Decl
‘John was not pushing a cart’
(16) a. John-i swule-lul mil-ko iss-ci anh-Ø-ta
J-Nom cart-Acc push-Prog-Neg-Prs-Decl
‘John is not pushing a cart’
b. John-i swule-lul mil-ko iss-ci anh-ass-ta
J-Nom cart-Acc push-Prog-Neg-Past-Decl
‘John was not pushing a cart’
c. *John-i swule-lul mil-ko iss-ess-ci anh-ta
J-Nom cart-Acc push-Prog-Past-Neg-Decl

In above examples, Neg is followed or preceded by the V with Asp constellation. It may possible to argue that the position of Neg is so flexible in that Neg can appear in both positions (before or after V plus Asp cluster), according to the negation forms (either SN or LN). The current syntactic theories, however, do not allow this flexibility of Neg’s position unless it is necessary for specific reason, such as the phonological reason of English *n’t*. Further, since Neg is

also a head of a functional projection, Neg only moves to other head position with proper reason. So we need to investigate the position of NegP and its neighboring projection, AspP.

By contrast, aspect suffix (= Asp), attached to V, raises to T position in (15). (16) gives us more concrete picture for the position of Asp. In (16), V raises to Asp at first, then Neg takes this V with Asp together, and raises to T together with that chunk (V plus Asp). Since Neg by itself does not have a feature to check the tense feature in T, and T must be realized with V since functional projections are affixal, we can say that V moves to T³⁰ via Asp. In case of LN, *-ci an-*, (16) shows that Neg cannot take TP as its complement (16c) but it can appear at the position between T and V plus Asp (16a and 16b). From above discussion, we can now conclude that NegP is in a higher position than AspP, and this can be illustrated as follows:

- (17) a. [CP [TP [NegP [AspP [VP ... <V_i> ...] <V_i + Asp_j>] Neg] V_i + Asp_j + T] ...]
 (for (15), SN)
- b. [CP [TP [NegP [AspP [VP ... <V_i> ...] V_i + Asp] <Neg_k>] Neg_k + T] ...]
 (for (16), LN)

So, the functional projections in Korean can be simply illustrated as follows^{31 32}:

³⁰ It is still controversial if head movement is caused by a checking operation or by the parameter of strength. This controversy is out of focus in this study, and I simply adopt the idea of head movement operation. See more Adger (2003) or Radford (2004).

³¹ Cho (1994) also argued for the verb movement and the functional projections in Korean, with the evidence from *ha*-support (*do*-support in English), negation, emphasis, and interrogatives. In his argument, he only focused on TP and NegP (which is under TP), and did not consider the AspP phrase which is essential in our current discussion.

³² Cinque (1999) suggested the order of (functional) heads in Korean (as well as Turkish, Una, and others) by typological observation: he argued that the overall order of the functional heads is “Mood ... > Tense ... > Asp ... > V” (I only quoted the appropriate functional heads for our study).

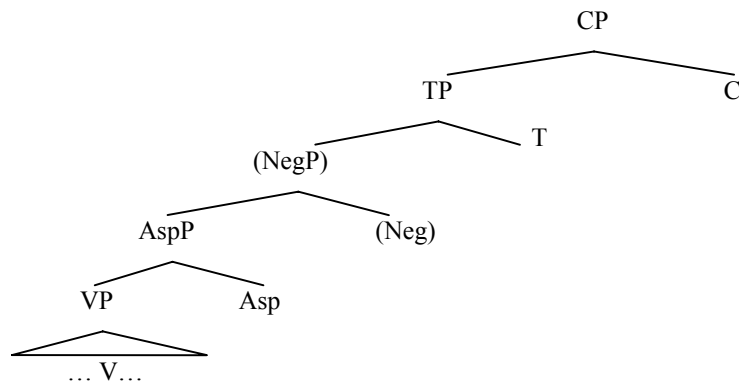


Figure 12: The simple syntactic structure of Korean sentence

Now, let us return to the position of temporal arguments. Remember that our goal of this chapter is mapping the temporal arguments into above structures in Korean, and how suffixes can have their interpretations and meanings at their final position by the derivation. I will argue how temporal arguments are associated with the syntactic heads and the projections on the structure.

Admitting that tense is the relation between ST and RT and aspect the relation between RT and ET, it is our primary question where these arguments are positioned between the head of the phrase, say, X, and the specifier of the phrase, say, XP. One approach is to posit them on the specifier of the projections or the phrases such as [Spec, TP], [Spec, AspP], and [Spec, VP] (Stowell 1996, D&U 1997; 2000, Zagana 2005), and the other approach regards the argument position as the head of the projection or the phrase, such as T, Asp, and V (Thompson 2005). The first approach (arguments are at the [Spec, Xp]) follows the claim that tense as well as aspect is a dyadic predicate which takes two time arguments (Zagana 1990). So, a temporal predicate such as T or Asp needs one internal argument and one external argument. In case of tense, the external argument is ST and the internal argument is RT, whereas the external argument of aspect is RT and the internal argument of aspect is ET. If this is the case, then tense is associated with T where T is evaluated; and aspect with Asp where Asp is evaluated.

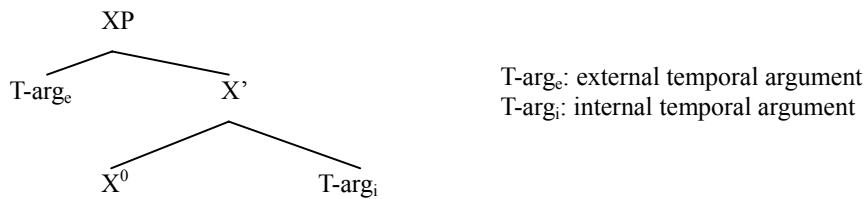


Figure 13: Evaluation of X by the relation between the external- and the internal arguments

So, for T, the external argument, ST, is at the [Spec, TP] position and the internal argument, RT, is in the sisterhood of T, AspP. Again, for Asp, RT is at the [Spec, AspP] and ET is within VP.

On the other hand, Thompson (2005) posits the temporal arguments at the head position because, she argues, times are associated with syntactic heads, such that ET is a semantic feature associated with V, ST a feature associated with T, and RT a feature on Asp. However, if we consider the ‘situation type shift’ or the ‘derived-level verb constellations (e.g., ‘to run’ as Activity vs. ‘to run a mile’ as Accomplishment), we can see that ET is associated with VP, not V by itself. Further, as above mentioned, it looks more appropriate to assume that tense as well as aspect as the head of each TP and AspP has to have Spec-Head relation its specifier. So, I adopt the former approach for the position of the temporal arguments that temporal arguments are at the spec position, instead of head position.

Let us now to consider each position of the temporal argument. First, it is quite apparent that ET is linked directly to VP by its propositional meaning, either by the verb itself or the verb constellation which consists of the verb and its complement. So, it is appropriate to consider that ET derives from VP.

As for ST, it is not likely that ST is lexically realized, i.e., ST is not visible. Instead, ST can be regarded as a reference point of tense. In other words, ST plays a role as an anchor so that the speaker evaluates tense on the basis of ST. Further, as we discussed above, ST plays a role as the external argument of T, which means that the position of ST must be within local domain of T. If it is the case, there may be several candidates for the ST position, such as [Spec, Tp], [Spec, AspP], or [Spec, VP]. However, VP-spec position cannot have ST, because VP-spec position is for the subject of the propositional meaning, not for the speaker of the utterance. In other words, if a speaker, say, I, utters a sentence such as *he ran a mile*, ‘he’ in the sentence cannot be the speaker of the utterance. Further, ‘he’ is the specifier of the action ‘to run a mile’, although English grammar requires ‘he’ to be at the [spec, TP] position. So, [spec, VP] is already taken by

'he', and this position cannot hold ST. AspP-spec position is also unlikely to hold ST, because this position need to hold RT, instead of ST. Asp is associated with the relation between RT and ET, and ET derives from VP. As a dyadic predicate, Asp also needs an external argument which should be within the local domain of Asp. The maximal projection of Asp is AspP and RT must be positioned within AspP. Thus, [spec, AspP] is the position for RT, not ST. So, we can claim that ST is associated with the [spec, TP] position.

Now, let us think about the position of RT. RT position seems to be more flexible than ET or ST. First, let us consider the simpler case. If there is no adverb and RT is not specified by a lexical item, then we have to postulate an arbitrary time point on the time axis for tense and aspect (unlike RT, ET and ST are always given). We saw that aspect is morphologically realized at Asp. In this case, as we have seen in ST, we can simply assume that Asp(ect) is also specified by its specifier, the argument at [Spec, AspP] position. If we only consider the aspectual meaning of *-ess*, its functional meaning is that the event is *done* or *finished* (perfective) at a given time by the relation between ET and RT, as we have seen in the previous chapter. And the given time is specified by the arbitrary moment if a temporal adverb is absent in a sentence.

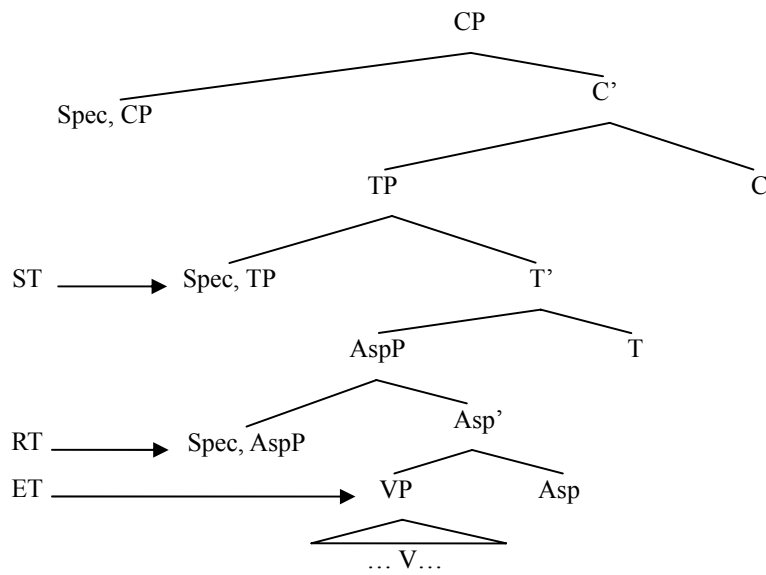


Figure 14: Mapping of the temporal arguments on the syntactic structure of Korean sentence when the temporal adverb is absent

Above structure has the similarity to D&U (1997)'s proposal in many ways that

temporal arguments are at [Spec, XP] position (for ST and RT), respectively, except the position of ET (D&U (1997) postulate the position of EV-T (=ET) at [Spec, VP] whereas figure 15 shows that ET is inside VP)³³.

By contrast, it is not so simple to determine the position of RT when a temporal adverb is present in a given sentence: adjuncts (including adverbs) are known as sisters of any maximal projections, and current syntactic theories mostly agree that adjuncts adjoin on VP. However, this cannot be always true if we consider the possible position of RT more syntactically. Let us compare both figure 14 and figure 15 which is based on the widely adopted accounts for the adjuncts. Figure 14 is a partial semantic representation whereas figure 15 is based on the current syntactic accounts:

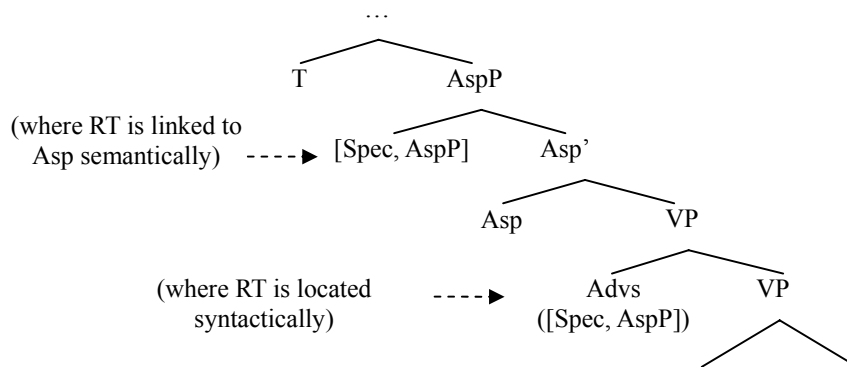


Figure 15: The adjunction of adverbs

If RT is specified by a temporal adverb, especially ‘(temporal) locating adverbial (Smith 1997)’ such as *at noon, yesterday*, etc, RT is, in one hand, lexically and syntactically realized at [Spec, VP] position but it is, on the other hand, semantically specified at [Spec, AspP] position. This gives us a puzzle of the position of RT. More specifically, the meaning of temporal adverbs is lexically determined either past (*yesterday, a month ago*, etc.), present (*now*), or future (*tomorrow, in the next year*, etc.), according to their sequential relation with ST (either before, including, or after ST), or to their temporal location by the lexicon (*in 1993, on May 1st, last*

³³ In their analysis, D&U did not consider the temporal adverbials; their account is more focused on how the relation between times (UT-T with AST-T, AST-T with ET-T) can determine the ‘lexical meaning primitives’ at ASP⁰ and T⁰. By contrast, the analysis proposed here is to consider more how the (concrete) lexical items are realized on the syntactic analysis. For this purpose, I will include the temporal adverbials in the current discussion. The position of adverbials will be discussed more.

Saturday, etc). Smith (1997) pointed out that the adverbials specify RT in simple, independent sentences. For instance, temporal adverbial phrases which begin with *before* are relational to ST or ET, e.g., RT < ST or ET < RT; the temporal adverb *now* can be both ‘of relation’ (RT including ST) and ‘of location/ fixation of ST³⁴ (RT = ST)’.

Regarding the position of RT, Thompson (2005) argued that the position of RT depends on the target of the adverbial modification. More precisely, the structural ambiguity of the adverbial position between [Spec, AspP] and [Spec, VP] correlates with the semantic ambiguity – the adverbial modification of the temporal arguments. She adopted Hornstein’s claim that the temporal (structural) ambiguity is due to modification of the ET or RT. This ambiguity can be seen more clearly in the following example (quoted from Thompson 2005:p.21):

- (18) The secretary had eaten at 3 p.m.
 (19) a. The time that the secretary actually ate was 3 p.m.
 b. The secretary had already eaten by 3 p.m.

(18) can be paraphrased as in (19a) or (19b), depending on the adverbial modification of either ET or RT, respectively. So, the adverbial *3 p.m.* modifies VP in (19a) whereas the adverbial modifies AspP in (19b). This can be illustrated as follows (Thompson 2005):

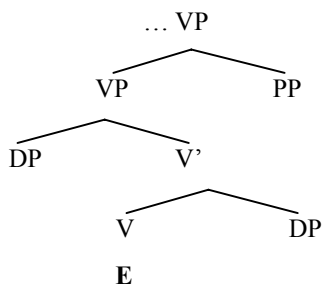


Figure 16: The adjunction of adverbials to VP

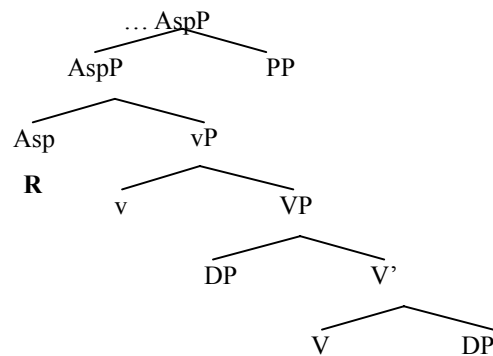


Figure 17: The adjunction of adverbials to AspP

As well as the position of temporal adverbials, she also argued that this structural

³⁴ Smith (1997) presents 4 types of temporal adverbials. Among them, only locating adverbials are discussed in this study. Other types need to be addressed in the future studies. See more Smith (1997).

difference can predict the ‘linear order/ linear order restriction’ of temporal adverbials that RT-modifying adverbials are associated with a phrase structurally higher than ET-modifying adverbials, with comparison of following examples (Thompson 2005: p.23):

(20) John had left a week ago *on Monday*.

(21) *John had left *on Monday* a week ago.

Although it is not identical with the English case, Korean has similar patterns with English counterpart. Consider the following case:

(22) chelswu-nun ecey samil-tongan ca-ko iss-ess-ta
 chelswu-Tom yesterday 3 day-during sleep-Prog-Pst-Decl
 ‘Chelswu was sleeping for 3 days on yesterday.’

(Lit.: Yesterday, Chelswu was in the middle of sleeping for 3 days)

(23) *chelswu-nun samil-tongan ecey ca-ko iss-ess-ta
 chelswu-Tom 3 day-during yesterday sleep-Prog-Pst-Decl
 ‘*Chelswu was sleeping yesterday for 3 days.’

In (22), *ecey* ‘yesterday’ modifies *chelswu’s (more than) 3-day long sleeping*: ‘yesterday’ modifies RT and ‘3-day long’ modifies ET. Further, ‘yesterday’ must be within the time span of *chelswu’s 3-day long sleeping* because *-ko iss* is progressive thus imperfective aspectual suffix which says that Chelswu’s sleeping is ‘unbounded’, i.e., ‘RT *within* ET’ relation. Thus, ‘yesterday’ must modify the AspP, not VP. Rather, VP is modified by ‘for 3 days’. Above examples can be the evidence that temporal adverbs also can adjoin to [Spec, AspP]. With previous discussion of ‘boundedness’ and *within/after* relation, this can be illustrated as follows³⁵:

³⁵ I do not discuss the subject movement to [Spec, CP] in this paper, for simplicity’s sake.

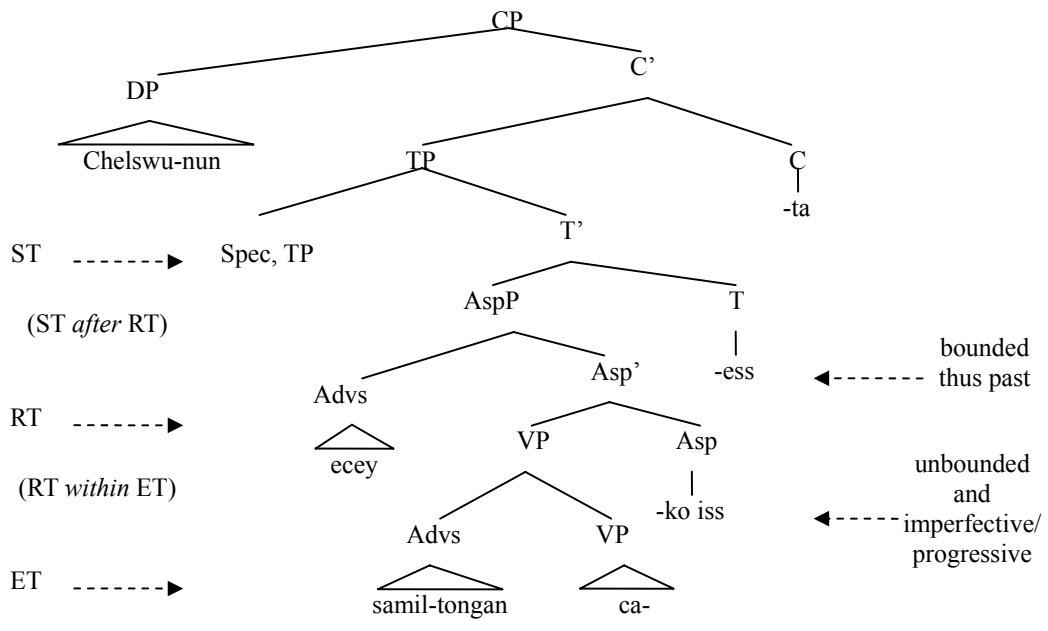


Figure 18: The syntactic representation of (22)

By contrast, (23) is ungrammatical in that RT ‘yesterday’ is inside of the scope of ‘3-day long’, ET. This ungrammaticality is expected from Thompson’s ‘linear order restriction’.

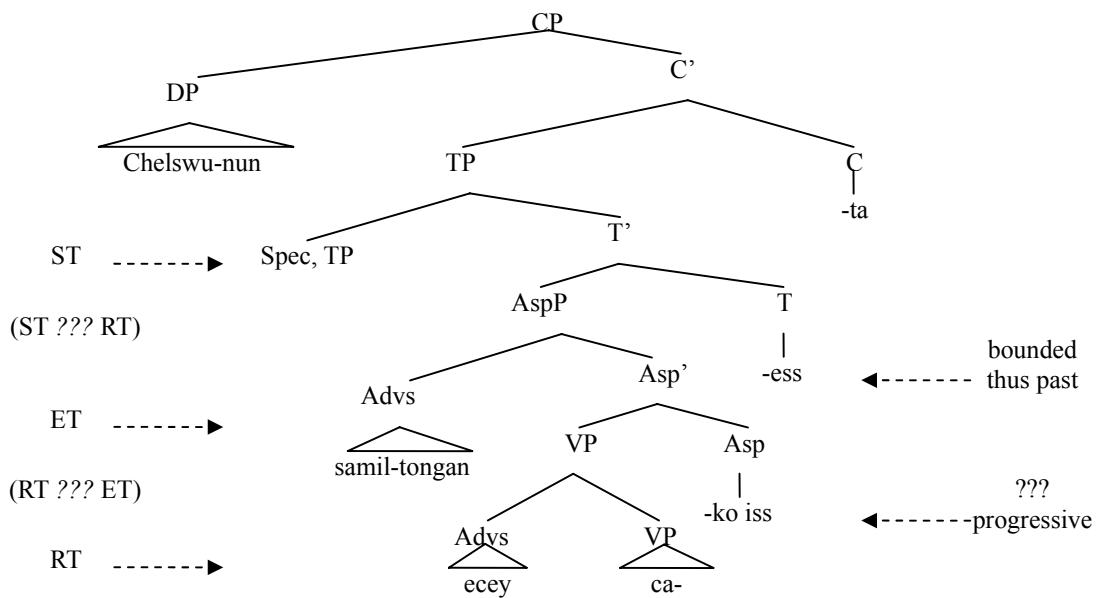


Figure 19: The ungrammaticality of (23)

So far, I argued that ST is linked to [spec, TP] and ET to [spec, VP]. As for RT, RT is associated with [spec, AspP] when the adverbs directly specifies RT. Even RT is not lexically specified, i.e., RT is not visible, RT is associated with [spec, AspP] by means of postulating an arbitrary point for it (=RT). ET is lexically specified from VP, ST is not; ST is anchored at the moment of speaker's utterance, and associated with [spec, Tp]. RT may (or may not) be lexically specified by the adverb. If RT is lexically specified, RT is associated with [spec, AspP], along with the account of Thompson (2005). When RT is not lexically specified, an arbitrary point is postulated for RT and this point is linked to [spec, AspP].

Now, in the next section, we will see how temporal elements are realized syntactically with the current syntactic- and semantic discussions.

4.3 The realization of the temporal elements

- 1) *John-i swule-lul mi-n-ta*
 J-nom cart-Acc push-PRS/IMP-Decl
 'John pushes a cart.'

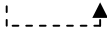
There is no temporal adverb in 1), and its temporal suffix is only *-nun*. Now, let us first derive this sentence roughly as follows:

(24) [_{VP} (ET) John-i swule-lul mil-]

Then, we need add a functional projection where *-nun* can be placed. The verb *mil-* 'to push' is [+ dynamic] verb, so this verb can satisfy the condition of *-nun*. Further, we need to postulate an arbitrary RT inside AspP, since no adverbial specifies ET or RT lexically:

(25) [_{AspP} (RT) [_{VP} (ET) John-i swule-lul mil-] -nun [_{PRS, IMP} Asp]


The verb inside VP raises to the head of AspP for morphological reason: without verbs, suffixes cannot be realized independently. Now, we have the following structure:

(26) $[_{AspP} (RT) [_{VP} (ET) \text{ John-i swule-lul } \underline{mi_i-}] \text{ mi}_i\text{-}(nu)n]_{[PRS, IMP]} Asp_{[IMP]}]$


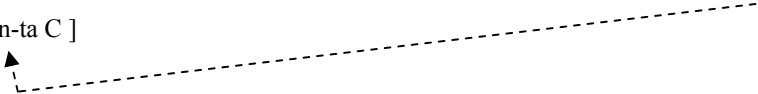
As we have seen so far, Korean is tensed language to project T(NS). So, we need another functional projection for T which has [TNS], as well as ST inside TP:

(27) $[_{TP} (ST) [_{AspP} [_{AspP} (RT) [_{VP} (ET) \text{ John-i swule-lul } \underline{mi_i-}] \text{ mi}_i\text{-}n]_{[PRS, IMP]}^{36} Asp_{[IMP]}]] T_{[PRS]}]$

Since *-nun* has ‘present imperfective’ feature, this suffix can check the [PRS(ent)] feature of T, with attached to the verb:

(28) $[_{TP} (ST) [_{AspP} [_{AspP} (RT) [_{VP} (ET) \dots \underline{mi_i-}] \text{ mi}_i\text{-}n_j] Asp_{[IMP]}]] \text{ mi}_i\text{-}n_j]_{[PRS, IMP]} T_{[PRS]}]$


It is widely adopted that Korean is claimed to be a CP projection language in which the mood marker of the sentence is realized. So, we need the last functional projection which determines the mood of sentence. Since every Korean functional category is affixal, they need a verb to which they can be attached, the verb cluster aspect- and tense suffix cluster *mi_i-n_j* then raises to C, *-ta*. The subject raises to [Spec, CP] position.

(29) $[_{CP} [_{DP} \text{ John-i}] [_{TP} [_{TP} (ST) [_{AspP} [_{AspP} (RT) [_{VP} (ET) \dots \underline{mi_i-}] \text{ mi}_i\text{-}n_j] Asp_{[IMP]}]] \text{ mi}_i\text{-}n_j]_{[PRS, IMP]} T_{[PRS]}]]$
 mi-n-ta C]


Following is the tree diagram of the sentence 1):

³⁶ The selection between *-nun* and *-n* is for phonological reason.

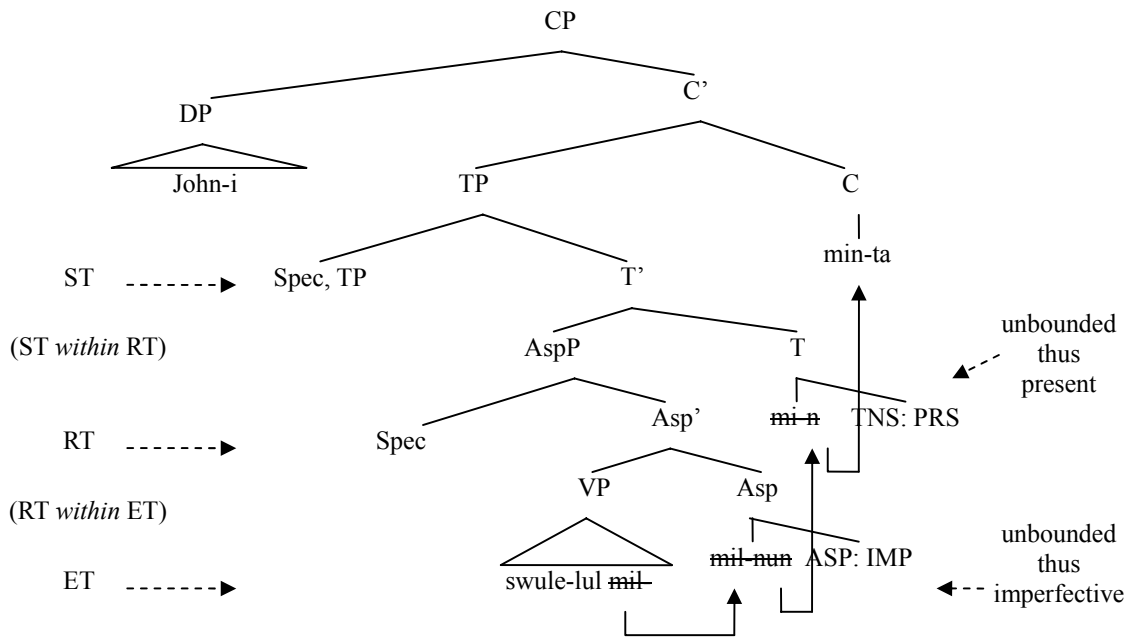


Figure 20: The syntactic representation of 1) *John-i swule-lul min-ta*

- 2) *John-i ocen-ey mwun-ul tutulki-ko iss-ess-ta*
 J-Nom morning-at door-Acc knock-Prog-Pst-Decl
 ‘John is knocking a door in the morning.’

The derivation of this sentence is very similar to 1), except that this sentence has a temporal adverb *ocen-ey* ‘in the morning’ and a progressive suffix *-ko iss*. The temporal adverbial refers to RT, not ET, in that the sentence conveys the reading that John’s knocking on a door was seen by the speaker in the morning, not the reading that *John knocked a door* during the whole morning. So, we do not have a temporal adverbial in the VP, but in the AspP. The first step is to have VP:

- (30) [_{VP} (ET) John-i mwun-ul tutulki-]

The next step is the V raising to Asp. This sentence has *-ko iss* on Asp which is specified as [PROG]. This feature must be checked at Asp position. Besides, a temporal adverb is also adjoined to [Spec, AspP] position to show RT:

(31) [AspP (RT) [Adv_s ocen-ey] [VP (ET) John-i mwun-ul ~~tutulki-~~] tutulki-ko iss [PROG] Asp]

The tense suffix, *-ess*, refers to the relation between RT and ST that RT is followed by ST, past tense. The verb also raises to T position which has unspecified feature [PST]:

(32) [TP (ST) [AspP (RT) [Adv_s ocen-ey] [VP (ET) John-i mwun-ul ~~tutulki-~~] ~~tutulki-ko-iss~~ [PROG] Asp_[PROG]] tutulki-ko iss-ess T_[PST]]

Because of CP projection caused by *-ta*, v finally raises to C position and the subject raises to [Spec, CP] position.

(33) [CP [DP John-i_m] [TP (ST) [AspP (RT) [Adv_s ocen-ey] [VP (ET) ~~John-i~~_m mwun-ul ~~tutulki-~~] ~~tutulki-ko-iss~~ [PROG] Asp_[PROG]] ~~tutulki-ko-iss-ess~~_[PST] T_[PST]] tutulki-ko iss-ess-ta C]

Following is the tree diagram of the sentence 2):

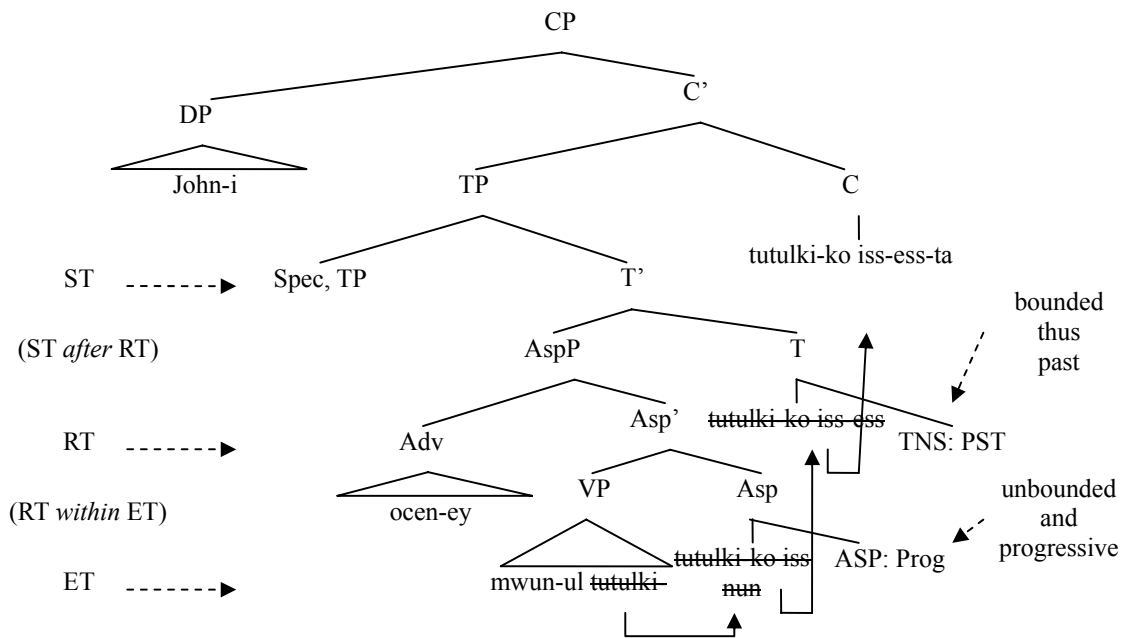


Figure 21: The syntactic representation of 2) *John-i ocen-ey mwun-ul tutulki-ko iss-ess-ta*

3) *John-i cikum mak cip-ey tochakhay-ss-Ø-ta*

J-Nom now right home-at arrive-Perf-PRS-Decl

‘John just arrived at home now.’

3) is different from 1) and 2) in that it has $-\emptyset$ suffix for tense. Although there is *-ess* suffix in the verb cluster, *-ess* in 3) cannot be past tense suffix in that the temporal adverb has ‘present’ meaning (*right now*), as we have discussed in chapter 3. If *-ess* in 3) is past tense suffix, this suffix cannot occur with the present time referring adverbial in that *-ess* as tense suffix has ‘ST *after* RT’ relation whereas the adverbial refers to the relation ‘ST = RT’. Such inconsistency of temporal arguments relation leads us to regard *-ess* in 3) as an aspectual suffix, not as a tense suffix. If it is the case that *-ess* in sentence 3) is an aspectual suffix, $-\emptyset$ must be chosen for tense suffix in order to avoid the aspectual confliction between aspect suffixes. More precisely, as in 3.3, aspectual *-ess* cannot take *-nun* as the present tense suffix because the aspectual feature from both suffixes are contradictory, i.e., *-ess* bears [perfective] feature whereas *-nun* holds [imperfective] feature for aspect.

The derivation of 3) is as follows:

First, Asp takes VP as its complement to form AspP, and the temporal adverbial *cikum mak* ‘right now’ is adjoined to [Spec, AspP] as RT. The verb raises to Asp node:

(34) [_{AspP} (RT) [_{AdvS} *cikum mak*] [_{VP} (ET) John-i cip-ey ~~tochakha-~~ *tochakha-ess*]_[PERF, PST] Asp]

By aspectual meaning of *-ess*, RT and ET have ‘RT *after* ET’ relation. This relation satisfies [PERF] feature of *-ess*. Now, T takes AspP as its complement and ‘*tochakha-ess*’ raises to T to check [PST] tense feature:

(35) [_{TP} (ST) [_{AspP} (RT) [_{AdvS} *cikum mak*] [_{VP} (ET) John-i cip-ey ~~tochakha-~~ *tochakha-ess*]_[PERF, PST] Asp]_[PERF]] T [_{PRS}]]

Here, the relation between ST and RT is ‘ST = RT’ relation, not ‘ST *after* RT’ relation. Thus, this relation assigns T as [PRS] tense, not [PST] tense. The feature on T, [PRS], cannot be checked with *-ess* which has [PERF, PST]. The aspectual feature, [PERF], is checked at Asp position, but tense feature [PST] cannot be checked at T position. Because of the unchecked tense feature [PST], *-ess* cannot raise to T and it has to remain at Asp. In order to check [PRS] feature at T position, $-\emptyset$ is inserted as present tense suffix which has [PRS] tense feature. This $-\emptyset$ can

check [PRS] feature at T to have ‘present’ tense meaning. The [PST] feature is left unchecked by T, so that feature is removed from the feature list of *-ess*:

(36) [TP (ST) [AspP (RT) [Adv_s cikum mak] [VP (ET) John-i cip-ey ~~tochakha-~~] ~~tochakha-ess~~_[PERF] Asp_[PERF] -Ø [PRS] T [PRS]]

Finally, the verb with suffixes raises to C, and the subject moves to [Spec, CP].

(37) [CP [DP John-i] [TP (ST) [AspP (RT) [Adv_s cikum mak] [VP (ET) John-i cip-ey ~~tochakha-~~] ~~tochakha-ess~~_[PERF] Asp_[PERF] -Ø [PRS] T [PRS]] tochakha-ess-Ø ta C]

Following is the diagram for 3):

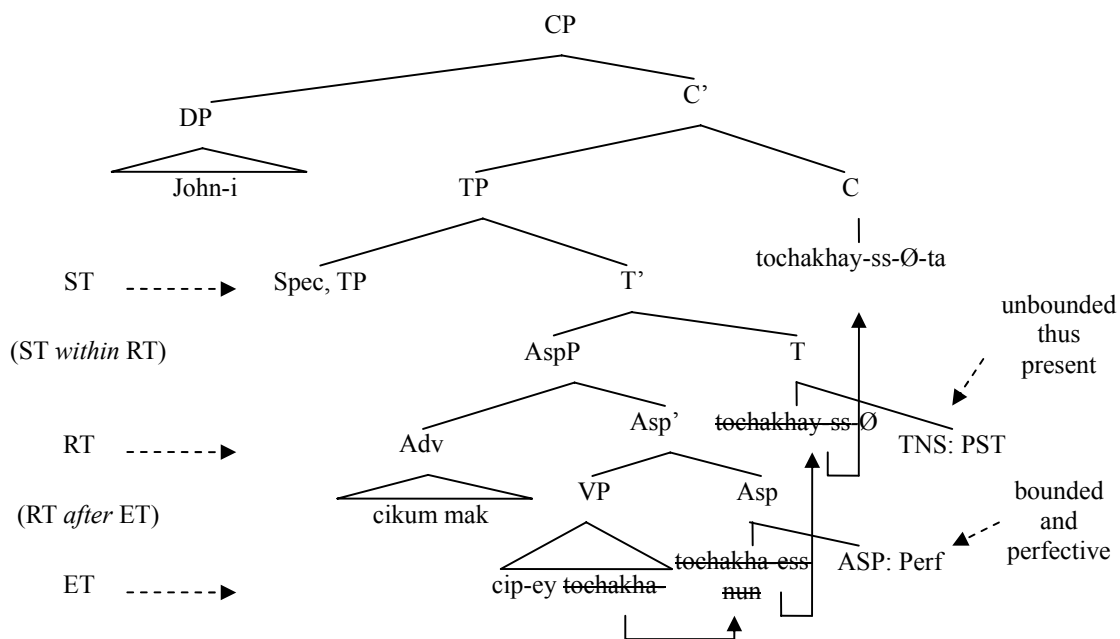


Figure 22: The syntactic representation of 3) *John-i cikum mak cip-ey tochakha-ss-Ø-ta*

4.4 Summary

We saw how we can conceptually connect the temporal elements with the syntactic structure in 4.1. In 4.2, we first saw the evidence of V-raising in Korean by the negation and adverb insertion test, and then how temporal arguments can be mapped into the syntactic framework based on D&U (1997). For the position of temporal adverbials, I adopted Thompson (2005)'s arguments that the position of temporal adverbials depends on which temporal arguments the temporal adverbials modify. They can be adjoined either to [Spec, AspP] when they modify RT or to [Spec, VP] when they modify ET. In 4.3, we saw the derivations of Korean sentences focused on the suffixes, and how semantic tense and aspect in Korean can be mapped into syntactic framework.

The relation between suffixes versus the situation type aspect and the predicate type was, however, not addressed in this chapter. I will leave the discussion of that relation for the further research.

5. Conclusion

In this study, I presented an account of how temporal suffixes in Korean are interpreted and realized from semantic- and syntactic points of view: *-nun* suffix has ‘present imperfective’ meaning whereas the meaning of *-ess* depends on the conditions. *-ess* can be interpreted either as perfective aspectual suffix or as past tense suffix. I also showed under which conditions *-ess* has appropriate interpretation.

Based on the previous studies both from syntactic treatment of Tense/Aspect and semantic account of tense/aspect, this paper has presented a new view of temporal suffixes in Korean that they can be accounted for in terms of syntax as well as semantics. Especially, I presented how *-ess* suffix can be categorized by the conditions under which it appears, and argued that this suffix can be properly understood not only by the adverbial specification but also the predicate it takes.

For the above claim, I presented how Korean suffixes can be understood by the notion of ‘boundedness event constraint’ (Depraetere 1995) with the relationship with ‘lexical meaning primitives’ (D&U 1997, 2000). The relations among these arguments form both tense and aspect, according to their *within/after* relation. Further, I presented the occurrence of the present suffix, \emptyset and *-nun*, can be accounted for with ‘Event realization’ and its preferred marking (Bohnemeyer and Swift 2004). In chapter 4, I proposed the association of semantic temporal arguments with the syntactic positions. I also argued the positions of the temporal adverbials in Korean: they can be either at [Spec, AspP] or at [Spec, VP], according to their modification. Finally, I showed how tense and aspect can be mapped to Tense and Aspect with Korean sentences.

Still, there left some questions which need more discussions. First, this study did not fully cover the effect of situation type and the predicate type. I mentioned the situation type aspects and the predicate types for the interpretation of suffixes in chapter 3. They were, however, little discussed in chapter 4. As for the situation type aspects, Accomplishments and Achievements situation type showed different pattern from other types; the situation type was not discussed in the last chapter in depth, especially how the situation type can be reflected on the syntactic treatment of tense and aspect. The predicate type (whether it is a verbal- or non-verbal predicate such as nominal or adjectival) was not discussed in depth in chapter 4, either. It is expected that the other predicate types (adjectival- and nominal predicates) may show the

different syntactic patterns from that of the verbal predicates.

Another point that I want to mention is the relationship between the features of the predicate and the suffixes. The current study did not deal with this issue in depth; however, a more thorough study about this relationship may give us more concrete answer why and how a suffix cannot occur with some predicates while the other can. This point will be dealt with in further research, too.

This study is a new proposal for understanding of Korean tense and aspect system. This study tries to connect semantic tense and aspect with their syntactic realization. Although there remain many points unaddressed, I hope this work might shed light on more understanding of the tense-aspect system in Korean in various aspects.

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