Space in Tense:
The Interaction of Tense, Aspect, Evidentiality, and Speech Act in Korean

by

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THESIS SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE OF

DOCTOR OF PHILOSOPHY

in the
Department of Linguistics

SIMON FRASER UNIVERSITY

Fall 2005

Approval

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Degree: **Doctor of Philosophy**

Title of Thesis: **Space in Tense: The Interaction of Tense, Aspect, Evidentiality, and Speech Act in Korean**

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Abstract

This dissertation investigates the interaction of tense, aspect, evidentiality, and speech acts, using Korean as a test case. I propose that Korean has two types of deictic (indexical) tense—simple deictic tense and spatial deictic tense. This makes possible a systematic account of the temporal interpretation of tenses, aspects, and moods that also incorporates evidentiality. By showing that the Korean evidential system should be analyzed as part of the tense-aspect system, this study contributes to current research on the formal analysis of inflectional systems in the world's languages.

First, I give an analysis of the simple suffix *-ess* and the double form *-essess*. The distinction between these two parallels the distinction between the perfect and the past manifested in most Indo-European languages. The simple form *-ess* is a perfect and the double *-essess* is a deictic past tense. Next, I treat the suffix *-te* and argue that not only temporality but also the notion of space is relevant to its analysis: it is a spatial deictic past tense denoting a certain past time when the speaker perceived either a given event itself or some evidence of the event. Thus, *-te* directly relates to evidentiality. In addition, *-te* has a present tense counterpart, the spatial deictic present form *-ney*. My analysis results in the claim that some suffixes are ambiguous between aspects or moods and evidentials. For example, if the suffix *-ess* occurs with a simple deictic tense, it functions as a perfect. But if it occurs with a spatial deictic tense, it functions as an indirect evidential.

In sum, a definitive analysis of Korean tense, aspect, and mood morphology incorporates two distinctions that operate in tandem: one distinction is simple deictic tense and aspect and the other distinction is spatial deictic tense and evidentiality. The

basic difference between evidential sentences and non-evidential sentences is captured in terms of speech acts: unlike non-evidential (declarative) sentences, evidential sentences do not make assertive claims. Even direct evidential sentences in Korean do not express the speaker's commitment to the truth of the proposition described.

Keywords: deixis (or indexicality), tense, aspect, evidentiality, perfect, epistemic modality, spatial deictic tense, perceptual field, speech act, sequence of tense rule

Dedication

For Sangbaek and Chungwon

Acknowledgments

They say it takes a whole village to raise a child, and I think the same can be said of writing a dissertation. I would like to express my heartfelt thanks to everyone who helped me while I was studying at Simon Fraser University.

Special thanks go to my committee members, Donna Gerdts, Lisa Matthewson, Chung-hye Han, and Nancy Hedberg. Without their help, advice, support, and critical acumen, I could not have undertaken this topic for my dissertation. I am deeply indebted to my senior supervisor, Donna Gerdts, who has been not only an academic advisor but also a mentor during my whole time at SFU. I learned enormously from her deep knowledge of the First Nations languages of North America as well as other languages of the world, greatly broadening my horizons. This eventually led me to my thesis topic, evidentiality. I thank her for showing me how to take care not only in what I say, but in how I say it. I also owe an invaluable intellectual debt to Lisa Matthewson. I am very grateful that she agreed to supervise my dissertation despite her busy schedule. I thoroughly enjoyed discussions with her and benefited tremendously from her knowledge and her sharp intellect. She played a crucial role in shaping my dissertation and bringing it to fruition. Also, I thank Chung-hye Han. I benefited greatly from discussions with her, from her comments on my dissertation, and from her courses on syntax and semantics. Equally, many thanks go to Nancy Hedberg for her encouragement, support, and invaluable comments on my M.A. and Ph.D. research. Her course on pragmatics was particularly useful. I also thank my external examiners, Jeffry Pelletier and Toshiyuki Ogihara for their comments and corrections, and for making the defense an interesting and valuable experience.

Many thanks also go to Charles Ulrich for his careful reading of my dissertation. His many comments and corrections have been most valuable. I also thank Todd Peterson for formatting, editing, and proof-reading. Without their help, I could not have finished this dissertation in a timely manner. Their efforts have greatly improved the final product.

I'd like to thank all the faculty members of the SFU Linguistics Department, especially Wyn Roberts, who helped me in so many ways. Also I thank Réjean Canac-Marquis, of the SFU French Department, for his interest in my research and help with my M.A. thesis. Thanks go to the Linguistics Department staff, Carol Jackson, Rita Parmar, Sheilagh MacDonald, Grace Wattanga, Gladys Durksen, and Liz Straker. I will never forget their assistance and their kindness. Further thanks go to my fellow students Cliff Burgess, Tim Choi, Lorna Fadden, Kaoru Kiyosawa, Renee McCallum, Susan Morton, In-Que Lee and his wife Young-Shim, Kyoung-Ja Lee, Herman Li, Miguel Oliveira, Anne Rimrott, Yasuko Sakurai, Connie So, Dennis Storoshenko, Jean Wang, and Loreley Hadic Zabala. Because of their warm friendship and support, my SFU life was full of fun and pleasure.

I thank UBC linguistics professors Henry Davis, Rose-Marie Déchaine, Douglas Pulleyblank, and Martina Wiltschko for allowing me to take their courses and for their comments and encouragement. Also I thank UBC students Leora Bar-el, Carrie Gillon, Sun-Young Oh, Eun-Sook Kim, Kayono Shiobara, and Atsushi Fujimori, for their friendship, kindness, and help.

Financial support for my studies came from SFU President's Research Stipend, Graduate Fellowships, and Teaching Assistantships. I also worked as a Research Assistant for projects conducted by Donna Gerdts and Réjean Canac-Marquis funded by SSHRC

and by SFU grants. I thank SSHRC, SFU Graduate Studies Office, and SFU Linguistics Department for conference funding, and the audiences at CLA, GURT, ISKL, NELS, NWLC, and WCCFL for their questions and comments.

I thank the Linguistic Society of America for a fellowship that allowed me to attend the 2001 Summer Institute at the University of California, Santa Barbara. I benefited greatly from the graduate seminars there, especially James Yoon and Soo-Won Kim's course on Korean syntax, Howard Lasnik's course on syntactic theory, and Elena Herburger's and Mira Ariel's courses on semantics.

And I cannot leave out my thanks to Dong-Hwan An at Pusan National University in Korea. He introduced me to linguistics and the fascinating of topic of tense, which motivated my M.A. and Ph.D. research. Also many thanks go to John-Tae Kim and Jung-Hun Ahn at Pusan National University for their teaching and encouragement.

Finally, my family deserve my special thanks. I am tremendously indebted to my parents, my brother Kyu-Chun and his wife Eun-mi, and my sister Yin-Sook and her husband Suk-Rae for their endless caring, concern, and support. I also thank my in-laws, especially my mother-in law Nam-Joo Sohn, for giving me her unwavering support. And finally I am most deeply indebted to my husband Sang-Baek and my daughter Chung-Won. Without their love, support, encouragement, endless patience, and sacrifice, I could not have undertaken my Ph.D. studies. I thus gratefully dedicate this dissertation to them.

Om Mani Padme Hum.

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Abbreviations

ACC	accusative
ADV	adverbial
ASSUM	assumed
ATT	attributive (or relative)
COMP	complementizer
CONJ	conjunctive
DEC	declarative
DEF	deferential
EXCLM	exclamatory
FUT	future
GEN	genitive
HEAR	hearsay
HON	honorific
IR.ATT	irrealis attributive
IMP	imperative
IMPF	imperfective
INCHO	inchoative
IND	indicative
INF	inferential
INSTR	instrumental
INT	interrogative
LOC	locative
M	masculine
MOD	modal
NEG	negation
NF	non-feminine
NOM	nominative
NON.VIS	non visual
PASS	passive
PAST	past
PAST.IMPF	past imperfective
PERF	perfective
PFCT	perfect
PL	plural
P.PART	past participate
PRES	present
PRES.IMPF	present imperfective
PROG	progressive
QUOT	quotative
REC.PAST	recent past
REP	reportative
RESL	resultative
SG	singular
S.PAST	spatial deictic past
S.PRES	spatial deictic present
TRANS	transitive
TOP	topic
VIS	visual

Chapter 1: Introduction

This thesis is a study of the interrelation of tense, aspect, evidentiality, and speech acts in natural language. It thus runs from semantics to pragmatics, with some implications for syntax. My purpose is to account for cross-linguistic temporal phenomena, based on a thorough investigation of Korean, a language with a rich inflectional system of tense, aspect, and mood. I give a formal analysis of several verbal suffixes and compare my results with the previous literature on Korean and on other languages of the world.

1.1 Goals of the investigation.

This thesis investigates temporal components of sentences; that is, how a given sentence is interpreted in terms of its temporal reference. In order to do that, we need to examine the characteristics not only of tenses but also of aspects and eventualities. This research has three main goals:

(1) a. to provide a formal analysis that can capture the characteristics of tense forms in Korean and their interactions with other grammatical categories, such as eventuality, aspect, mood, and sentential force (or speech act);

b. to account for the way languages differ in their tense systems and the consequences that emerge from these differences;

c. to account not only for temporal interpretation in main clauses but also for temporal interpretation in subordinate clauses, for example, the Sequence of Tense phenomenon.

In order to achieve these goals, I start with the basic notion of deixis. I classify tenses into deictic (or indexical) and non-deictic (or anaphoric), in line with analyses that provide a close parallel between tenses and pronouns (Partee 1973, Heim 1994a, Kratzer 1998, von Stechow 2002). Then I show that the idea of tense as deixis will account for evidentials in general, so that the evidential system should be analyzed as part of the regular tense, aspect, and mood system.

Before setting out on my investigation, I briefly give some background information. In Section 1.2, I lay out the theoretical assumptions regarding tense, aspect, and eventuality that are necessary for my analyses. In Section 1.3, I introduce the predicative inflectional system in Korean and then present the main issues of the thesis. In Section 1.4, I summarize the organization of the thesis.

1.2 Theoretical assumptions concerning tense, aspect, and eventuality.

1.2.1 Tense as deixis.

In the linguistic literature, it is well known that tense is part of a deictic system, which includes person deixis, location deixis, and demonstratives (Lyons 1977, Anderson and Keenan 1985). I borrow Lyons' (1977:637) definition of deixis:

> By deixis is meant the location and identification of persons, objects, events, processes and activities being talked about, or referred to, in relation to the spatiotemporal context created and sustained by the act of utterance and the participation in it, typically, of a single speaker and at least one addressee.

The notion of deixis, as described by Lyons, essentially explains what tensed sentences indicate. For example, a present-tense sentence, *Mary is reading a book*, refers to a situation that is happening at the time of utterance, whereas a past-tense sentence, *Mary read a book*, refers to a situation that was located at a time before the time of utterance.

In this thesis, I start my exploration from this basic notion of tense as deixis and find further evidence for tense as deictic expressions in 'spatial deictic tenses'. I show that regular tenses make reference only to time intervals, e.g. a certain past time interval in relation to the time of the utterance made by the speaker (or the speaker's 'now'), whereas spatial deictic tenses make reference not only to time intervals but also to locations, e.g. a certain location at a past time in relation to the location of the speaker at the utterance time (or the speaker's 'here and now').

Furthermore, the idea of tense as a deictic expression has another property, as Lyons (1977:637) says:

> Deixis is also involved in the philosophical notion of ostension, or ostensive definition; and it is worth noting that 'ostensive', 'deictic' and 'demonstrative' are all based upon the idea of identification, or drawing attention to, by pointing. So too is Peirce's term 'indexical', which has been employed in the recent philosophical literature in roughly the sense that we are assigning to 'deictic'

The notion of deixis or indexicality is based on the idea of 'ostension' or 'identification by pointing'.[1] This indicates that the referents of deictic expressions must already exist in the context of the utterance in order for the speaker to point to them. Considering that spatial metaphors are usually the basis of temporal reference in natural languages, I assume that for tense, this ostensive property of deixis can be interpreted as follows: the situations referred to by deictic tenses must be factual. That is, the situations exist at the

[1] Of course pointing is not always necessary for every deictic (indexical) expression.

utterance time or existed as a fact before the utterance time. In this respect, I assume that deictic tenses only include present and past, but not future, because a future situation is not factual. This view also allows us to understand the realis versus irrealis distinction (or non-future versus future distinction) in some languages. The realis versus irrealis distinction encodes whether or not the situation in question is a fact; that is, whether or not the situation exists (is occurring or has occurred) in the actual world. Thus, I assume that the realis and irrealis distinction is basically a deictic versus non-deictic distinction. If the situation exists in the actual world, then it can be deictically referred to, but otherwise, it cannot.

In addition, I assume that the relation between the deictic center (i.e. the speaker's 'here and now,' or 'spatio-temporal zero-point,' in Lyons' terms) and the location and/or the time of the referent is not an essential part of the semantics of a deictic expression. Rather, I assume that the relational meaning between the deictic center and the location of the referent is something that can be satisfied as a presupposition, i.e. a kind of condition that is satisfied for an indexical expression to enter into the interpretation process (cf. Heim 1994a, Kratzer 1998). This is because it is occasionally the case that demonstratives do not encode this relative meaning. According to Diessel (1999:36–38), cross-linguistically, demonstratives often encode the location of the referent relative to the deictic center by means of proximal versus distal demonstratives. There are, however, distance-neutral demonstratives that do not encode the relative distance from the speaker

but only evoke the entity in the context of utterance.[2] This indicates that the essential function of an indexical expression is to evoke the entity in the context of utterance, that is, to draw attention to the entity, not to convey the relative meaning with respect to the deictic center. In the case of distance-neutral demonstratives, I assume that the condition of these demonstratives is underspecified with respect to the relation to the deictic center. In the same way, I assume that in languages that do not have overt tense forms, there is a morphologically-zero deictic tense that is underspecified with respect to the temporal relation to the deictic center. (See Matthewson's (2004) analysis of St'át'imcets, which lacks obligatory tense morphology.)

From the thesis that tenses are deictic expressions, two other theses follow. The first is that tenses behave like (indexical) pronouns (as free variables). The second is that, like pronouns, tenses can be used anaphorically (co-referentially or as bound variables). Kaplan (1989) stresses the similarity between indexicals and variables, particularly free variables: directly referential expressions like indexicals require that the context of use determine their referents. Stated abstractly, the assignment of values to free variables can be treated simply as one more aspect of context. So he argues that assignment of values to variables plays a theoretical role analogous to contexts, and hence free variables can be taken as paradigms of direct reference.[3] (See also Heim and Kratzer (1998:243).) Thus, I adopt the referential theory in which tenses are treated as free variables whose values are determined by variable assignment functions (Partee 1973, Heim 1994a, Kratzer 1998,

[2] Diessel makes this claim based on the data provided by Himmelmann (1997:53–62), who cites *das* and *dies* in colloquial German and demonstrative forms in Supyire that are used with both proximal and distal meaning (cf. Carlson 1994:160). Anderson and Keenan (1985:280) also attest some demonstratives that do not encode the relative distance from the deictic center (e.g. *ten* in Czech and *ce* (*cette*/*cet*) in French).

[3] Kaplan (1989) says that the difference between the free and bound variables lies in the syntax.

von Stechow 2002). At the same time, adopting Kratzer's (1998) 'zero tenses', I claim that there should be two types of tense—deictic tense and non-deictic tense.

Before launching the discussion, let me clarify some of the terms I use in this thesis. In this thesis, I follow Lyons' definitions of 'deictic' and 'anaphoric'. Heim and Kratzer (1998:240) point out that Lyons' (1977) distinction between the deictic and anaphoric use of pronouns has no significance in linguistic theory because co-referential anaphoric pronouns are interpreted by the same mechanism by which deictic pronouns are. So they say that the co-referential anaphoric pronouns are best analyzed as referring pronouns, just like the deictic use of pronouns. Thus, they distinguish pronouns into referring pronouns and bound-variable pronouns; referring pronouns include deictic pronouns and co-referential anaphoric pronouns. However, I adopt Lyons' definitions of 'deictic' and 'anaphoric' and thus use the term 'anaphoric' to cover both co-referential cases and bound-variable cases.[4]

1.2.2 The referential theory of tense.

Partee (1973) makes a significant claim regarding an analogy between pronouns and tenses. According to Partee, classic quantificational approaches make a wrong claim about the following sentence:

(2) a. I didn't turn off the stove.

b. $\neg \exists t$ [PAST (t) & AT (t, I-turn-off-the-stove')]

c. $\exists t$ [PAST (t) & AT (t, $\neg$ I-turn-off-the-stove')]

[4] I am not sure that Heim and Kratzer's distinction can apply to the tense distinction that I make in this thesis. In other words, the zero tense I am assuming does not seem to be restricted to bound-variable cases. This needs further research.

The two readings of (2a) that would be suggested by the traditional analyses are given in (2b) and (2c). (2b) means that "it is not the case that there is a past time at which I turned off the stove"; that is, "I never turned off the stove in the past." (2c) means that "there is a past time at which I did not turn off the stove", which is a trivially true sentence. Neither of them provide (2a) with a correct reading. So Partee claims that (2a) should refer to a particular time that is contextually salient, as deictic pronouns do. In addition, she says that tenses, like pronouns, can be anaphoric, as in the following examples:

(3) a. Sam took the car yesterday and Sheila took **it** today.

b. Sheila had a party last Friday and Sam **got** drunk. (Partee 1973:605)

In (3b) the past tense in the second conjunct refers back to the past tense in the previous clause. Saying that tenses can also have bound-variable readings, Partee argues that the representation of English tenses should be structurally similar to the representation of pronouns. That is, tenses should be represented as variables, not as tense operators. I assume that tenses are variables, like pronouns. However, I do not adopt Partee's idea that tenses are time arguments of verbs. Instead, I assume that verbs have event arguments, as will be discussed in the following section.

Kratzer (1998) provides another parallel between pronouns and tenses, based on Heim's (1994b) note that the English first-person pronoun can lack its deictic features.

(4) a. Only I got a question that I understood.

b. [Only I]$_1$ got a question that Ø$_1$ understood.

c. "Apart from me, no individual x got a question that x understood."

Sentence (4a) is ambiguous between a strict reading and a sloppy reading of the second first-person pronoun *I*. In the latter, as shown in (4b) and (4c), the pronoun is a bound variable that does not have the presuppositions of the first person. Thus, Kratzer claims that the second pronoun is 'a zero pronoun' (without Φ-features) that inherits features through an anaphoric process and thus is pronounced as a first-person pronoun at PF. The same story applies to tenses. That is, sometimes tense features are not interpreted at all, as in the following sentences:

(5) a. John decided a week ago that in ten days he would say to his mother that they were having their last meal together. (Abusch 1989)

b. John said that he would buy a fish that was still alive. (Ogihara 1989)

c. Mary predicted that she would know that she was pregnant the minute she got pregnant.

The underlined past tense forms are 'zero tenses' that do not have past tense features on their own but rather are interpreted anaphorically. In other words, they inherit their features from the higher tense. So Kratzer claims that English should have a zero tense and, like zero pronouns, zero tenses are lexically indexed variables that must be bound by a local antecedent. So she proposes that English has two indexical tenses and a zero tense:

(6) The Inventory of English Tenses:

a. $[[\ \text{PRESENT}\ ]]^{g,c}$ is only defined if c provides an interval t that includes t_0.

If defined, $[[\ \text{PRESENT}\ ]]^{g,c} = t$.

b. $[[\ \text{PAST}\ ]]^{g,c}$ is only defined if c provides an interval t that precedes t_0.

If defined, $[[\ \text{PAST}\ ]]^{g,c} = t$.

c. $[[\ \emptyset_n\ ]]^{g,c} = g(n)$

t_0 = The Utterance Time

For my analyses here, I assume that tense is primarily deictic (indexical) and thus determined by the context. I also make use of the concept of zero tense for non-deictic tense.

1.2.3 Reference time.

Reichenbach (1947) posits that there are three intervals[5] involved in the description of tense: a speech time (S), an event time (E), and a reference time (R). According to Reichenbach (1947:288), in the past perfect (e.g. *Peter had gone*), these three intervals are located in separate positions and the time of reference is a time between the time of Peter's going and the time of speech. Thus, Reichenbach (1947) claims that the differences among the following three sentences are the time of reference:

(7) a. I saw John. E,R___S

b. I have seen John. E___R,S

c. I had seen John. E__R__S

The difference between examples (7a) and (7b) is that the reference time of (7a) is located in the past time, simultaneous with the time of the event, whereas the reference time of (7b) is at the time of speech, the present moment. The reference time of (7c) is

[5] Reichenbach (1947) used time points instead of intervals. However, following Bennett and Partee (1978), I adopt intervals and use them throughout this thesis.

located between S and E, and the event, 'my seeing John', occurs prior to the time of the reference. According to Reichenbach, the three time intervals are relevant to every temporal expression.

However, it has been pointed out that there are some problems with Reichenbach's theory. For example, the definition of the reference time is not clear, and temporal adverbs specify not only reference time but also event time (Comrie 1981, Hamann 1987, Hornstein 1990, Klein 1994). Also, the simple ordering among three time intervals cannot provide a complete account of the semantics of tense (Harder 1994, von Stechow 1995). However, I believe one of Reichenbach's significant contributions to the semantics of tense is the introduction of the third interval—reference time. Reference time not only allows for the context-dependency of tense but also separates the time of the event from the interval that the tense refers to, thus opening the possibility of a relationship between tense and other categories such as eventuality and aspect. Thus, I assume that reference time is the time interval on which aspects anchor (cf. Klein's (1994) Topic Time).

1.2.4 Eventualities and the event argument.

Since Davidson (1967) first proposed that verbs have event arguments, many analyses have made use of this concept (Parsons 1985, 1990; Bach 1986; Kratzer 1995; Chierchia 1995). In this thesis, I assume Davidsonian (or event) arguments as entities, in addition to an ontology of individual entities, truth values, times (or intervals), and worlds (Parsons 1990, Kratzer 1996, von Stechow 2002). Partee (2000) provides an analogy between events (or eventualities) and nouns: a common noun like *dog* does not denote 'an entity' but rather 'a property of entities' (its *intension* in Montague's terms)

and thus its type is <*e,t*>. In the same way, a VP denotes 'a property of eventualities' not a single event. I assume that predicates have event arguments and a VP denotes a property of eventualities. Following Pratt and Francez (2001) and von Stechow (2002), I also assume that events have the same logical type as individual entities, i.e. *e*, and hence the type of a VP is <*e,t*>.

1.2.5 Aspect as operators.

Having established that tenses refer to certain intervals given contextually and VPs simply denote 'properties of eventualities', the question is how to relate a property of eventuality to a deictic time interval. I assume that it is aspect that relates a property of eventuality to the time interval (Klein 1994, von Stechow 2002). Following Kratzer (1998), I assume that aspects are operators that map properties of events into properties of times. This means that aspects, but not tenses, are quantificational and thus introduce the existential quantifier, contrary to Priorian tense theories. Kratzer defines the three major aspects as follows:

(8) Imperfective: $\lambda P_{<l,<s,t>>} . \lambda t_i . \lambda w_s . \exists e_l (t \subseteq \text{time}(e) \ \& \ P(e)(w) = 1)$

'reference time included in event time'

Perfective: $\lambda P_{<l,<s,t>>} . \lambda t_i . \lambda w_s . \exists e_l (\text{time}(e) \subseteq t \ \& \ P(e)(w) = 1)$

'event time included in reference time'

Perfect: $\lambda P_{<l,<s,t>>} . \lambda t_i . \lambda w_s . \exists e_l (\text{time}(e) < t \ \& \ P(e)(w) = 1)$

'event over by reference time'

According to Kratzer, the difference between perfective and imperfective is whether the reference time includes the event time or vice versa; perfect denotes that the event is

completed by the reference time. However, she does not clarify whether or not imperfective is distinct from progressive. I argue below that progressive and imperfective are in fact distinct. Furthermore, I assume that perfect does not necessarily indicate that the event is completed, as will be discussed in the next chapter. Especially in cases like (9b), the perfect can co-occur with the progressive:

(9) a. Mary has read the book.

b. Mary has been reading the book.

If perfect is one of the viewpoint aspects, as traditionally treated, we can say that (9a) has the perfect aspectual meaning that the event is over or complete if we adopt Kratzer's theory. Then, we have to say that a sentence like (9b) has two viewpoint aspects; that is, it has a perfect meaning that the event is over and an imperfective (or progressive) meaning that the event has not completed, yielding a kind of contradiction. This analysis is problematic, however, because one event cannot be viewed from two different perspectives at the same time by the same person. Therefore, perfect should be distinguished from other aspects, although, like them, it is relational. Perfect deserves a closer look before deciding upon its grammatical category and its definition. In the following section, I will address the issue of the perfect.

1.2.6 Perfect as an operator tense denoting anteriority.

Perfect forms in Indo-European languages have been controversial with respect to their grammatical status, especially whether they should be regarded as tense or aspect. Even though perfects in different Indo-European languages have a common origin, they currently exhibit slightly different characteristics. The English present perfect is used

mainly for past situations with current relevance. In German, the present perfect and the simple past are almost stylistic variants. Nonetheless, in some contexts, the German perfect has the same function as the English perfect (Klein 1994:128).[6] Contrary to Hornstein's (1990) claim that the Italian present perfect and simple past are actually free variants, Giorgi and Pianesi (1997) argue that they function as different semantic categories: the Italian present perfect is similar to the English present perfect in most cases.[7]

Perfect forms are not restricted to Indo-European languages but are found in a wide range of languages.[8] Despite subtle differences, perfect forms have something in common cross-linguistically: they generally denote 'a past action with current relevance' (Bybee et al. 1994). Perfect, as recognized by many authors, is different from perfective. Based on the cross-linguistic data, Bybee et al. (1994:54) provide a relatively precise definition of related categories.

(10) Past: indicates a situation which occurred before the moment of speech. (Past is not used to refer to non-past situations.)

[6] The French perfect is also said to be almost the same as the simple past. According to Smith (1997), the French perfect now covers the uses of the perfect and the simple past, since the simple past is obsolete. However, according to Giorgi and Pianesi (1997:89), the French present perfect and simple past are not free variants in some cases.

[7] The Portuguese present perfect is used for a continuing past habit. Otherwise, the simple past is used (Giorgi and Pianesi 1997:123). In some Romance languages, such as Spanish and Limouzi (an Occitanian dialect), the present perfect is used for situations that hold today, functioning to denote recent past situations (Comrie 1985:85; Giorgi and Pianesi 1997:122).

[8] Of the languages in Dahl's (1985) 32-language sample, 24 have perfect forms.

Anterior (or Perfect):[9]	signals that the situation occurs prior to the reference time and is relevant to the situation at the reference time. (Anterior may occur with past or future tense marking.)
Perfective:	signals that the situation is viewed as bounded temporally.

This suggests that perfect (or anterior) denotes a temporal relation, whereas perfective is a pure aspect form, i.e. a viewpoint aspect in the sense of Smith (1997). So the most commonly accepted idea is that a sentence with a perfect conveys something about the given interval (or reference time) by citing a previous event. As Harder (1994) suggests, perfect is not deictic, but purely relational; it is a time relation between two semantic primitives—reference time and event time. It also has another component, which is relevance to the reference time.

I assume that perfect has a temporal meaning of 'anteriority'—that is, 'event time is before reference time'. This anterior relation between the reference time and the event time is also applicable to the use of perfects as indirect evidentials, as we will see in Chapters 4 and 5. In this respect, I do not adopt the Extended Now theory of the perfect, which suggests that the meaning of perfect places the event within the "extended now", an interval of time that begins in the past and includes the utterance time (McCoard 1978, Bennett & Partee 1978, Dowty 1979, Vlach 1993). Another reason that I do not adopt the Extended Now theory is that, as Klein (1992) notes, it only applies to the present perfect, but not other perfects such as pluperfects and future perfects, and thus it does not provide compositionality in the interpretation of a perfect sentence.

[9] Throughout this thesis, I equate perfect and anterior and use them interchangeably.

Therefore, I assume that, like aspects, perfect is relational and functions as an operator (Kratzer 1998), but I will treat it as a tense, rather than as a viewpoint aspect, because anteriority is one of its temporal relations. However, the deictic past tense and the perfect are not the same. The anterior relation of perfect is relativized, depending on the higher tense, i.e. whether the reference time is anchored in the present moment, in the past, or in some modal operator, and thus the anterior relation is essential. In contrast, the anterior relation that the deictic past tense has with respect to the deictic center usually cannot be relativized, as indicated in (10), and is not an essential part of the meaning of the past tense, as discussed in Section 1.2.1. So perfect is a non-deictic tense denoting anteriority, and thus I refer to it as 'anterior'. To conclude, my basic assumption regarding tense at this point is that there are two types of tenses—deictic tense and non-deictic tense. Deictic tense includes present and past, while non-deictic tense includes 'zero tense' (in the sense of Kratzer 1998) and anterior (or perfect):

(11) Typology of Tense

Deictic Tenses	**Non-Deictic Tenses**
present	Ø (zero tense)
past	anterior (perfect)

1.3 Predicative suffixes in Korean.

Although this thesis is anchored in the cross-linguistic literature on tense, aspect, and evidentiality, it focuses on Korean as a test case. Therefore, a brief introduction to the Korean predicate suffix system is in order. Korean is a head-final and agglutinative language. Korean often does not distinguish adjectives and verbs in their predicative use morphologically, and thus for predication adjectives (12a) do not take a copular verb, although nominals (12b) do:

(12) a. mina-nun ttokttokha-ta.
Mina-TOP intelligent-DEC
'Mina is intelligent.'

b. mina-nun sensayng-i-ta.
Mina-TOP teacher-be-DEC
'Mina is a teacher.''

Furthermore, both adjectival and verbal predicates are categorized into attributive and predicative uses and take distinct suffixes accordingly. In (13a), the verb takes a predicative suffix, the declarative suffix *-ta*, while in (13b), which is a noun phrase modified by a relative clause, the verb takes the attributive suffix *-n*.

(13) a. sonye-ka nolay-lul pwulu-n-ta.[10]
girl-NOM song-ACC sing-PRES.IMPF-DEC
'A/The girl sings/is singing a song.'

b. nolay-lul pwulu-nu-n sonye
song-ACC sing-PRES.IMPF-ATT girl
'a/the girl who sings/is singing a song'

At the sentence level, the predicate is combined with various separable suffixes denoting grammatical categories, such as honorifics, aspect, tense, and mood. H.-M. Sohn (1994:300) gives an example containing all possible types of predicative suffixes:

[10] Many Korean suffixes show allomorphic variation depending on the phonological environment. The nominative case marker has two variants, *-ka* after a vowel and *-i* after a consonant. The accusative case marker appears as *-lul* after a vowel and *-ul* after a consonant. The topic marker appears as *-nun* after a vowel and *-un* after a consonant. The present imperfective suffix *-nun* appears as *-n* after a vowel in main clauses. Following H.-S. Lee (1993b), I treat *-nu* as the present imperfective and the final *-(u)n* as the (realis) attributive suffix, which is in opposition to the irrealis attributive suffix *-(u)l*.

(14) ku-pwun[11]-i cap -hi -si -ess-ess -keyss -sup -ti -kka?[12]
The-person.HON-NOM catch -A -B -C-C -D -E -F -G
'Did you feel that he had been caught?'[13]

The suffixes are: passive (A), subject honorific (B), past past or past perfect (C-C), conjectural modal (D), addressee honorific (E), retrospective mood (F), and interrogative sentence type (G).

I argued in Chung (1999) that in the Korean two types of predicative suffixes should be recognized: situation-oriented and speaker-addressee-oriented. Situation-oriented suffixes relate to aspects of the situation in question, for example, the participants in the situation or the time of the situation, whereas speaker-addressee-oriented suffixes often refer to the speaker and the addressee, and thus require the presence of the addressee at the utterance time.[14] I divide the suffixes as follows:

Table 1. Korean Predicative Suffixes

	SITUATION-ORIENTED SUFFIXES	SPEAKER-ADDRESSEE-ORIENTED SUFFIXES
HONORIFIC	**B)** *-(u)si*	**E)** *-(su)p*
TENSE	**C)** *-ess, -ess-ess*	**F)** *-te*
MOOD	**D)** *-keyss*	**G)** *-ta*, *-nya* (*-kka*), *-(e)la* (*-sio*), *-ca* (*-sita*)

Each of the two types distinguishes honorific, tense, and mood. There are two honorific suffixes: the situation-oriented (or subject-oriented) *-(u)si* and the speaker-addressee-

[11] Korean 'bound nouns', which include *pwun* 'person', *i* 'person', *ttay* 'time', *kes* 'thing' do not appear as bare nouns (Suh 1996). When appearing with a demonstrative like *ku*, the bound noun and the demonstrative form a single word.

[12] Of course, a sentence with this many suffixes would not occur in normal use.

[13] The phrase *ku-pwun* is used as a polite way to refer to a particular person and thus often gets translated as a pronoun in English.

[14] Speaker-addressee-oriented suffixes other than the declarative mood marker *-ta* are infrequent in written Korean because of this property. This is the case even though one could imagine the reader as a cognitively present addressee.

oriented *-(su)p*. The situation-oriented honorific suffix *-(u)si* is used when the subject is older or higher in social status, whereas the speaker-addressee-oriented suffix *-(su)p* is used when the addressee is older or higher in social status, or in very formal situations. Likewise, there are two different types of tense—situation-oriented tense and speaker-addressee-oriented tense. The situation-oriented tense suffixes refer to the time of the situation itself: the time of the situation or the time of a habitual situation. On the other hand, the speaker-addressee-oriented tense suffix *-te* does not necessarily refer to the time of the situation. The speaker-addressee-oriented mood forms are markers of clause type: the declarative form *-ta*, the interrogative suffix *-kka*, the imperative suffix *-(e)la*, and the propositive suffix *-ca*.[15] I assume that *-keyss* lies on the borderline between these two levels. This is because it can be an epistemic mood marker indicating the speaker's inference, and it can refer to a future situation.

The focus of this thesis is the tense forms in Table 1. These forms have presented a challenge for Korean linguists not only with respect to their grammatical category but also their definition. This work addresses three main issues. (i) Why does Korean have two situation-oriented tense forms—the simple form *-ess* and the double form *-ess-ess*? They both refer to a past situation, but how do they differ? (ii) What distinguishes the two types of tense—situation-oriented tense and speaker-addressee-oriented tense? This issue boils down to the question: does the suffix *-te* belong to the category traditionally defined as tense? (iii) Previous analyses of these suffixes have dealt with them from a Korean-internal perspective. Can they be accounted for from a cross-linguistic perspective?

The key to my analysis is a new type of tense—spatial deictic tense. This proposal is one of the major contributions of this investigation. The suffix *-te* presents an

[15] Other sentence-final suffixes will be discussed as they become relevant.

intriguing puzzle and is the source of much controversy in the literature because it exhibits certain characteristics that cannot be dealt with easily within previous theories of tense, aspect, and/or mood. Let me give a brief illustration of those characteristics. The suffix *-te* refers to an ongoing situation that occurred in a certain past time, possibly indicating an imperfective meaning, as shown in (15):

(15) a. mina-ka hakkyo-ey ka-**te**-la.
Mina-NOM school-LOC go-S.PAST-DEC
'Mina was going to school.'

b. hakkyo-ey ka-**te**-n mina-nun olaksil-lo cikhayngha-yss-ta.
school-LOC go-S.PAST-ATT Mina-TOP arcade-to head.straight-PFCT-DEC
'Mina, who was going to school, headed straight to the arcade.'

However, unlike regular tenses and aspects, the suffix *-te* is restricted in its occurrence: it appears only in main clauses (15a) and attributive (or relative) clauses (15b).[16] Moreover, *-te* does not behave the same in the two environments. As previously noted in the literature, *-te* in main clauses is subject to certain constraints, but *-te* in attributive clauses is not. For example, according to H.-M. Sohn (1994), a sentence with *-te* must describe a situation that the speaker witnessed, and thus *-te* is unacceptable in main clauses like (16a), but acceptable in attributive clauses like (16b):

(16) a. *ku tangsi shakespeare-ka ce cip-ey sal-**te**-la.
that time Shakespeare-NOM that house-LOC live-S.PAST-DEC
'Shakespeare was living in that house at that time.'

b. ce cip-i ku tangsi shakespeare-ka sal-**te**-n kos-i-ta.
that house-NOM that time Shakespeare-NOM live-S.PAST-ATT place-be-DEC
'That house is the place where Shakespeare was living at that time.'

[16] *-Te* also appears in the complement clause of the verb *malha* 'say' and a few coordinate clauses that take the suffixes *-ntey* 'but then' or *-ni* 'and so'.

Sentence (16a) is unacceptable because it is impossible for the speaker to have witnessed Shakespeare's living, whereas the attributive clause in (16b) does not exhibit this kind of restriction. Due to this kind of restriction, Cinque (1999) has defined the suffix *-te* in main clauses as a (direct) evidential, following H.-M. Sohn (1994).

However, the meaning that *-te* implies, 'to recall an event that the speaker witnessed' (H.-M. Sohn 1994:342), does not hold for all cases where *-te* appears, as shown in (17):

(17) a. mina-ka ecey ttena-ss-**te**-la.
Mina-NOM yesterday leave-PFCT-S.PAST-DEC
'[I found out/inferred] Mina had left yesterday.'

b. mina-ka kot ttena-keyss-**te**-la.
Mina-NOM soon leave-MOD-S.PAST-DEC
'[I noticed/inferred] Mina would leave soon.'

Sentence (17a) indicates that the speaker did not see Mina leaving but infers that she left based on the result state in some time before now but after Mina's leaving. Similarly, (17b) indicates that the speaker infers Mina's leaving based on his or her reasoning.

In this thesis, I argue that not only temporality but also the notion of space is relevant for *-te* in main clauses, while *-te* in attributive clauses is a regular past tense with imperfectivity. Thus, I propose that *-te* is a spatial deictic past tense, which conveys the speaker's limit in terms of location, and that, as a result, it induces an evidential environment. As a consequence, I show that Korean employs two tense systems—the regular deictic tense system and the spatial deictic tense system—and that these two tense systems induce other categories, such as perfects, evidentials, and even different sentential moods (speech acts).

1.4 Organization of the thesis.

The brief outline above serves as a general orientation. Other concepts and terminology will be introduced as they become relevant in subsequent chapters.

Chapter 2 examines the interesting and controversial fact that Korean has two tense forms with past time reference—the simple form *-ess* and the double form *-essess*. After detailed investigation, I claim that the distinction between these two forms parallels the distinction between the perfect and the past tense manifested in most Indo-European languages. Thus, I argue that the simple form *-ess* is an anterior (or perfect) and the double one *-essess* is a deictic past tense. By doubling the simple morpheme, Korean finds a way to express the ontological distinction between the deictic past tense and a non-deictic form that simply denotes anteriority.

Chapter 3 addresses the semantics and the pragmatics of perfect from a cross-linguistic perspective. First, I discuss the issue whether or not the English perfect is semantically ambiguous. Following Iatridou at al. (2003), I argue that the English perfect is semantically ambiguous between the anterior (or existential) interpretation and the continuative (universal) interpretation, whereas the Italian perfect and *-ess* only have anterior (existential) interpretations. Furthermore, I explore the idea that the denotation of perfect is closely tied to the denotation of the present tense in a given language. Having established the denotation of perfect, I account for another prevalent notion about perfect, i.e. 'current relevance', in terms of pragmatics. I treat current relevance as comprising several different meanings: the result state meaning, the experiential meaning, and the recent past meaning. Following Portner's (2003) modal analysis of the perfect, I show that those meanings are systematically introduced by the presupposition of the perfect.

Thus, perfect and past are not the same in terms of current relevance, contra McCoard (1978). Finally, based on my observations regarding the distinction between deictic versus non-deictic tenses and the denotation of the present tense, I suggest a new approach to "the Present Perfect Puzzle" (Klein 1992).

Chapter 4 investigates another highly controversial Korean suffix, *-te,* and its also present counterpart *-ney*. My analysis posits that the suffix *-te* as ambiguous between two distinct tense forms: *-te* in main clauses and *-te* in attributive (or relative) clauses, and focus on the former in this chapter. I examine the constraints that some scholars have claimed *-te* is subject to, and show that, unlike regular tenses, *-te* has not only a temporal reference but also a spatial reference. I propose that *-te* is a spatial deictic past tense that denotes a certain past time when the speaker either perceived a given event itself or some evidence of the event. I then give a formal definition for *-te*, using spatial-temporal trace functions. Thus, I argue that *-te* directly relates to evidentiality, that is, *-te*, as a spatial deictic tense, triggers an environment for evidentials but is not itself an evidential form. In addition, I argue that *-ney* is the present counterpart of *-te*, that is, *-ney* is a spatial deictic present tense form. As a consequence, I show that Korean has two types of deictic tense—simple deictic tense and spatial deictic tense. Furthermore, I show that some suffixes are ambiguous between tenses/aspects/moods and evidentials. For example, *-ess* functions with a simple deictic tense as an anterior (perfect) but with a spatial deictic tense as an indirect evidential.

Chapter 5 investigates the Korean evidential system. I show that Korean has direct evidentials (Ø), inferential indirect evidentials (*-ess* and *-keyss*), and reportative evidentials (*-tanta/-tay* and *-tatela/-tatey*). First, I discuss the semantics of direct and

inferential indirect (non-reportative) evidentials in relation to spatial deictic tense. In particular, I focus on the modal interpretation of the inferential indirect evidential form *-ess* in comparison with regular modal operators under the possible worlds theory of Kratzer (1991) (cf. Izvorski 1997) and suggest an analysis that can account for the two functions of *-ess* as a perfect and as an indirect evidential. Second, I discuss the semantics of reportative evidentials in Korean and show that, unlike direct and inferential evidentials, they do not co-occur with the spatial deictic tense. I show that the Korean data support Faller's (2002) proposal for two independent scales of evidentiality: the Personal Evidence Cline and the Mediated Evidence Cline. Finally, I examine why Korean exploits two distinct systems—the regular tense aspect system and the evidential system: what is the basic difference that underlies evidential sentences and non-evidential sentences? I provide a solution in terms of speech acts, claiming that, unlike non-evidential sentences, evidential sentences in general do not have assertive points (cf. Faller 2002). This means that even direct evidential sentences in Korean do not express the speaker's commitment to the truth of the proposition described by the sentences.

Chapter 6 summarizes my results, discusses some implications of my analyses, and brings up some remaining issues. First, I discuss the difference in world arguments between evidential sentences and non-evidential sentences and show that reference to space in evidential sentences induces different world arguments. I suggest that for evidentials, the actual world should be the speaker's perceptual world. Thus, direct evidential situations, which occur within the speaker's perceptual world, are factual (non-modal), while indirect evidential situations, which occur outside of the speaker's perceptual world, are non-factual (modal). Furthermore, I speculate on a close connection

between a mode of conveying evidence (either based on the speaker's perception or not) and a non-assertive (presentative) speech act. Second, I return to the different properties of imperfective and progressive and account for them by positing two different types of aspect—situation-external aspect and situation-internal aspect. I conclude that aspect is not a category that only applies to one level but rather to several different levels. Lastly, I briefly discuss the Sequence of Tense (SOT) phenomenon, suggesting that imperfectivity together with deictic tenses plays a role in simultaneous (de se) readings. After going through some recent analyses (Schlenker 2003, von Stechow 2003), I suggest that the SOT phenomenon should be a separate issue from the issue of context-shifting indexicals. The SOT phenomenon is best analyzed as the anaphoric use of deictic tenses in subordinate clauses in general, whereas context shifting is restricted to certain attitude predicates, such as *say*.

Chapter 2:
Deictic and Non-Deictic Tenses in Korean

In this chapter, I address two Korean tense forms—the simple form *-ess* and the double form *-essess*, which have long intrigued Korean linguists with respect to their tense category and their morphological structure.[1] As seen in the following examples, both forms have past time reference:

(1) mina-ka phyenci-lul ssu-ess-ta.[2]
Mina-NOM letter-ACC write-PFCT-DEC
'Mina wrote a/the letter.'

(2) mina-ka ce cip-ey sal-**assess**-ta.
Mina-NOM that house-LOC live-PAST-DEC
'Mina lived in that house.'

Thus, I pose the question: what distinguishes these two forms?

In this chapter, I survey previous analyses of those two tense forms showing that none of them provides an adequate account. I claim that the difference between *-ess* and *-essess* mirrors the difference between the perfect form and the past tense manifested

[1] The morphological analysis of the form *-essess* is controversial. Some linguists, including Nam (1978, 1996), treat it as one morpheme. Other linguists treat it as a combination of two morphemes, *-ess$_1$* and *-ess$_2$*. For example, Gim (1985) and N.-K. Kim (1975) analyze *-ess$_1$* as a past tense marker and *-ess$_2$* as an aspect marker. In this thesis, I treat it as a single morpheme, a deictic past tense suffix, as will be discussed shortly.

[2] The morpheme *-ess* has several allomorphic variants: *-ass* appears when the preceding verb stem (or base) ends with a vowel such as *a* and *o*, *-y(e)ss* when the preceding verb stem ends with *ha*, and *-ess* elsewhere. The suffixation *-ess* and *-ass* to a vowel final stem results in a sequence of two vowels, though often one of the vowels, usually the vowel of the stem, is deleted. Of course, the same phonological variation applies to the first vowel of the double form *-essess*.

in most Indo-European. I argue that *-ess* is a perfect and the double *-essess* is a past tense. Moreover, *-essess* is a deictic past tense that refers to a certain time interval in the past, whereas *-ess* is a non-deictic tense, an anterior, that relates the current situation to a prior situation, which yields a current relevance.[3]

2.1 The simple form *-ess*.

2.1.1 Previous analyses.

The suffix *-ess* has been defined as perfective (Na 1971; Nam 1978, 1996), past tense (An 1980, C.-M. Lee 1985), a tense aspect form that functions as either past tense or aspect (Gim 1980,1985; Suh 1996; H.-M. Sohn 1994; S.-O. Sohn 1995; Song 2003), (present) perfect (H.-B. Choi 1983), or anterior (H.-S. Lee 1991, 1993b; D.-W. Han 1996).[4] I boil these analyses into four approaches: perfective, past tense, ambiguous, and anterior (perfect). In this section, I address first three approaches—perfective, past tense, and ambiguous—and I argue against each of them.

2.1.1.1 Perfective analyses.

Nam (1978) claims that *-ess* is a perfective[5] not a past tense because data like the following describe present situations, not past situations.

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[3] This is slightly different from the analysis in Chung (1999), which claimed that *-ess* was an anaphoric (or non-deictic) past tense and *-essess* a remote past tense. For *-ess*, the difference is that the present analysis gives more emphasis to its relational property, anteriority, which allows a connection between the situation in question and the time of reference. For *-essess*, the present approach extends its semantic range by defining it as a simple deictic past tense, thereby accounting for situations of non-remote past events as well as remote past situations.

[4] I think that terminological confusion is partly responsible for the variety of the definitions of *-ess*. The English terms *perfect* and *perfective* are both translated as *wanlyo* 'completion' in Korean. Often it is not clear which English term the Korean term refers to.

[5] Nam's (1978) definition of *-ess* translates literally as 'an aspect of completion'. So it is not clear whether his term indicates perfect or perfective.

(3) a. ney os-ey hulk-i mwut-ess-ta.
your clothes-LOC mud-NOM stain-PFCT-DEC
'Mud has stained your clothes.'

b. mina-ka chengbaci-lul ip-ess-ta.
Mina-NOM jeans-ACC wear-PFCT-DEC
'Mina has put on jeans.'

c. mina-nun nulk-ess-ta.
Mina-TOP get.old-PFCT-DEC
'Mina is old.'

Sentence (3a) indicates that your clothes are now stained with mud and (3b) that Mina is wearing jeans now. Thus both sentences describe present situations, not past situations. Moreover, (3c) with a stative predicate also refers to the present situation of Mina's being old, that is, the state of her being old has persisted up to now. Nam argues that such sentences indicate that *-ess* is a perfective, not a past tense.

I agree with Nam that *-ess* is not a past tense because, if it were a past tense, it would not necessarily express present situations, as the data in (3) do, as will be discussed in Section 2.1.1.2. The reason (3a) and (3b) indicate present situations, I assume, is because the verbs *mwut* 'stain or get stained' and *ip* 'put on' are telic predicates, and the present states of clothes being stained with mud (3a) and Mina's being in jeans in (3b) are all result states of previous telic events.[6] I will come back to this in Section 2.1.1.4.

However, there is a problem with Nam's account. Is *-ess* a true perfective form? *-Ess* seems like a perfective if you consider data like (3c) with a stative predicate, since it is claimed that perfective can express a present state with stative verbs. Bybee et

[6] In fact, a past tense of a telic event can induce a result state, but I do not think that a past tense induces this meaning as strongly as a perfect does. I will discuss this issue in the subsequent sections and Chapter 3.

al. (1994:95) summarize the characteristics of the perfective in comparison with the past based on cross-linguistic data as follows:

(4) a. Perfective contrasts with non-zero imperfective, while past either co-occurs with imperfective to make a past imperfective, or is used alone to signal both perfective and imperfective past.

b. Perfective is sometimes zero-marked, but past is not.

c. Perfective is either not used with stative verbs or has the effect of signaling a present state with stative verbs. Past signals a past state.

d. Perfective is sometimes used for future or with future, but past is not.

One difference noted by Bybee et al. is that, cross-linguistically, perfective forms often do not occur with stative verbs, or if they do occur with a stative, they represent a present state. Likewise, (3c), where *-ess* occurs with a stative predicate, represents a present state. However, I argue that this view is based on an incorrect treatment of verbs like *nulk* 'get old'. The predicate *nulk* 'get old', as discussed in Chung (1999:38), is a non-stative verb, not an adjectival stative, as opposed to the predicate *celm* 'be young', which is a stative. Their different behavior with respect to aspectual markers is illustrated in (5).

(5) a. mina-ka icey-nun nulk-**nun**-ta/ nulk-e ka-**ko iss**-ta/
Mina-NOM now-TOP be.old-PRES.IMPF-DEC/ get.old-go-PROG-DEC/

*nulk-**e ci**-n-ta.[7]
get.old-INCHO-PRES.IMPF-DEC

'Mina is getting old now.'

b. mina-ka icey-nun *celm-**nun**-ta/ *celm-e ka-**ko iss**-ta/
Mina-NOM now-TOP *be.young-PRES.IMPF-DEC/ *be.young-go-PROG-DEC/

celm-**e ci**-n-ta.
be.young-INCHO-PRES.IMPF-DEC

'Mina is getting young now.'[8]

The verb *nulkta* 'get old (for animates)' (5a) only occurs with aspect markers that are compatible with non-states, for example, the present imperfective form and the progressive form.[9] On the other hand, *celm* 'be young' (5b) does not occur with any aspectual marker except the inchoative form *-e ci*, which either indicates an inchoative meaning with a stative predicate[10] or a kind of passive meaning with a transitive non-stative predicate. These facts suffice to prove that *celm* is a stative predicate (or adjective) but *nulk* is a non-stative predicate that should be classified as an achievement predicate, in terms of Vendler's (1967).[11] So the lexical meaning of *nulk* should be glossed as

[7] The vowel *-e* before the auxiliary verb *ka* 'go' and in the inchoative form *-e ci* is a connective vowel in the peripheral constructions and behaves like a (present or past) participle.

[8] Sentence (5b) implies that Mina is getting younger in appearance.

[9] The verb form *nulk-e ka-**ko iss**-ta* in (5a) would be odd without the auxiliary verb *ka* 'go' because *nulk* 'get old' is an achievement verb. This type of predicate often makes use of *ka* 'go' to change into an accomplishment and then the progressive *-ko iss* is allowed. In contrast, the predicate *celm* 'be young' in (5b) cannot take the auxiliary verb *ka* 'go', which again tells us that the two predicates are completely different.

[10] With the inchoative form *-e ci,* the predicate *celm* 'be.young' in (5b) can take the progressive form. Without the inchoative form, this predicate cannot take the progressive form.

[11] Other predicates that look like states (adjectives) but are actually non-states (that is, achievements) are: *cichi* 'get tired', *mich* 'get/go crazy', *talm* 'become alike', *imsinha* 'get pregnant', *khu* 'get big' or 'grow', *mwut* 'get stained'. These are inherently (lexically) inchoative statives, opposed to pure statives such as *celm* 'be young', *phikonha* 'be tired', etc.

Confusion sometimes arises in the discussion of this type of predicate since the corresponding predicates in English are often adjectives (Gim 1985:262-265).

'become old' or 'get old', not 'be old', whereas that of *celm* should be 'be young'. This tells us that lexical encoding varies across languages.

Furthermore, when *-ess* occurs with a real stative predicate, it does not represent a present state, but rather a past state, as shown in (6).

(6) a. mina-ka phyenci-lul ss-ess-ta.
Mina-NOM letter-ACC write-PFCT-DEC
'Mina has written/wrote a letter.'

b. mina-ka aph-ass-ta.
Mina-NOM be.sick-PFCT-DEC
'Mina has been/was sick.'

The sentences in (6) show that *-ess* refers to a past situation whether it occurs with a non-stative verb, as in (6a), or with a stative, as in (6b), contrary to Bybee et al.'s characterization of perfective in (4c). In contrast, the Mandarin perfective suffix *-le*, represents a present situation as an inchoative meaning when it occurs with a stative verb (Smith 1997:264–267).

(7) a. wo shuaiduan-le tui.
I break-LE leg.
'I broke my leg.'

b. wo bing-le.
I sick-LE
'I got sick.'

In (7a), which has a non-stative verb, perfective *-le* indicates a past event, while in (7b), which has a stative verb, *-le* indicates a derived inchoative meaning resulting in a present situation.[12] Otherwise, *-le* does not appear with stative verbs (Smith 1997:265),[13] thus

[12] More correctly, Smith (1997:70) says that in languages like Mandarin, Russian, and Navajo, stative verbs do not occur with perfective forms unless they undergo a shift in situation type to inchoatives.

corresponding to Bybee et al.'s description in (4c). In contrast, the Korean suffix *-ess* appears with any of the type of verb, for example, a stage-level predicate (8a) or an individual-level predicate (8b), without any change in the temporal meaning:

(8) a. mina-ka sulph-ess-ta.
Mina-NOM be.sad-PFCT-DEC
'Mina has been/was sad.'

b. mina-ka ttokttokha-yss-ta.
Mina-NOM be.intelligent-PFCT-DEC
'Mina has been/was intelligent.'

The sentences in (8) do not have inchoative readings: they express past situations, not present situations. So it is not likely that Korean suffix *-ess* is a perfective form.

In later work, Nam (1996) explicitly argues that *-ess* corresponds to the perfective in Slavic languages, which have a contrasting imperfective. He claims that the difference between the following sentences is aspectual:

(9) a. chelswu-nun cip-ey ka-**taka** o-ass-ta.
Chelswu-TOP house-to go-TRANS come-PFCT-DEC
Lit. 'Going home, Chelswu came back
'On the way home, Chelswu came back.'

b. chelswu-nun cip-ey ka-**ss**-**taka** o-ass-ta.
Chelswu-TOP house-to go-PFCT-TRANS come-PFCT-DEC
Lit. 'Having gone home, Chelswu came back.'
'Chelswu came back after he went home.' (Nam 1996:265)

Here the morpheme *-taka* is a verbal suffix that expresses a shift in action or transition to another action. The only difference between the two sentences is that in (9a) *-taka* has no

[13] According to Smith (1997:70), *-le* can occur with a stage-level predicate, yielding an inchoative reading, but not with an individual-level predicate, as illustrated in the following:

(i) *mali congming-le.
Mali intelligent-LE
'Mali became intelligent.'

tense or aspect form, while in (9b) it has *-ess*. Nam says that the difference between (9a) and (9b) is not temporal but aspectual: (9a) indicates that the event expressed by the embedded clause (the *-taka* clause) is not complete, whereas (9b) indicates that the embedded event is completed. Thus he says that *-ess* is equivalent to the perfective in Slavic languages.

However, equating *-ess* to the Slavic perfective is problematical. It is known that in Slavic languages the perfectivity is expressed by prefixes,[14] which are delimiters that indicate that an event is bound (telic). Thus for an accomplishment, the Russian imperfective conveys that the event fails to entail completion, as shown (10a), whereas the Russian perfective entails that an event has reached its natural final endpoint (Smith 1997, Zucchi 1999), as shown in (10b):

(10) a. On pisal pis'mo.
he wrote.IMPF letter
'He was writing the letter.'

b. On na-pisal pis'mo.
he PERF-wrote letter
'He wrote (finished) the letter.' (Smith 1997:230–238)

Because of this emphasis on the final endpoint, the perfective is allowed in the following context (Smith 1997:230–238):

(11) On pisal pis'mo, a ne na-pisal ego.
he wrote.IMPF letter but not PERF-wrote it
'He was writing the letter, but did not write (finish) it.'

[14] Russian has several prefixes that may be used to form perfectives: the most common are *na-, o-, po-, pro-, raz-,* and *s-* (Binnick 1990:137).

In (11), the imperfective in the first conjunct indicates that the event of the writing of the letter is on-going and the (negated) perfective in the second conjunct indicates that the event has not yet been completed. That is, the negated perfective sentence can only mean that the event has not reached its final endpoint yet. Therefore, the sentence in (12) with the perfective is contradictory:

(12) #On na-pisal pis'mo, i ešče pišet ego.
He PERF-wrote letter ant still write.IMPF it
'He wrote the letter and is still writing it.' (Smith 1997:230–238)

In sentence (12), the first conjunct (with a perfective) conveys that the event has been completed, but the second conjunct (in the present tense) says that the event is still on-going.

However, *-ess* shows quite the opposite property of the Russian perfective in these contexts. Consider the following Korean counterpart of the Russian data in (11):

(13) #mina-ka phyenci-lul ssu-ko iss-ess-nuntey an-ss-**ess**-ta.
Mina-NOM letter-ACC write-PROG-PFCT-but not-write-PFCT-DEC
'#Mina was writing a letter and/but she did not write/has not written it.'

Note that (11) is completely acceptable, whereas (13) is a contradiction. This is because the first conjunct says that Mina wrote the letter with the possibility that she did not finish the letter, but the second conjunct says that Mina did not write a letter (at all). This indicates that, unlike the Russian perfective, *-ess* does not convey that the event has reached its final endpoint. This meaning can be confirmed by the Korean example corresponding to (12):

(14) mina-ka phyenci-lul ss-**ess**-nuntey kkuth-kkaci-ta an-ss-ess-ta.
Mina-NOM letter-ACC write-PFCT-but end-until-all not-write-PFCT-DEC
'#Mina has written/wrote a letter but she did not finish/has not finished it yet.'

Again note that (12) indicates a contradiction, whereas (14) is perfectly fine, indicating that there is no contradiction. Thus *-ess* does not imply the completion of the event in question.

Moreover, a *taka*-clause containing *-ess*, as in (9b), can be negated without yielding a contradiction, as illustrated in (15):

(15) mina-ka phyenci-lul kkuth-kkaci-nun-ta an-ssu-ess-ciman
Mina-NOM letter-ACC end-until-TOP-all not-write-PFCT-though
ssu-**ss-taka** ciwu-ess-ta.
write-PFCT-TRANS erase-PFCT-DEC
'After Mina wrote the letter, though she did not finish it, she (has) erased it.'

Like (14), example (15) shows that *-ess* in *taka*-clauses also does not express the perfectivity (completeness) of the event. If it did, then (15) would be a contradiction, which confirms that, unlike the Russian perfective, *-ess* does not necessarily entail that the event has reached its final endpoint. Therefore, *-ess* is not a perfective form like those in languages like Russian.

Going back to the data in (9), if *-ess* were a perfective, then presumably the *taka*-clause in (9a) would have a phonologically-zero form, which would be an imperfective form, whereas *-ess* would be an overtly-marked perfective. Note that this does not correspond to Bybee et al.'s (1994) characterizations given in (4a) and (4b), which say that the perfective is sometimes zero-marked, whereas the imperfective tends to be non-

zero-marked.[15] Of course, these morphological facts should not play a significant role in deciding their categories, but I think that they are worth pointing out.

Another point is that *-ess* can co-occur with the progressive form *-ko iss*, which is typical behavior for a marker of imperfectivity (or incompleteness of a given event), as in (16),[16] as compared with (6a):

(16) mina-ka phyenci-lul ssu-**ko iss-ess**-ta.
Mina-NOM letter-ACC write-PROG-PFCT-DEC
'Mina has been/was writing a letter.'

(6a) mina-ka phyenci-lul ss-**ess**-ta.
Mina-NOM letter-ACC write-PFCT-DEC
'Mina has written/wrote a letter.'

Sentence (16) with *-ess* describes an on-going event that was not complete at a past time, whereas (6a) implies that the event is complete. If *-ess* is a true perfective, we have to account for the fact that it can co-occur with the progressive in data like (16). I assume that this corresponds to the English fact that imperfectivity is marked by the progressive form *be -ing* but perfectivity by the absence of the progressive form. The perfective is incompatible with an assertion that the event is continuing (Smith 1997:67).

I assume that the absence of the progressive (or some imperfective form) provides a perfective meaning by default in cases like (6a). I will show that the contrast in (9) can be accounted for by the anterior approach in Section 2.1.2.

[15] Russian is unusual since the perfective is marked and the imperfective is unmarked; the simple verb stem typically conveys the imperfective meaning (Smith 1997:228).

[16] See also (13).

2.1.1.2 Past tense approaches.

The second approach to *-ess* considers it to be a past tense. This approach, too, is problematic. First, as mentioned in (4), past is not used for future or with future, unlike perfect or perfective (Bybee et al. 1994:95). However, the suffix *-ess* can freely refer to a future situation, as in (17).

(17) wuli-ka siksa-lul ta ha-**yss**-ul ttay jwun-un tochakha-lkke-ya.
we-NOM meal-ACC all do-PFCT-ATT time Joon-TOP arrive-FUT-DEC
Lit. Joon will arrive when we have eaten all.'
'Joon will arrive when we have finished eating.'

The event that the embedded clause with *-ess* in (17) refers to is in the future, and at the same time anterior to the main future event. This is not the case with the simple past in Italian or German,[17] even though the present perfect can be used for future in those languages. Consider the following Italian examples of the simple past and the present perfect:

[17] For German data, refer to Kratzer (1998:16) and von Stechow (2002). According to them, when the German past tense appears in the relative clause of sentences like (i), it requires a contextually salient past time. Otherwise, the present perfect is used, as in (ii). In contrast, the English simple past is allowed without a contextually salient past interval. In other words, the English simple past can refer to a future event, as in (iii):

(i) Wir warden jeden Brief beantorten, den wir **bekamen**.
we will every letter answer that we received
'We will answer every letter that we received.'

(ii) Wir warden jeden Brief beantorten, den wir **bekommen haben**.
we will every letter answer that we gotten have
'We will answer every letter that we received.'

(iii) We will answer every letter that we **got**.

Kratzer concludes that the English past tense not only functions as past (perfective) but also as perfect.

(18) a. *Ti raggiungero quando finii.
'I'll reach you when I finished (Simple Past).'

b. Ti raggiungero quando ho finito.
'I'll reach you when I have finished (Present Perfect).'

(Giorgi and Pianesi 1997:89)

When the main clause is in the future tense, the embedded clause does not allow a simple past, as in (18a) even though it can take a present perfect form as in (18b).

Second, while present perfect is compatible with temporal adverbials such as *now*, the simple past is not (Giorgi and Pianesi 1997:88). Let us look at the English and Italian sentences:

(19) a. Now I have eaten enough.

b. Addesso ho mangiato abbastanza.

(20) a. *Now I ate enough.

b. *Addesso mangiai abbastanza.

Neither English nor Italian allows an adverb referring to the present moment in past tense sentences, as in (19) and (20). However, the Korean suffix *-ess* is compatible with the corresponding time adverb, *cikum* 'now', as shown in (21).

(21) cikum-un (na-nun) chwungpwunhi mek-ess-e.
now-TOP (I-TOP) enough eat-PFCT-DEC
'Now I have eaten enough.'

This tells us that *-ess* is not a past tense, although it may be something like a present perfect form, since it can occur with the present-time-denoting adverbs, like the English and the Italian perfect form.

2.1.1.3 Ambiguous between past and perfect.

The third approach is that *-ess* is ambiguous between a past tense and a perfect form. As Song (2003) notes, *-ess* not only occurs with present-time denoting adverbials, as shown above, but also with past-time adverbials, as follows:

(22) ecey mina-ka seoul-ey ka-ss-e.
yesterday Mina-NOM Seoul-LOC go-PFCT-DEC
'Mina went to Seoul yesterday.' or '*Mina has gone to Seoul yesterday.'

Thus, Korean *-ess* contrasts with the English present perfect, which cannot occur with past-time adverbials like *yesterday*. According to the ambiguity approach, *-ess* is a past in this kind of context, whereas it is a perfect in the other contexts above.

The question that arises is whether or not past-time-denoting adverbs should be the criterion that determines the category of the tense form. That is, if the perfect form is compatible with those adverbials, then it is treated as a past tense; otherwise, it is not. However, this approach is too simple. Giorgi and Pianesi (1997), looking at Germanic and Romance languages, distinguish two types with respect to the compatibility of perfect forms with past-time adverbs:

(23) a. Group A: English, Danish, Swedish, Norwegian

b. Group B: German, Icelandic, Dutch, Romance languages

In Group A languages, perfects cannot occur with past time adverbials, whereas in Group B languages, they can. Thus, the following are grammatical in Italian and Dutch, but not English.

(24) a. Mario e arrivato ieri/giovedi.
'*Mario has arrived yesterday/Thursday.' (Giorgi and Pianesi 1997:101)

b. Gianni ha telefonato alle quattro.
'*Gianni has telephoned at four.' (Giorgi and Pianesi 1997:113)

(25) Ik ben gisteren naar de bioscoop gegaan.
'*I have gone to the movies yesterday.'
'I went to the movies yesterday.' (Korrel 1993:2)

Korean, since it allows past-tense adverbials with *-ess*, could be considered a Group B language.

As Giorgi and Pianesi (1997) note, the Italian and English perfects are quite parallel in all other respects. Also, according to Korrel (1993), the Dutch perfect, like the English perfect, indicates that previous events have effects on the present situation, but still it can occur with past time adverbials. In what follows, I will discuss whether the ambiguity analysis is the only solution for the problem of perfect forms including *-ess* being compatible with past-time-denoting adverbials.

2.1.2 *-Ess* as an anterior (perfect).

In the previous sections, I have shown that the perfective and past approaches are inadequate for the analysis of *-ess* and that the ambiguity approach is too simple. In this section, I continue the discussion of the compatibility of *-ess* with past-time adverbials, concluding that *-ess* is an anterior (perfect).[18]

Under the ambiguity approach, compatibility with past-time-denoting adverbials suggests that the perfect forms in Italian or Dutch are not really perfect, but instead past tense. Alternatively, we can say that incompatibility with past time adverbs is not the only

[18] Although I adopt an anterior analysis here, I still follow the scholarly tradition of calling forms in certain languages perfect.

criterion for determining perfect forms. If we claim the former, we will miss the significant difference between the perfect form and the past tense in those languages, since both are treated as the same category as a past. This is not a desirable approach because, if they are the same, then why do so many languages have two distinct forms for one notion? This cannot be accidental. Thus, I argue that incompatibility with past-time-denoting adverbs should not be the sole criterion for determining perfect, even though it can be a criterion in some languages.

Interestingly, both Korrel (1993) and Giorgi and Pianesi (1997) attribute the (in)compatibility of perfect forms with past time adverbials to the properties of the present tense. According to Giorgi and Pianesi (1997), in Group A languages, present tenses have a denotation S = R, "the speech time is simultaneous with the reference time," whereas in Group B languages, where perfects can appear with past time adverbials, present tenses have a denotation S $\subseteq$ R, "the speech time is included in the reference time." I agree that the difference in the denotation of the present tense in the two types of languages closely relates to the (in)compatibility of perfect forms with past time adverbials, as I discuss in Chapter 3.[19]

More significantly, one of the most common meanings of present perfect, one which past tense is claimed to lack, is the notion of a 'result state' or 'current relevance'. As discussed above, *-ess* consistently indicates this notion. Consider the following:

[19] Giorgi and Pianesi's (1997) explanation for the incompatibility with past time adverbials in Group A languages is morphosyntactic. They say that Group A languages have present tense morphology whereas Group B languages are tenseless, which gives a default denotation S$\subseteq$R. This raises the question of why S$\subseteq$R should be the default, rather than S=R.

(26) a. mina-ka kkochpyeng-ul kkay-**ss**-e.
Mina-NOM vase-ACC break-PFCT-DEC
'Mina has broken the vase.'

b. mina-ka kkochpyeng-ul kkay-**ssess**-e.
Mina-NOM vase-ACC break-PAST-DEC
'Mina broke/had broken the vase.'

c. mina-ka kkochpyeng-ul kkay-**te**-la.
Mina-NOM vase-ACC break-S.PAST-DEC
'[I saw] Mina was breaking the vase.'

If we compare (26a) with (26b) and (26c), we see that (26a) indicates that the result state of Mina's breaking the vase pertains at the utterance time. On the other hand, (26b) and (26c) simply assert that the event happened at a certain time in the past without indicating the current result state.

The fact that *-ess* denotes a result state or current relevance is confirmed in the following examples:

(27) a. #mina-ka michy-**ess**-nuntey cikum-un ceycengsin-i-ta.
Mina-NOM gone.crazy-PFCT-but now-TOP sanity-be-DEC
'#Mina has gotten crazy but she is sane now.'

b. #mina-ka cichy-**ess**-nuntey cikum-un philoha-ci anh-ta.
Mina-NOM get.tired-PFCT-but now-TOP be.tired-COMP NEG-DEC
'#Mina has gotten tired but she is not tired now.'

As discussed for (5),[20] predicates such as *michi* 'get crazy' and *cichi* 'get tired', like *nulk* 'get old', are achievements and typically have the meaning of a result state. Thus, the first conjuncts of both sentences have inchoative meanings, expressing that Mina is insane or tired now. However, the second conjuncts, which are in the present tense, say otherwise.

[20] See also footnote 11.

Consequently, the sentences in (27) are contradictory. In comparison, examples with *-essess* are not judged to be contradictory.

(28) a. mina-ka michy-**essess**-nuntey cikum-un ceycengsin-i-ta.
Mina-NOM get.crazy-PAST-but now-TOP sanity-be-DEC
'Mina went crazy but she is sane now.'

b. mina-ka cichy-**essess**-nuntey cikum-un philoha-ci anh-ta.
Mina-NOM get.tired-PAST-but now-TOP be.tired-COMP NEG-DEC
'Mina got/was tired but she is not tired now.'

So *-ess* clearly indicates the current relevance of the prior event described by the sentence, but *-essess* does not. This contrast will be discussed in detail in the following section. The evidence so far shows that *-ess* cannot be a simple past tense, suggesting instead that it may be a perfect form, i.e. an anterior.

Lastly, let me reconsider the meaning difference in (9), which Nam (1996) says is aspectual: in (9a), the *taka*-clause with no aspect form indicates an incomplete event, but in (9b), the *taka*-clause with *-ess* indicates a perfective, completed event.

(9) a. chelswu-nun cip-ey ka-**taka** o-ass-ta.
Chelswu-TOP house-to go-TRANS come-PFCT-DEC
Lit. 'Going home, Chelswu came/has come back
'On the way home, Chelswu came/has come back.'

b. chelswu-nun cip-ey ka-**ss-taka** o-ass-ta.
Chelswu-TOP house-to go-PFCT-TRANS come-PFCT-DEC
Lit. 'Having gone home, Chelswu came/has come back.'
'Chelswu came/has come back after he went home.' (Nam 1996:265)

However, the difference can be accounted for by the anterior analysis. As mentioned in Section 2.1.1.1, the morpheme *-taka* is a verbal suffix that expresses a shift in action or transition to another action, and the only difference is that *-ess* is absent in (9a) but present in (9b). In Korean, there is no clear distinction between finite and nonfinite

embedded clauses. That is because embedded clauses often lack tense forms even when the main clause is in the past tense. Furthermore, they only allow certain tense forms, such as the present imperfective *-(nu)n* (or possibly the zero form) and *-ess.* In sentences with *-(nu)n* or in the absence of any tense or aspect form, the time of the embedded clause is simultaneous to the time of the matrix clause. With *-ess*, it has an anterior temporal relationship to the time reference made by its matrix clause. So the difference between (9a) and (9b) is not necessarily aspectual but instead can be temporal: in (9a) the event expressed by the embedded clause (the *taka*-clause) is simultaneous with the matrix event, whereas in (9b) the embedded event is before the matrix event. The aspectual difference can be explained as follows. The morpheme *-taka* expresses a shift from an event to another with the agent of the two events being the same person. When the tense form indicates that the two events are simultaneous, as in (9a), complete simultaneity between them is impossible in reality, so the only close way to achieve that is to make the first event incomplete or in progress. This can be illustrated in the following English progressive sentence, which would be translated in a *-taka* clause in Korean, as follows:

(29) a. Mary fell asleep while she was watching TV.

b. mayri-nun thibi-lul po-**taka** ca-ss-ta.
Mary-TOP TV-ACC see-TRANS sleep-PFCT-DEC
Lit. 'Seeing TV, Mary slept.'
'Mary fell asleep while she was watching TV.'

On the other hand, when the event is before the given reference time, as in (9b), the event is interpreted as completed by default, although this completeness (perfectivity) is, as observed in (14) and (15), not entailed but implicated in Korean, unlike with the Russian and English perfective. In this respect, the anteriority of *-ess* must be distinguished from

the perfective viewpoint in the sense of Smith (1997). It seems that the meaning of the perfect should be separated from the purely aspectual perfective viewpoint in that the perfect itself indicates a temporal relation, anteriority; perfectivity is due to a default mechanism because if an event is before the reference time, then it is naturally assumed to be complete unless marked otherwise. However, I assume that whether this completeness (perfectivity) is entailed or implicated is a language-dependent matter, perhaps determined by a language-internal mechanism.[21]

Therefore, I argue that *-ess* is an anterior (or a perfect), not a perfective or a past tense. This point will be explored further in the following section, where *-ess* will be compared with another past-time denoting suffix, *-essess*.

2.2 The double form *-essess*.

As mentioned previously, Korean has a tense form, *-essess*, which is the double *-ess*. These two forms have been perplexing to Korean linguists since both have a past-time reference although with subtle differences. In this section, I survey previous analyses of *-essess* but find that they are all insufficient. I propose instead that *-essess* is a simple past tense.

2.2.1 Previous analyses.

There are four approaches to the double form. First, it is considered a pluperfect with the meaning of 'past-in-the-past' or 'perfect-in-the-past' (H.-B. Choi 1983, Gim

[21] I assume that the perfective meaning (completeness) has something to do with the determiner system in languages like English. Korean has neither definite nor indefinite articles. The absence of determiners gives rise to the lack of entailment of the completion of an accomplishment. Similarly, languages like Russian also lack determiners, but they make use of various prefixes to convey perfectivity. Interestingly, Korean also has quite a few auxiliary verbs that express the aspectual status of a given event, such as completeness, repetition, etc.

1985, H.-M. Sohn 1994, S.-O. Sohn 1995, Han 1996). The second approach analyzes it as a combination of a past tense and an aspect, that is, a past tense with an 'experiential-contrastive' aspect (N.-K. Kim 1975). The third approach is to treat it as a pure aspect marker; for example, Nam (1978, 1996) argues that it is an aspect of discontinuity. Fourth, it has been defined as a past tense but with the meaning of discontinuity from the present moment by C. Lee (1985).[22]

2.2.1.1 Pluperfect approaches.

The double form *-essess* has been claimed to be a pluperfect, i.e. a past perfect form.[23] However, there are two problems with this approach. First, *-essess* does not intrinsically have a pluperfect meaning, i.e. that the event time is before the past reference time. As C. Lee (1985) points out, the pluperfect meaning of *-essess* (e.g. the train's leaving before Mina's arriving) is difficult to sustain without adverbs like *pelsse* 'already', as sentences like (30) illustrate:

(30) a. mina-ka yek-ey tochakha-yss-ul ttay kicha-nun
Mina-NOM station-LOC arrive-PFCT-IR.ATT time train-TOP
ttena-**ssess**-ta.
leave-PAST-DEC
'The train left when Mina arrived at the station.'

[22] C. Lee (1985:436) proposes that the double form *-essess* has the truth-conditional meaning of some event in the past and the discontinuity of the event or the result state of the event from the speech time. In contrast, the simple form *-ess* has the truth-conditional meaning of some event in the past and the pragmatically-implicated meaning of the result state of the event continuing until the speech time.

[23] According to H.-B. Choi (1983:485), *-essess* is a past perfect in that the result state of a given past event does not hold at the utterance time.

b. mina-ka yek-ey tochakha-yss-ul ttay kicha
Mina-NOM station-LOC arrive-PFCT-IR.ATT time train-TOP

pelsse ttena-**ssess**-ta.
already leave-PAST-DEC

'The train already left/had already left when Mina arrived at the station.'

As pointed out in Chung (1999), (30a)—without the adverb *pelsse* 'already'—can mean that Mina's arriving and the train's leaving occur at the same time, whereas (30b) with the adverb means that the event of the train's leaving is prior to Mina's arriving. This indicates that the adverb *pelsse* 'already' triggers the meaning that the event of the train's leaving is prior to Mina's arriving. More correctly, in (30a), the train's leaving is after Mina's arriving, which is the opposite of what the pluperfect indicates. In addition, these temporal relations between the main event and the event of the *when*-clause seem to be the same as cases where the double form is replaced with the simple *-ess*, as shown in (31).

(31) a. mina-ka yek-ey tochakha-yss-ul ttay kicha-nun
Mina-NOM station-LOC arrive-PFCT-IR.ATT time train-TOP

ttena-**ss**-ta.
leave-PFCT-DEC

'The train left when Mina arrived at the station.'

b. mina-ka yek-ey tochakha-yss-ul ttay kicha-nun
Mina-NOM station-LOC arrive-PFCT-IR.ATT time train-TOP

pelsse ttena-**ss**-ta.
already leave-PFCT-DEC

'The train already left when Mina arrived at the station.'

Like (30a), (31a) also means that the train left after Mina's arriving. On the other hand, due to the adverb *pelsse*, (31b) means that the train left before Mina's arriving, which is the same as (30b). Clearly, just as we cannot say that *-ess* is a pluperfect because of data

like (31a), we cannot say that *-essess* is a pluperfect. This tells us that *-essess* does not have the 'past-in-the-past' meaning of the English pluperfect.

Second, as we see in English and Italian, the pluperfect allows two distinct temporal adverbs, as follows:

(32) a. Yesterday, Mary had left already.

b. Mario aveva gia telefonato venerdi, sabato.
'Mario had already phoned on Friday, on Saturday.'

(Giorgi and Pianesi 1997:108)

The pluperfect sentence in (32a) indicates that the event of Mary's leaving is prior to the reference time, that is, the event time is distinct from the reference time, which is not the utterance time. Likewise, (32b) indicates that the event of Mario's phoning on Friday occurred prior to the reference time on Saturday. In contrast, *-essess* does not allow a reference time other than the time of situation and the utterance time, as (33) shows:

(33) *ecey(-nun) mina-ka pelsse/ku chen-nal ttena-**ssess-**la.
yesterday(-TOP) Mina-NOM already/the before-day leave-PAST-DEC
'Yesterday Mina had left already/the day before.'

Unlike the pluperfect sentences in (32), (33) with *-essess* does not allow two distinct temporal adverbs.

Furthermore, in the English pluperfect, a preposed temporal adverbial is likely to refer to a time that follows the event time of the sentence, as shown in (34):

(34) At 3 p.m., John had left the office. (Hornstein 1990:13)

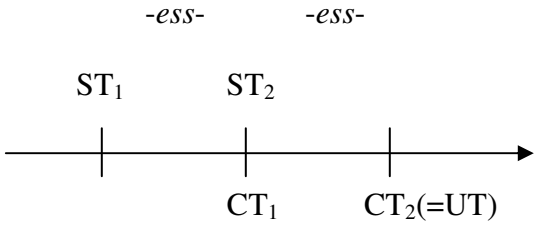
The natural interpretation of (34) is that the event of John's leaving the office is before 3 p.m. In contrast, the suffix *-essess* seems to lack this kind of time gap.

(35) ohwu sey-si-ey(-nun) jwun-i samusil-ul ttena-**ssess**-ta.
afternoon three-o'clock-at(-TOP) Joon-NOM office-ACC leave-PAST-DEC
'At 3 p.m., Joon left the office.'

In (35), the time referred to by the temporal adverbial must be (or include) the time of Joon's leaving the office and cannot be some time after the event time. This confirms that *-essess* does not have two distinct time references.

Similar to the pluperfect analysis is Han's (1996) analysis that the simple form *-ess* is a relative past tense that denotes 'anteriority of situation time' while *-essess* is simply a doubling of *-ess*, denoting 'anterior of anterior', which is illustrated as follows:

(36)



ST: Situation Time
CT: Cognition Time (or Time of Perception)
UT: Utterance Time (Han 1996:64)

Even though Han says that his analysis does not treat *-essess* as a pluperfect, schematically (36) shows that it is in fact similar to a pluperfect form. That is because there is a past time of perception (CT_1), with respect to which the situation expressed by the sentence is anterior. So according to his analysis, *-essess*, like a pluperfect, should allow two distinct times other than the utterance time—the reference time (cognition time in his terms) and situation time, which can be specified by two different temporal adverbs.

However, as seen in (33) and (35), this is not the case. To conclude, *-essess* cannot be a pluperfect or past perfect.

2.2.1.2 Past tense plus experiential-contrastive aspect.

N.-K. Kim (1975) treats *-essess* as a combination of a past tense and an (experiential-) contrastive aspect. That is, one *-ess* is a past tense and the other *-ess* is an aspect form that expresses an (experiential-)contrastive meaning. Thus the difference between the two suffixes is aspectual. According to Nam (1975:530), (37a) with *-essess* means that the subject has previously had the experience of eating food or the subject previously ate but is not eating any longer,[24] whereas (37b) with the simple form *-ess* has neither of these meanings, indicating a past time reference only.

(37) a. ku-ka umsik-ul mek-essess-ta.
he-NOM food-ACC eat-PAST-DEC
'He ate dinner.'

b. ku-ka umsik-ul mek-ess-ta.
he-NOM food-ACC eat-PFCT-DEC
'He ate dinner.' (N.-K. Kim 1975:529–530)

Thus, *-essess* indicates not only that the event took place in the past but also that the event is no longer taking place, resulting in a contrastive meaning.

However, N.-K. Kim's definition of 'experiential-contrastive' does not seem clear. As far as the meaning of experience is concerned, most forms that have a past-time reference potentially imply some kind of experience. Furthermore, as C. Lee (1985:437)

[24] N.-K. Kim (1975:530) says that if the subject is animate, then the sentence with *-essess* implies both experiential and contrastive meanings. Otherwise, the sentence has only a contrastive meaning.

points out, N.-K. Kim's contrastive meaning does not necessarily hold, if we compare *-essess* with *-ess*, as shown in (38):

(38) a. na-nun sip-nyen-cen-ey mikwuk-ey o-**assess**-ta.
I-TOP ten-year-ago-LOC USA-LOC come-PAST-DEC
'I came to the USA ten years ago.'

b. na-nun sip-nyen-cen-ey mikwuk-ey o-**ass**-ta.
I-TOP ten-year-ago-LOC USA-LOC come-PFCT-DEC
'I have come/came to the USA ten years ago.'

Both sentences imply that the speaker is in the USA since they have the deictic verb *o* 'come'. However, they are different in that (38a) implies that (s)he came to the USA ten years ago and is here in the USA again now,[25] whereas (38b) implies that (s)he has been here in the USA for ten years. The contrastive meaning noted by N.-K. Kim requires that the event took place (or used to take place) in the past but the same event is not taking place any longer. However, the event of coming to the USA has taken place again, so the contrastive meaning does not apply to sentences like (38a) (C. Lee 1985:437). Instead, C. Lee claims that in (38a) with *-essess*, the past event in question (or its result state) is discontinuous from the present moment, whereas in (38b) with *-ess*, the result state of the event is continuous until the present moment. This will be discussed further in Section 2.2.1.4.

2.2.1.3 Discontinuous past tense.

A third approach to *-essess* treats it as a past tense of discontinuity. Nam (1978, 1996) argues that *-essess* is a marker of 'discontinuity' in that it indicates that the past event or the resulting state of the event no longer continues, or that the previous situation

[25] However, I think that (38a) can be used even if the speaker moved to the USA ten years ago and is still living there.

in question is psychologically disconnected from the present situation. The following examples illustrate this:

(39) a. ku-ka pusan-ey ka-ssess-ta.
he-NOM Pusan-to go-PAST-DEC
'He went to Pusan (but he is back here).'

b. ku-ka pusan-ey ka-ess-ta.
he-NOM Pusan-to go-PFCT-DEC
'He has gone to Pusan (so he is in Pusan).' (Nam 1996:475)

(40) a. ku-ka ppalkan os-ul ip-essess-ta.
he-NOM red clothes-ACC put.on-PAST-DEC
'He was dressed in red.' Or 'He used to wear red clothes.'

b. ku-ka ppalkan os-ul ip-ess-ta.
he-NOM red clothes-ACC put.on-PFCT-DEC
'He has put on red clothes (so he is dressed in red).' (Nam 1996:477)

The (a) sentences imply that the result state no longer holds (i.e. that he came back from Pusan (39a) or that he is not wearing red clothes now (40a)), while the (b) sentences imply that the result state (his staying in Pusan or his wearing red clothes) holds at the present moment. The question that arises is whether the noted discontinuity is the basic meaning of *-essess*. I will argue below that it is not.

C. Lee (1985:436) gives an analysis similar to Nam's.[26] He defines the double form *-essess* as a past tense with the truth-conditional meaning that the event or the result state of the event was discontinued at some time between the event time and the speech time, whereas the simple form *-ess* is a past tense with the pragmatic implicature that the result state of the event continues until the speech time. If we go back to the data in (38), his analysis accounts for the difference between the two sentences because in (38a), the

[26] Actually Nam treats *-essess* as an aspect marker of discontinuity, whereas C. Lee treats it as a past tense of discontinuity. However, both analyses are based on the same idea of discontinuity.

result state of the event referred to by the double form ceased before (or does not hold at) the speech time, whereas the result state of the event in (38b) still holds at the speech time. This also applies to the data in (39) and (40). He also points out the unacceptability of the following sentence:

(41) ??na-nun na-y anay-lul o-nyen-cen-pwuthe cikum-kkaci
I-TOP I-GEN wife-ACC five-year-ago-from now-until

kyeysokhayse salangha-**yssess**-ta.
continuously love-PAST-DEC

'I loved my wife continuously from five years ago until now.' (C. Lee 1985:437)

The double form truth-conditionally requires that the state of loving my wife did NOT continue until the speech time. Thus, *-essess* is not acceptable in (41) with the adverbial *cikum-kkaci* 'until now'.

With respect to C. Lee's argument that *-essess* entails discontinuity from the speech time, I argue that discontinuity is not its entailment but its pragmatic implicature. Consider the following sentences:

(42) a. na-nun aney-lul cengmal salangha-**yssess**-ko
I-TOP wife-ACC really love-PAST-CONJ

cikum-to salangha-n-ta.
now-too love-PRES.IMPF-DEC

'I really loved my wife and still do, too.'

b. mina-nun cengmal ttokttokha-**yssess**-ta.
Mina-TOP really be.smart-PAST-DEC

mwulon cikum-to ttoktookha-ciman.
as well now-too be.smart-but

'Mina was really smart. She is still smart, too.'

If the meaning of discontinuity is an entailment, then (42a) should be a contradiction and unacceptable because the second conjunct clearly indicates that the speaker's loving his wife continues until now. This tells us that the meaning of discontinuity is not truth-conditional meaning, but pragmatically-implied meaning that can be cancelled. The same account applies to (42b). This suggests that the reason sentence (41) is odd is not due to the discontinuity of the state, as C. Lee argues, but due to some other reason. I will come back to this shortly.

2.2.2 *-Essess* as a past tense.

I claim that the meaning of discontinuity of the double form *-essess* should be interpreted as 'lack of current relevance'. In comparison with the simple form *-ess*, the double form provides a contrast in terms of current relevance or result states. This contrast is also found in the difference between perfect forms and simple past forms in languages like English. The problem regarding the meaning of the discontinuity of the double form is automatically solved if we define it as a past tense.

First, the strangeness of (41) can be accounted for if *-essess* is a past tense. I argue that (41) sounds odd because the suffix *-essess* appears with the present-time-denoting adverbial *cikum-kkaci* 'until now'.[27] As shown in the English and Italian data in (20), past tense forms are not compatible with temporal adverbials denoting the speech time.

(20) a. *Now I ate enough.

b. *Addesso mangiai abbastanza.

[27] It seems that sentences like (41) with *-essess* are better with *cikum-kkaci* 'until now' than with *cikum* 'now'. This clearly derives from the meaning difference between these adverbials. A full analysis of temporal adverbials is beyond the scope of the current study.

This is also the case with *-essess*:

(43) *cikum-un (na-nun) chwungpwunhi mek-**essess**-e.
now-TOP (I-TOP) enough eat-PAST-DEC
'*Now I ate enough.'

Sentence (43) shows that *-essess* does not occur with present-time denoting adverbials, unlike *-ess,* which can occur with those adverbs, as shown in (21):

(21) cikum-un (na-nun) chwungpwunhi mek-**ess-**e.
now-TOP (I-TOP) enough eat-PFCT-DEC
'Now I have eaten enough.'

Even when referring to events that happened moments ago, there is a contrast between the two suffixes. The suffix *-essess* is odd with *cikum* 'now' but fine with a past-time adverb *pangkum*, which means 'a moment ago' or 'just now':

(44) a.??cikum nay-ka kakey-ey ka-ssess-ta.
now I-NOM store-to go-PAST-DEC
'*I went to the store now.'

b. pangkum nay-ka kakey-ey ka-ssess-ta.
just.now/a.moment.ago I-NOM store-to go-PAST-DEC
'I went to the store just now.'

Second, like past tenses in Italian (18a) and German (see f.n.17), *-essess* sounds odd in a future tense sentence, as in (45).

(18) a. *Ti raggiungero quando finii.
'I'll reach you when I finished (simple past).'

(45) ??wuli-ka il-ul ta machy-**essess**-ul ttay jwun-un tochakha-lkke-ya.
we-NOM work-ACC all finish-PAST-ATT time Joon-TOP arrive-FUT-DEC
'Joon will arrive when we have finished the work.'

Example (45) contrasts with example (17), which illustrates that *-ess* is allowed in a future tense sentence.

(17) wuli-ka siksa-lul ta ha-**yss**-ul ttay jwun-un tochakha-lkke-ya.
we-NOM meal-ACC all do-PFCT-ATT time Joon-TOP arrive-FUT-DEC
Lit. 'Joon will arrive when we have eaten all.'
'Joon will arrive when we have finished eating.'

The following examples also show this contrast: *-essess* cannot co-occur with a future-time adverbial (46a), while *-ess* can (46b):

(46) a. *ne nayil(-i-myen) cwuk-**essess-**ta.
you tomorrow(-be-if) die-PAST-DEC
'You will die tomorrow.'/'You are dead tomorrow.'

b. ne nayil(-i-myen) cwuk-**ess-**ta.[28]
you tomorrow(-be-if) die-PFCT-DEC
'You will die tomorrow.'/'You will have died tomorrow.'

The third difference between the perfect and simple past is that, according to Giorgi and Pianesi (1997:89), they convey different temporal orders, as follows:

(47) a. Gianni emigro negli Stati Uniti, ma poi e tornato.
'Gianni emigrated (**Past**) to the States, but then he has come (**Perf**) back.'

b. *Gianni e emigrato negli Stati Uniti, ma poi torno.
'Gianni has emigrated (**Perf**) to the States, but then he came (**Past**) back.'

In (47a), the past-tense marked event precedes the perfect-marked event in actual time, which is acceptable. On the other hand, the perfect-marked event cannot be anterior to the past tense event, as seen in (47b). This demonstrates that the past tense cannot be used for

[28] Sentences like (46b) are commonly used when the speaker wants to scare or tease the hearer.

a more recent event than the perfect-marked event. This difference also seems to hold for the two Korean tense forms, *-ess* and *-essess*, as shown below:

(48) a. mina-ka mikwuk-ey imin-ul ka-**ssess**-ta.
Mina-NOM USA-to emigration-ACC go-PAST-DEC
kulentey tasi tolao-**ass**-ta.
but again return-PFCT-DEC
'Mina emigrated to the USA. But she has come/came back.'

b. */??mina-ka mikwuk-ey imin-ul ka-**ss**-ta.
Mina-NOM USA-to emigration-ACC go-PFCT-DEC
kulentey tasi tolao-**assess**-ta.
but again return-PAST-DEC
'*Mina has emigrated to the USA. But she came back.'

Like the Italian data in (47), the Korean data in (48) show that the event referred to by *-essess* cannot be more recent than the event referred to by *-ess*.

Moreover, when the linear order in which two clauses appear contradicts the actual temporal order of the events reported on, the simple past and the perfect behave differently from each other. The English perfect is often used to follow up on old news. The following example from Inoue (1979:586) originally appeared in the New York Times on February 7, 1975:

(49) a. Health officials **HAVE TENTATIVELY IDENTIFIED** an Anchorage cook as the source of the food poisoning outbreak that **struck** 144 passengers on a Japan Air Lines flight in Copenhagen Monday.

b. All but one of the pieces in the epidemiological jigsaw puzzle **HAVE BEEN ASSEMBLED**, leaving little doubt in the investigator's mind that the cook

spread staphylococcal bacteria as he handled Danish canned ham. The meat **was eaten** in omelets served to 344 passengers as the 747 Jumbo jet **approached** Copenhagen for a refueling stop….

In (49), the clauses containing the present perfect appear linearly before the clauses containing the simple past. In the real temporal order, perfect events are more recent than simple past events, which is very effectively conveyed by using the present perfect form and the simple past.

The two Korean forms are also utilized to provide the same effect. Let us look at similar data with *-ess* and *-essess:* [29]

(50) pwukhan-kwa mikwuk-un sip-il ceneba-eyse pwukhan
North.Korea-and America-TOP ten-day Geneva-at North.Korea (NK)

hayk-mwunce-lul nonuyha-n-ta-ko hyenci oykyokwan-tul-i
nuclear-issue-ACC discuss-PRES.IMPF-COMP local diplomat-PL-NOM

PALKHI-ESS-ta. …… pwuk-mi sam-tankey kowuykup hoytam-un
reveal-PFCT-DEC. …… NK-America three-stage high.level talk-TOP

kim il-seng cwukek-uy samang-ulo **cwungtantoy-ssess**-ta.
Kim il-sung president-GEN death-with discontinue-PAST-DEC.

(N.-S. Lee 1998:176)

'The diplomats on the scene **HAVE ANNOUNCED** on the 10th that North Korea and the USA are to discuss the issue of the North Korean nuclear weapons in Geneva. ….. The three-stage high official-level talks **were discontinued** due to the death of President Il-sung Kim.'

[29] The translation is my own.

(51) mincatang-ul thanltangha-n kim uywen-i …… uywencik-ul
Minca.party-ACC withdraw-ATT Kim congressman-NOM…… office-ACC

sangsilha-m-ey ttala, mincatang cenkwukkwu-yeybihwubo
lose-COMP-to accordingly Minca.Party nationwide.constituency-candidate

il-pen-i-n ceng-ssi-ka uywenkik-ul **SUNGKEYHA-YSS**-ta……
one-number-be-ATT Ceng-Mr.-NOM office-ACC succeed-PFCT-DEC…….

ku-nun caysan-kongkay phanwun-ulo **mwulena-ssess**-ta.
he-TOP asset-opening.to.the.public stir-with resign-PAST-DEC.

(N.-S. Lee 1998:178–179)

'As Congressman Kim, who had left the Minca Party, lost his seat in the National Assembly……, Mr. Ceng, who was the first in the list of the candidates for a member of the House elected from the national constituency, **HAS OBTAINED** the seat. He **resigned** his office because of a political stir caused by the public disclosure of assets.'

The events described by the *ess*-marked sentences are more recent than the events described by the *essess*-marked sentences, even though the narrative order is reversed. The way to ensure the correct temporal order is to make use of the two tense forms, as shown in the data in (50) and (51). In fact, if *-ess* is used in the sentences describing the previous events, the sentences would be bad. Also if *-ess* is replaced by *-essess* in the sentences describing the more recent news, the whole discourse including the sentences sounds odd. These facts are summarized as follows:

(52) When the actual temporal order of events is the same as the order of the text:

Prior Event	…	Recent Event
-essess	…	*-ess*
**-ess*	…	*-essess*

(53) When the actual temporal order of events is contrary to the order of the text:

Recent Event	…	Prior Event
**-essess*	…	*-ess*
-ess	…	*-essess*

When the actual temporal order of events is the same as the order of the text, i.e. when the two events are listed in chronological order, the *-essess … -ess* sequence is used (52). On the other hand, when the actual temporal order of events is contrary to the order of the text, the *-ess … -essess* sequence is used (53). This is predictable, given the current relevance of the anterior (perfect). That is because the events described by *-essess* are related to the recent event described by *-ess*, but are no longer currently relevant. That is, their result states do not hold at the utterance time of (48), (50), and (51). So regardless of the order that the speaker presents the *ess*-events or *essess*-events, *-ess* is used when the given event has its result state holding at the time of utterance, but otherwise, *-essess* is used.[30]

So far, we see that the use of the double form is similar to that of simple past tenses in languages such as English and Italian. The data above not only demonstrate that

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[30] Actually, in data like (48), the prior event can be expressed by either *-essess* or by *-ess*, as in the following:

(i) mina-ka mikwuk-ey imin-ul ka-**ssess**-ta / ka-**ss**-ta.
Mina-NOM USA-to emigration-ACC go-PAST-DEC / go-PFCT-DEC
kulentey tasi tolao-ass-ta.
but again return-PFCT-DEC
'Mina emigrated/ has emigrated to the States. But she has come/came back.'

Simple *-ess* is possible when the actual temporal order of events matches with the order of the text. This is also the case with the Italian perfect:

(ii) Gianni emigro / e emigrato negli Stati Uniti, ma poi e tornato.
'Gianni emigrated (**Past**) / has emigrated (Perf) to the States, but then he has come (**Perf**) back.'

I assume at this point that the current relevance is overridden by the Pragmatic Principle of the Chronological Order of Discourse (Klein 1994). When we observe this principle, other things, such as current relevancy, will be automatically explained by the context. For example, in (i) the result state of Mina's immigration to the States (i.e. her staying in the States) will be cancelled when the speaker mentions the next event of her coming back.

the perfect and the simple past tense should be treated as distinct categories in languages like Italian, but also that this distinction holds for Korean *-ess* and *-essess*.

2.3 The semantics of *-essess* versus *-ess*: Deictic versus non-deictic.

Further investigation of the differences between *-ess* and *-essess* reveals that the difference between them relates to the difference between deictic and non-deictic tense. First, let us consider the interaction between these tense forms and different situation types. With telic verbs, the two forms seem to show distinct characteristics. Let us examine some examples with the predicate *yel* 'open':

(54) a. changmwun-i yel-i-**ess**-ta.
window-NOM open-PASS-PFCT-DEC
'The window has opened/been opened.'

b. changmwun-i yel-i-**essess-**ta.
window-NOM open-PASS-PAST-DEC
'The window opened/was opened.'

Without temporal adverbials, (54a) and (54b) indicate different situations: the former implies that the window is open now, whereas the latter suggests that there was a past event of the window's opening at a certain time and that the window may be closed now. Let us consider the sentences with overt time adverbials:

(55) a. han sikan-cen-ey changmwun-i yel-i-**ess**-ta.
one hour-before-LOC window-NOM open-PASS-PFCT-DEC
'The window was opened an hour ago/has been open for an hour.'

b. han sikan-cen-ey changmwun-i yel-i-**essess**-ta.
one hour-before-LOC window-NOM open-PASS-PAST-DEC
'The window was opened an hour ago.'

Even though both sentences allow past-time-denoting adverbs, they do not convey the same meaning. Sentence (55a) indicates that the window has been open for an hour and is still open, whereas (55b) indicates that the event took place an hour ago, but does not say anything about the present moment except for the implication that the window is probably closed now. Therefore, (55a) conveys two things: first, the event occurred an hour ago; second, the result state of the event still holds at the speech time. In contrast, (55b) only refers to the past event.

With another telic predicate *cwuk* 'die', the two forms show a similar difference, as follows:

(56) a. mina-ka cwuk-**ess**-ta.
Mina-NOM die-PFCT-DEC.
'Mina died/has died (Mina is dead).'

b. mina-ka cwuk-**essess**-ta.
Mina-NOM die-PAST-DEC.
'Mina died/was dead.'

For the situation in which Mina has just died or is dead, (56a) would be appropriate, whereas (56b) implies that there was a past time when Mina died but somehow she was brought back to life again. For the same reason, the following sentences also do not have the same meaning even with past time adverbials.

(57) a. o-nyen-cen-ey/ ku tangsi mina-ka cwuk-**ess**-ta.
five-year-before-at/ that time Mina-NOM die-PFCT-DEC
'Mina died five years ago/at that time (she has been dead for five years/since then).'

b. o-nyen-cen-ey/ ku tangsi mina-ka cwuk-**essess**-ta.
five-year-before-at/ that time Mina-NOM die-PAST-DEC
'Mina died five years ago/at that time.'

Sentence (57a) clearly indicates that Mina is dead now, whereas (57b) has an implication that she could be alive now, for example, if she was resuscitated. So *-ess* is used as long as the result state (Mina's being dead) holds at the present moment.

Furthermore, when the temporal adverbials are topics, the two forms exhibit different degrees of grammaticality: *-essess* sounds much better than *-ess*:

(58) a. ?ku-ttay-nun siktang-mwun-i tat-hi-**ess**-ta.
that-time-TOP restaurant-door-NOM close-PASS-PFCT-DEC
'*At that time, the restaurant has been closed.'

b. ku-ttay-nun siktang-mwun-i tat-hi-**essess**-ta.
that-time-TOP restaurant-door-NOM close-PASS-PAST-DEC
'At that time, the restaurant was closed.'

When a specific past time is given as the topic, the *-ess* sentence in (58a) sounds a little odd,[31] while the one with *-essess* in (58b) sounds perfectly fine. This is because the rest of the sentence makes an assertion concerning the given topic. Here, the topic is a specific time in the past (when the speaker visited) and the asserted situation must be about the specific past time only. So the focus is the event itself in the given time, and neither the result state nor current relevance of the event is crucial. I assume that this past time adverbial induces the most proper environment for the simple past tense. The simple past tenses are used when a certain time period is given in the context. This time period can be short or long, definite as in (58) or indefinite as in (54) and (56), as long as it refers to a time in the past. Perhaps (58a) with *-ess* sounds odd because *-ess* cannot be related to the present moment via the result state or the current relevance due to the presence of the past topic adverbial.

[31] Example (58a) is fine if the time adverbial is a contrastive topic. This will be addressed in the next chapter.

This observation is related to Klein's (1994) claim that past tense is a temporal relationship in which the utterance time is preceded by the topic time, and the topic time is the time for which a claim is made. So the *nun*-marked adverbials in (58) refer to the topic time of the sentence in Klein's sense, and (58b) with *-essess* asserts the existence of the situation in question at that time, that is, overlapping of the past topic time with the situation. On the other hand, (58a) with *-ess* is not a proper tense form with which the sentence can make an assertion about the past topic time, indicating that *-essess,* but not *-ess*, is a true past tense. I will discuss the relationship between tense forms and topics in the next chapter.

Another important difference between *-ess* and *-essess* noted by Han (1996:65–67) is that, while *-ess* can be used for a past situation that the speaker either recalls or infers, *-essess* is only used for situations that presuppose the speaker's recall.[32] This point is illustrated in the following examples:

(59) a. i kulim-ul nwu-ka kuly-**ess**-ci?
this picture-ACC who-NOM paint-PFCT-INT
'Who (has) painted this picture?'

b. i kulim-ul nwu-ka kuly-**essess**-ci?
this picture-ACC who-NOM paint-PAST-INT
'Who painted this picture?'

The question in (59a) is simply asking for information about who the painter of the picture is. The speaker is looking at the result of the past event of painting the picture at the current moment and has no involvement in the past event itself. On the other hand, in

[32] This notion of presupposition may be too strong. If we assume that we experience past situations directly or indirectly, then we can recall situations that we did not actually experience physically, e.g. past situations that we learned through teachers, books, movies, etc. In this respect, I assume that simple deictic tenses are different from evidentials, which usually indicate the exact source of information concerning a past event.

(59b), the speaker is also asking who painted the picture but (s)he has knowledge of who painted the picture (or of the past event) by observing or learning it although (s)he may not remember the painter at the moment.[33] This difference is also shown by the Dutch simple past and perfect, as follows:

(60) a. Wie liet daar een wind?
who left there a wind
'Who was it that broke wind?'

b. Wie heeft er hier een wind gelaten?
who has there here a wind left
'Who has broken wind here?' (Janssen 1994:143)

According to Janssen (1994), in (60a), the speaker heard the sound and, by using the past tense, (s)he refers to the past situation. The sentence with the perfect in (60b) is not related to the past situation of the sound, but to the current state affected by someone's breaking wind.

Similarly Kratzer (1998:16) points out that the German simple past tense cannot be used in out-of-the-blue situations. For example, suppose you are looking at a church in Italy and there is no previous discourse regarding the church. Under this situation, a past tense-marked sentence is unacceptable whereas a present-perfect-marked sentence is acceptable, as in the following:

(61) a. *Wer baute diese Kirche? Borromini baute diese Kirche.
who built this church Borromini built this church
'Who built this church? Borromini built this church.'

b. Wer hat diese Kirche gebaut? Borromini hat diese Kirche gebaut.
who has this church built Borromini has this church built
'Who has built this church? Borromini has built this church.'

[33] A similar point is made by N.-S. Lee (1998:35).

Kratzer says that the German past tense requires a contextually salient past time in the context, and that without such a time, the perfect must be used.[34]

This difference can also be accounted for if we define *-ess* and *-essess* as an anterior form and a deictic past tense, respectively. The suffix *-ess* mentions a previous event that somehow relates to the current situation; whether or not the event expressed by *-ess* is experienced by the speaker is not important. However, *-essess* refers to a past situation that was experienced directly or indirectly by the speaker. Therefore, I argue that deictic past tenses are used to refer back to past situations that are already given in the context or in the speaker's memory. In this respect, simple deictic past tenses refer to past situations that existed and are thereby presuppositional, accounting for the close relationship between simple past tenses and past time adverbial topics, as seen above, since topics are also presuppositional. On the other hand, *-ess* asserts the existence of a prior situation, and its reference time (the utterance time in the absence of other tense forms or other operators) is presuppositional and existential. That is, we are given the reference time first and then we relate this reference time to the previous situation, which is temporally backward inference. So the suffix *-ess* is not a deictic tense but only serves to relate two temporal intervals—the event time and the reference time—and the reference time is determined anaphorically or contextually.

This difference is elucidated by the following sentences:

[34] As seen in the tranlations of (61), the past but not the present perfect is allowed in English. This fact and also the compatibility of the past with future contexts leads Kratzer (1998) to suggest that English past is ambiguous between a past and a perfect. However, as Lisa Matthewson points out to me, the ambiguity account does not explain why (63b) is unacceptable. I also have no explanation of this fact but I note that the English perfect also differs from perfects in languages like German and Italian with respect to compatibility with past-time adverbials. Perhaps the two facts are related.

(62) a. jwun-un chocolate-lul mek-**ess**-ta.
Joon-TOP chocolate-ACC eat-PFCT-DEC
'Joon has eaten a chocolate.'
Or 'If it is Joon, then he would/must have eaten a chocolate.'

b. jwun-un chocolate-lul mek-**essess**-ta.
Joon-TOP chocolate-ACC eat-PAST-DEC
'Joon ate a chocolate'
Or 'Joon used to eat chocolate.'

Both sentences in (62) are ambiguous in that they express either a particular event or a kind of habituality of an event. Especially when they do not express a particular event, the difference between the two tense forms is significant. Sentence (62b) with *-essess* refers to a certain past time period during which multiple events of Joon's eating a chocolate took place regardless of its regularity, which indicates the existence of actual events. On the other hand, for sentence (62a) with *-ess*, a proposition such as 'Joon likes sweets' would suffice. Thus (62a) expresses a general property of Joon's, that is, Joon is a person that would/must have eaten a chocolate. Furthermore, (62a) does not necessarily indicate the existence of past events but expresses that in any appropriate situation (reference time), Joon would or will have engaged in an event of eating a chocolate prior to the reference time. In other words, (62a) is a generic sentence, which does not require that the speaker witnessed the actual event in question, whereas (62b) is a pure habitual sentence, which requires that the speaker has witnessed a chocolate-eating event in the past.

(63) a. Gen x, t [x = j & in(x, t)] ∃e[e< t & eat-chocolate(e, x)]

b. Hab x, e [x = j & e ⊆ t] [eat-chocolate(e, x)] t: Reference time

The reference time of *-ess* is bound by *Gen* operator but the reference time of *-essess* is not. So the difference is that *-ess* induces a modal context, whereas *-essess* does not induce a modal context but requires a past time to refer to.

Therefore, I argue that *-ess* is a non-deictic tense that has an anterior temporal relation with respect to a reference time. The reference time of *-ess* can be used as a bound-variable anaphor, as in (63a). This means that the reference time of *-ess* is locally bound by an operator (such as a modal or the generic operator), if there is any, or the higher time interval that is given in the sentence. So it is crucial that between the reference time of *-ess* and the related event time interval, no intervening time intervals are allowed, indicating a strict locality between the given time intervals. This has a bearing on the fact that perfect forms often appear with modals in many languages, including English. In modal sentences, there is no actual event that can be referred to, since the sentences are not about the actual world, but about possible worlds. So deictic or indexical tenses are not appropriate under modals. The only possible tenses are non-deictic ones. I argue that the perfect is not a deictic tense, but an anterior like *-ess*, and its reference time is determined by the higher deictic tense or the higher modal operator.

Finally, *-ess* sentences and *-essess* sentences differ when they are negated. Consider the negation of the examples in (62):

(64) a. jwun-un chocolate-lul an-mek-**ess**-ta.
Joon-TOP chocolate-ACC not-eat-PFCT-DEC
'Joon has not eaten a chocolate.'
Or 'If it is Joon, then he would/must not have eaten a chocolate.'

b. jwun-un chocolate-lul an-mek-**essess**-ta.
Joon-TOP chocolate-ACC not-eat-PAST-DEC
'Joon did not eat chocolates.
'

Or 'Joon used to not eat chocolates.'

Sentence (64a) with *-ess* means that there was no prior event at the utterance time. In contrast, (64b) with *-essess* means that at some past reference time, there was no such event, and thus the reference time is not negated. The discussion so far leads us to suggest the following definitions, following Kratzer (1998):

(65) a. [[*-essess*]]^{g,c} is only defined if c provides an interval t< t_0,

if defined, [[*-essess*]]^{g,c} = t. t_0 = the utterance time

— Past

b. [[*-ess*]] = λP. λt. ∃e [τ(e) < t & P (e)] (to be revised)

— Anterior (or Perfect)

τ(e): the running time of an event (cf. Kripka 1989)

-Essess is a deictic past tense that refers to a certain time in the past, which is supplied by the context. *-Ess* is a non-deictic tense, i.e. an anterior (a relational tense) that relates reference time to a prior situation, which yields a current relevance. In the next chapter, I further discuss *-ess*, comparing it to perfect forms in other languages.

Chapter 3:
Semantics and Pragmatics of the Perfect (Anterior)

In the previous chapter, I have defined the two Korean tense forms *-ess* and *-essess* respectively as an operator tense denoting anteriority (or perfect) and the simple deictic past tense. In this chapter, I investigate the status of *-ess* from a cross-linguistic perspective. I compare it with other perfect forms, such as the English perfect and the Italian perfect, in order to elucidate the semantics of the perfect as a grammatical category.

First, I address the issue of whether the English perfect is semantically ambiguous or pragmatically ambiguous. Following Iatridou et al. (2003), I argue that the English perfect is semantically ambiguous between an existential meaning and a universal meaning, while the perfect in languages like Italian has only an existential meaning. Furthermore, I explore the idea that the denotation of the perfect is closely related to the denotation of the present tense in a given language. Having established the denotation of the perfect, I give a semantic account for the prevalent notion that the perfect indicates 'current relevance'. Following Portner's (2003) modal analysis of the perfect, I show that those meanings are systematically introduced by the presupposition of the perfect, and that the perfect and the past are thus not the same in terms of current relevance, contra McCoard (1978). Finally, based on all these explorations, I suggest a new approach to the Present Perfect Puzzle (Klein 1992).

3.1 Semantics of the perfect.

3.1.1 Different readings of the perfect.

The English present perfect has been claimed to have four different readings—the result state reading, the experiential reading, the recent past reading, and the continuative reading (Comrie 1976:56, Portner 2003).[1] It has been a matter of controversy whether these different readings are due to pragmatic ambiguity (Inoue 1978; McCoard 1978; Klein 1992, 1994; Portner 2003) or semantic ambiguity (McCawley 1971, Dowty 1979, Vlach 1993, Michaelis 1994). Recently Iatridou et al. (2003), following the Extended Now theory of perfect, have argued that the English perfect is semantically ambiguous between the universal perfect (the continuative reading) and the existential perfect, which covers the result state reading, the experiential reading, and the recent past reading.

According to Iatridou et al. (2003), the following English perfect sentence is ambiguous between the existential reading and the universal reading:

(1) a. Since 1990 I have been sick.

b. U-reading: There is a time span (the perfect time span) whose LB (left boundary) is in 1990 and whose RB (right boundary) is the utterance time, and all the points of that time span are points of my being sick.

=> $\exists i$ (LB= 1990 & RB= Now & $\forall t \in i$ (Eventuality (t)))

[1] Comrie (1976:56) actually uses the term 'type'. There are four different types of perfect—the perfect of result, the experiential perfect, the perfect of recent past, and the perfect of persistent situation.

c. E-reading: There is a time span (the perfect time span) whose LB is in 1990 and whose RB is the utterance time, and in that time span is an eventuality of my being sick.

=> $\exists$i (LB= 1990 & RB= Now & $\exists$t $\in$ i (Eventuality (t)))

(Iatridou et al. 2003:165)

Their argument is that the universal reading of perfect asserts that the underlying eventuality not only holds throughout the interval specified by the adverbial *since 1990* but also at its endpoint, that is, the utterance time in the case of the present perfect (Iatridou et al. 2003:157). This is illustrated in the following:

(2) a. *She has been sick at least/ever since 1990 but she is fine now.[2]

b. *She has always lived here but she doesn't anymore.

The sentences in (2) are unacceptable because the first conjuncts assert that the situations—her being sick in (2a) and her living here in (2b)—hold at the utterance time as well and the second conjuncts assert otherwise, yielding contradictions.

In this section, I show that *-ess* exhibits three different readings—the result state reading, the experiential reading, and the recent past reading—but not the universal (continuative) reading. Thus, the universal reading must be treated separately from the other three readings of the perfect. This suggests that Iatridou et al.'s (2003) two-way ambiguity analysis may be on the right track. Following Iatridou et al., I subsume the

[2] Actually, the expression *at least since 1990* sounds more natural, but this does not improve the grammaticality of the sentence:

(i) *She has been sick since at least 1990, but she is fine now.

three readings under the existential reading, which I call the anterior reading. Thus I treat the three readings as pragmatically ambiguous in terms of current relevance.

Let us examine the suffix *-ess* to see whether it also has these meanings. First, for the result state reading, Comrie (1976:56) discusses the following present perfect sentence with a corresponding past tense sentence:

(3) a. John has arrived.

b. John arrived.

Sentence (3a) indicates the state of John's being here that resulted from John's arrival, while (3b) does not. So the question 'Is John here yet?' could be felicitously answered by (3a) but not by (3b). As discussed in Section 2.3, Korean sentences with *-ess* versus *-essess* show the same effect, especially with telic predicates.

(4) a. jwun-i tochakha-**yss**-ta.
Joon-NOM arrive-PFCT-DEC
'Joon has arrived.'

b. jwun-i tochakha-**yssess**-ta.
Joon-NOM arrive-PAST-DEC
'Joon arrived.'

Sentence (4a) clearly indicates that Joon is here, but (4b) does not. Thus, (4a) is a much better answer than (4b) to the question 'Is Joon here yet?'.

Second, the experiential reading (McCawley's (1971) existential reading) of the perfect expresses that the subject has experienced the described situation at least once during the time span leading up to the present moment. McCawley (1971:107; 1993:144), following Leech (1969), notes that the English perfect sentence in (5a) would be appropriate if the speaker believes that the exhibition is still going on, whereas the past

sentence in (5b) is appropriate if the speaker believes that the exhibition has already closed.

(5) a. Have you seen the Monet exhibition?

b. Did you see the Monet exhibition?

This difference between the English present perfect and the past also holds for the two Korean forms *-ess* and *-essess*:

(6) a. ne ku censihoy po-ass-ni?
you that exhibition see-PFCT-INT
'Have you seen the exhibition?'

b. ne ku censihoy po-assess-ni?
you that exhibition see-PAST-INT
'Did you see the exhibition?'

Sentence (6a) is more likely to imply that the exhibition is still on now, whereas (6b) implies that the exhibition was in the past. Thus, the two suffixes both indicate a past experience but they are not the same, as in (7):

(7) a. na-nun ku yenghwa-lul han-pen po-**ass**-ta.
I-TOP that movie-ACC one-time see-PFCT-DEC
'I have watched the movie once.' [once=one time]

b. na-nun ku yenghwa-lul han-pen po-**assess**-ta.
I-TOP that movie-ACC one-time see-PAST-DEC
'I once watched the movie .' [once=formerly]

Sentence (7a) indicates that I have seen the movie once so far, with the implication that there is a possibility that I might see it again in the future, whereas (7b) indicates that I saw the movie at some time in the past without an implication of the possibility of my seeing it again.

Because of the implication of future possibility, perfect sentences fit well with adverbials like *until now* or *so far*.[3] The two Korean suffixes show a slightly different grammaticality with the adverbial *cikum-kkaci* 'until now' or 'so far', as shown below:

(8) a. jwun-un cikum-kkaci ku chayk-ul sey-pen ilk-ess-ta.
Joon-TOP now-until that book-ACC three-time read-PFCT-DEC
'Joon has read the book three times so far.'

b. ??jwun-un cikum-kkaci ku chayk-ul sey-pen ilk-essess-ta.
Joon-TOP now-until that book-ACC three-time read-PAST-DEC
'Joon read the book three times so far.'

With the time adverb *cikum-kkaci*, *-ess* is more natural than *-essess* because it refers to a time covering an interval from a certain past moment until now.

The suffix *-ess* also has a recent past reading (the "hot news" perfect in McCawley's terms). As discussed in (50)–(53) in the previous chapter, *-ess* clearly expresses recentness in comparison with *-essess*. In out-of-the-blue contexts, sentences with *-ess* imply current relevance of the described situations. Without any overt time adverbials, (9a) indicates that the accident has occurred recently and that possibly Joon is in the hospital now, whereas (9b) does not.

(9) a. jwun-i kyothong-sako-lul tangha-yss-ta.
Joon-NOM traffic-accident-ACC suffer-PFCT-DEC
'Joon has had a car accident.'

b. jwun-i kyothong-sako-lul tangha-yssess-ta.
Joon-NOM traffic-accident-ACC suffer-PAST-DEC
'Joon had a car accident.'

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[3] Inoue (1978:171–172) notes that adverbials such as *so far* and *now* occur with the present perfect but not with the past tense in English, as follows:

i) Vance (just/ recently/?already) met with Sadat.
ii) Vance met with Sadat (before/*so far/*now).

Lastly, the suffix *-ess* also appears to have a universal reading. Usually this universal reading is allowed when the predicate is stative and the sentence contains a durative adverbial. Iatridou et al. (2003:163) give two types of adverbs that allow universal readings:

(10) a. U-reading possible: *since, for five days*

b. U-reading required: *at least since, ever since, always, for five days now*

Korean sentences with some durative adverbials show similar effects:

(11) a. mina-ka ithul-cen-pwuthe aph-**ass**-ta.
Mina-NOM two.day-before-from be.sick-PFCT-DEC
'Mina has been sick for two days now.'

b. jwun-un 1990-nyen-ilay cwulkot vancouver-ey sal-**ass**-ta.
Joon-TOP 1990-year-since all the time Vancouver-LOC live-PFCT-DEC
'Joon has lived in Vancouver ever since 1990.'

Sentence (11a) indicates that Mina is still sick, and (11b) indicates that Joon is still living in Vancouver. This shows that *-ess* has the universal reading, like the English perfect form.

However, consider the following sentences:

(12) a. mina-ka ithul-cen-pwuthe aph-ass-ta.
Mina-NOM two.day-before-from be.sick-PFCT-DEC
'Mina has been sick for two days now.'

b. ?kulehciman cikum-un an-aphu-ta.
but now-TOP not-be.sick-DEC
'But she is not sick any more.'

(13) a. jwun-i 1990-nyen-ilay cwulkot vancouver-ey sal-ass-ta.
Joon-NOM 1990-year-since all.the.time Vancouver-LOC live-PFCT-DEC
'Joon has lived in Vancouver ever since 1990.'

b. kulehciman cikum-un an-sa-n-ta.
but now-TOP not-live-PRES.IMPF-DEC
'But he does not live in Vancouver any more.'

The sentences in (12) sound slightly odd, as will be discussed shortly, but their unacceptability is not as strong as in the English perfect sentence (2a). The sentences in (13) sound fine, unlike the English perfect sentences in (2b). This indicates that *-ess* does not assert the universal reading, as the English perfect does, even though it can pragmatically implicate the universal reading when used with adverbials.

The reason (12) is slightly odd is that the adverb *ithul-cen-pwuthe* 'for two days now' is a durative adverb that sets the left boundary and raises the expectation that there will also be a right boundary, like the English *from ~ to*. Only the left boundary is set; the right boundary is not specified but rather left open, indicating that the eventuality still holds at the utterance time. However, the universal reading cannot be entailed by *-ess*, even though it can be implied by the absence of the right boundary. In contrast, the adverb in (13) *-ilay* 'since' sets only a left boundary and thus raises no expectations concerning the right boundary.

In addition, durative adverbs can occur in present-tense sentences in Korean (14), but not in English (15):

(14) a. mina-ka ithul-cen-pwuthe aphu-ta.
Mina-NOM two.day-before-from be.sick-DEC
'Mina has been sick for two days now.'

b. jwun-un 1990-nyen-ilay cwulkot vancouver-ey sa-n-ta.
Joon-NOM 1990-year-since all.the.time Vancouver-LOC live-PRES.IMPF-DEC
'Joon has lived in Vancouver ever since 1990.'

(15) a. *Mary is sick for two days now.

b. *Mary lives in Vancouver ever since 1990.

For the universal reading, English only makes use of the perfect form, whereas Korean seems to have two choices: either *-ess* or present tense. Are these two forms then equally used for the universal reading in Korean? Compare the following sentences:

(16) a. mina-ka ithul-cen-pwuthe aph-ass-ta.
Mina-NOM two.day-before-from be.sick-PFCT-DEC
'Mina has been sick for two days now.'

b. mina-ka ithul-cen-pwuthe aphu-ta.
Mina-NOM two.day-before-from be.sick-DEC
'Mina has been sick for two days now.'

The two sentences convey slightly different meanings. (16a) focuses on the beginning point of the eventuality, which is two days before the present moment. (16b) puts the focus not on the beginning point, but rather on the overall period of the eventuality including the present moment. This is confirmed by the fact that sentences with *-ess* sound more natural in interrogative sentences, as shown in the following conversation:

(17) A: mina-ka aph-a.
Mina-NOM be.sick-DEC
'Mina is sick.'

(18) B: ency-pwuthe aph-ass-ni/ ?aphu-ni?
when-from be.sick-PFCT-INT/ be.sick-INT
'Since when has she been sick?'

(19) A: ithul-cen-pwuthe aph-ass-e/ ?aph-a.
two.day-before-from be.sick-PFCT-DEC/ be.sick-DEC
'She has been sick for two days now.'

The present tense sentence in (17) focuses on Mina's present state, but when the starting point of the state is in focus, as in the question in (18) and its answer in (19), *-ess* is preferred to the present tense in the question (18) and the answer (19).

Therefore we can say that the suffix *-ess* has the existential reading, but not the universal reading that the English perfect form has. Thus, *-ess* is not ambiguous between the existential reading and the universal reading, as the English present perfect is. That is to say that, unlike the English present perfect, *-ess* may express a universal reading but it is implicated pragmatically. Rather, Korean uses the present tense to denote a universal reading that includes the utterance time.[4]

To sum up, the Korean present tense can occur with past-time adverbials like *ithul-cen-pwute* or *1990-nyen-ilay*, as shown above, indicating that the present tense can denote universal situations that started at a certain past time and are on-going at the utterance time. The perfect *-ess,* is not necessarily needed for the universal reading. In contrast, the English present tense cannot occur with this type of adverbial, indicating that it does not convey universal situations. As a consequence, the English present perfect takes over the universal reading and thus has both the existential reading and the universal reading. This explains why the English perfect is ambiguous between the universal reading and the existential reading. I will discuss this further in the next section.

3.1.2 The relation between the semantics of the perfect and the present.

Iatridou et al. (2003:169–170) claim that the availability of the U(niversal)-perfect is fully predictable from the morphological properties of the perfect participle. According

[4] Put more correctly, *-ess* can denote a universal reading that does not include the utterance time, whereas the Korean present tense (like the English present perfect) can denote a universal reading that includes the utterance time. However, here I will take the universal reading to be the one that includes the utterance time.

to their account, the Greek perfect does not exhibit a universal reading but only an existential reading because the perfect participle is based on the perfective system. Greek perfect sentences, even with stative predicates, cannot have the universal reading, as shown in (20):

(20) *Eχo panta zisi stin Athina.
have-1SG always lived in.the Athens
'I have always lived in Athens.'

They say that the stative participle is perfective and that perfective stative verbs always yield inchoative readings, and that the perfectivity of the participle prevents the perfect from having the universal reading.[5] In English, however, the perfect participle is not based on the perfective and thus stative predicates denote the 'unboundedness' of the eventuality. So due to the non-perfectivity (i.e. unboundedness) of the stative participle, the universal reading is possible. In contrast, the Greek perfect participle always denotes the boundedness of the eventuality, even when the predicate is stative and thus the universal reading is not allowed.

I agree with Iatridou et al. (2003) that perfectivity (because of its boundedness) does not allow the universal reading, since situation types that are bounded (e.g. achievements and accomplishments) do not exhibit the universal reading in English. However, I do not think that the perfectivity (or boundedness) of the perfect participle is the root cause of the absence of the universal reading of the perfect forms. Crucially, the

[5] Iatridou et al. (2003:171) provide the following example:

(i) O ɣianni eχi aɣapisi tin Maria.
the Jannis have-3SG loved the Mary
'John has started loving/fallen in love with Mary.'

correlation between perfectivity and the absence of the universal reading does not apply to the Korean data. Korean does not morphologically inflect the base as perfective or imperfective. That is, the base to which the suffix *-ess* attaches is semantically neutral. However, as discussed in Section 2.1.1.1, Korean has two types of stative predicates—inchoative (bounded) statives and pure (unbounded) statives. A sentence with an inchoative stative (21a) is ungrammatical in the context of a universal reading, behaving just like the corresponding Greek example in (20) above, whereas a sentence with a pure stative (21b) can convey a universal reading.

(21) a.*/??mina-nun ku il-ilaylo hangsang cichiy-ess-ta.
Mina-TOP that thing-since always get.tired-PFCT-DEC
'*Mina has always gotten tired since that incident.'

b. mina-nun (thayenal-ttay-puethe) hangsang mom-i yakha-yss-ta.
Mina-TOP be.born-time-from always body-NOM be.weak-PFCT-DEC
'Mina has always been weak by nature.'

As predicted by Iatridou et al. (2003), (21a)—with a bounded stative—does not have a universal reading while (21b)—with an unbounded stative—can have a universal reading. However, the universal reading of (21b) is not asserted but pragmatically implied, as shown by the following examples:

(22) mina-nun (thayenal-ttay-puethe) hangsang mom-i yakha-yss-ta.
Mina-TOP be.born-time-from always body-NOM be.weak-PFCT-DEC
'Mina has always been weak (since she was born).'

(23) a. cikum-to yakha-ciman.
now-also be.weak-though
'She is still weak now.'

b. cikum-un an-yakha-ciman.
now-TOP NEG-be.weak-though
'She is not weak now though.'

Either (23a) or (23b) can follow (22) to make an appropriate discourse. This suggests that it is a pragmatic implicature that the meaning of that 'Mina's being weak' holds at the utterance time. After all, if this meaning is asserted, the whole discourse would end up as either redundant (23a) or contradictory (23b). Therefore, sentences with *-ess* do not include the universal reading, though they can implicate it whenever the sentence contains a pure stative predicate and an appropriate adverbial such as *always* or *ever since*.

To recapitulate, inchoative (bounded) statives do not allow the universal reading of the perfect in Korean. This is predicted by Iatridou et al. (2003) because boundedness rules out the universal reading. On the other hand, their analysis predicts that perfect sentences with unbounded statives should allow the universal reading semantically, which is not the case in Korean, as shown in (23). This leads to the conclusion that the aspectual property of the perfect participle—whether it is bounded or unbounded—is relevant to but not the actual reason for the lack of the universal reading.

I propose instead that the presence/lack of the universal reading closely relates to the denotation of the present tense. As Giorgi and Pianesi (1997:85) note, the present tense has either a denotation of S $\subseteq$ R (the utterance time is included in the reference time) or a denotation of simple simultaneity between S and R (S= R). In the latter (for example in English), the present tense is instantaneous rather than durative. I argue that a present tense that is instantaneous does not have room to accommodate a situation that started from a certain point in the past and is going on at the utterance time. Consequently, other forms, such as present perfect forms, are used to denote this kind of situation. In this respect, it is possible to claim that the English present perfect is ambiguous between

the universal reading and the existential reading. On the other hand, an inclusive or durative present tense accommodates any situation as long as the situation holds at the utterance time. Thus, the present tense can have the universal interpretation.[6] In this case, there is no need for perfect forms to take over the universal interpretation.

There is independent evidence that the Korean present tense differs in its denotation from that of the English present. A Korean present tense sentence describes an on-going event without a progressive form, unlike an English Present tense sentence, as shown in (24):

(24) mina-ka phenyci-lul ssu-n-ta.
Mina-NOM letter-ACC write-PRES.IMPF-DEC
'Mina is writing a letter/Mina writes letters.'

In non-stative present sentences like (24), the present imperfective form *-(nu)n* is used, not a progressive form. Even though the English gloss in (24) contains the progressive form, the present imperfective form is not a progressive. Korean has a distinct progressive form, *-ko iss* (see (16) in Chapter 2), which is optional in the present tense sentences and does not allow a habitual or generic reading, as *-nun* does.[7] So this on-goingness is due to the imperfective form. I speculate that this imperfectivity of the present tense is the reason *-ess* does not have the universal interpretation. Simply put, *-ess* is not needed for this job, as mentioned before. Furthermore, the fact that Korean has an overt imperfective form suggests that the inclusive present tense is not the default present

[6] For the universal reading, Greek also uses the present tense (Giannakidou (2003:119), Moser (2003)).

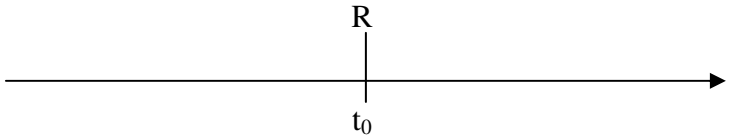
[7] For the difference between the progressive and the imperfective, refer to Dahl (1985) and Bybee et al. (1994).

tense, contra Giorgi and Pianesi (1997). Rather the instantaneous present tense may be the default present tense.

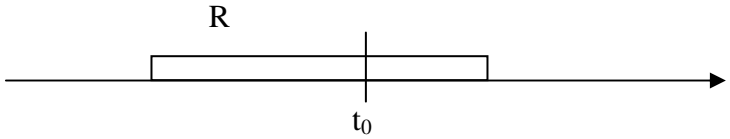
Therefore, I assume that the imperfectivity of the present tense may play a role in determining the denotation of the perfect in a given language. I distinguish two different types of present tenses: Simple Present Tense (S-Present) and Imperfective Present Tense (I-Present). The different present tenses are illustrated below:

(25) Two types of present tenses

a. Type A: Simple Present (S = R)



b. Type B: Imperfective Present ($S \subseteq R$)



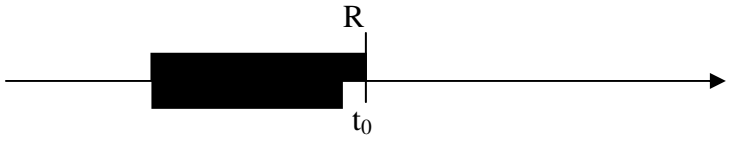
In the S-Present, the reference time is simultaneous with the utterance time and accordingly the reference time is instantaneous. In the I-Present, the reference time has a duration that includes the utterance time. In languages with the S-Present, perfect forms may be ambiguous between the existential (anterior) reading and the universal reading, whereas in languages with the I-Present, perfect forms denote only the existential reading.[8] So when the language has the I-Present, the perfect form, if there is one,

[8] Here again an alternative view would be that in Type A languages, perfect forms are ambiguous between the existential reading and a universal reading that includes the utterance time, whereas in Type B languages, perfects are ambiguous between the existential reading and a universal reading that excludes the utterance time.

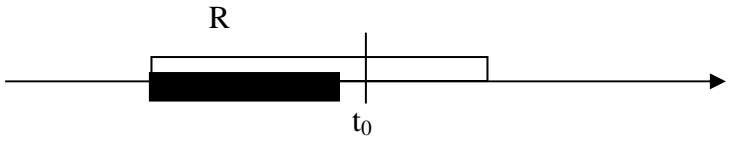
denotes an existential (anterior) reading, whereas if the language has the S-Present, the perfect may be ambiguous between the existential meaning and the universal meaning.

(26) Interpretation of perfect:

a. Type A (S-Present): Perfect has either the existential (anterior) reading or the universal reading



b. Type B (I-Present): Perfect has the existential (anterior) reading only



In (26) the black strip indicates the possible time span of the perfect and the white strip indicates the possible time span of the imperfective present tense. The English perfect belongs to Type A, indicating an ambiguity: either a situation is persistent until the reference time, or a situation occurs prior to the reference time.[9] The perfect forms in

[9] Portner (2003) claims that the two temporal interpretations of the English present perfect are determined by the Temporal Sequencing Rule, which is an independent general temporal principle that governs not only perfect sentences but also sequence-of-tense cases and also possibly the use of tense in discourse.

(i) Temporal Sequencing Rule:

For any tenseless clause ϕ, reference time r, and event e,

a) if ϕ is not stative: $[[\phi\ ]]^{r,e}$ implies that e precedes r; and
b) if ϕ is stative; $[[\phi\ ]]^{r,e}$ implies that e either precedes or overlaps r.

In addition to this temporal meaning, he claims that the perfect has a modal meaning, which I will discuss in Section 3.2.2.

Type B (e.g. the suffix *-ess*) have only the existential meaning. To see whether this generalization is right or wrong, we must investigate further.[10]

This analysis leads to an additional conclusion that the existential (or anterior) meaning is the proper interpretation of perfect. Considering the general tendency of a one-to-one correspondence between form and meaning, the claim that prototypical perfects are ambiguous seems incorrect.

I speculate that the suffix *-ess* does not denote the universal reading because the Korean present tense has the meaning of inclusion or duration, that is, imperfectivity. I claim that the semantics of *-ess* is anteriority, that is, that the event time is prior to the reference time without any other time interval between the two intervals. It follows that there is strict locality between the reference time and the interval of a prior event. I assume, following Kratzer (1998), that perfect, unlike present or past, is an operational tense that maps a property of events to a property of times, and that the existential quantifier that quantifies over events comes from the perfect.

(27) [[ANTERIOR (PERFECT)]] $= \lambda P.\ \lambda t.\ \exists e\ [\ \tau(e) < t\ \&\ P\ (e)]$ (to be revised)

Anterior forms (or perfects) denote properties of times such that there is a prior time interval when the situation expressed by the proposition in question occurs. Simply put, perfect denotes that the event time is before the reference time.

In addition to this temporal meaning, I assume that the perfect has the meaning of "current relevance", which holds at the reference time. For a perfect with an existential interpretation, current relevance comprises the result state reading, the experiential

[10] If there are languages in which both the present tense and the present perfect can denote the universal reading, then (26) would be a cross-linguistic tendency rather than a universal generalization.

reading, and the recent past reading. In what follows, I will discuss the notion of current relevance in relation to pragmatics.

3.2 Pragmatics of the perfect.

In this section, I will examine the English perfect and Korean *-ess* in relation to pragmatic notions such as topic, implicature, and presupposition. Following Portner (2003), I will argue that the presupposition of the perfect (anterior) involves an epistemic necessity modal operator that connects the prior event described by the sentence to its consequent state, which is relevant to the topic of the context. This will account for the current relevance of the perfect, which is manifested by different meanings, such as the result state meaning, the recent past meaning, and the experiential meaning, depending on the lexical items of the sentence and the speaker's intention. Thus, I will claim that for the perfect, current relevance is provided by a semantic mechanism, as a presupposition, whereas for the past tense, current relevance, if it holds, is provided pragmatically as an implicature.

3.2.1 The perfect, discourse topic, and current relevance.

As mentioned above, topic time and tense forms have a close relationship. Klein (1994) specifically states that present tense indicates that the topic time includes the utterance time and past indicates that the topic time is before the utterance time. I also assume that the most proper environment for past is the situation where a past topic time is given either by overt temporal expressions or by the discourse context in the sentence. However, as argued above, I do not think that present and past are relational tenses, as Klein (1994) does. Rather I think that the relationship to the utterance time is only a

necessary condition that those tenses should satisfy. In contrast, the perfect (anterior) is a true relational tense. Perfect has an anterior relationship to the topic time in Klein's sense, which is the Reichenbachian reference time. So the present perfect denotes an anterior relation with respect to the topic time in the present, and the past perfect denotes an anterior relation with respect to the topic time in the past. In this respect, the current relevance of the perfect situation relates to a given topic time.

Following McCawley (1971), Inoue (1979) suggests a close relationship between topic and present perfect and claims that discourse topic is related to the current relevance of the present perfect. According to Inoue (1979:574), current relevance is a constraint on the appropriate use of the present perfect. This constraint concerns only the discourse topic, which is a proposition about which the speaker is either providing or requesting new information by means of a present perfect sentence. Furthermore, Inoue (1979) argues that current relevance is a condition of 'repeatability' on the situation described by the topic proposition. That is, by using a present perfect sentence, the speaker indicates that the situation in the topic proposition is being repeated or is repeatable at the speech time.

Inoue illustrates this point with the following examples: the grammaticality of (28) is determined by the discourse topic (29).[11]

(28) Einstein has visited Princeton.

(29) a. *talking about Einstein engaging in various activities

b. *talking about Einstein visiting American universities

[11] These "Einstein" examples are commonly used in the literature. However, Charles Ulrich has pointed out to me that they are strange given the fact that Einstein lived in Princeton for twenty-two years.

c. talking about Princeton University having memorable occasions

d. talking about Nobel Prize winners visiting Princeton

e. talking about Jewish scholars coming to the United States

(Inoue 1979:576–577)

When the topic is (29a) or (29b), the present perfect sentence (28) is unacceptable because Einstein's activities including visiting American universities are not repeatable because he is dead. On the other hand, (28) is acceptable with the topics in (29c–e) because these situations are repeatable.

Korean data with *-ess* seem to show the same pattern as English present perfect data. Consider the topics given in (29). When somebody asks what Einstein did or what universities Einstein visited when he came to the USA, (30a) with *-ess* is acceptable as an answer though (30b) with *-essess* sounds more natural:

(30) a. ?einstein-un princeton-ul pangmwunha-yss-ta.
Einstein-TOP Princeton-ACC visit-PFCT-DEC
'*Einstein has visited Princeton.'

b. einstein-un princeton-ul pangmwunha-yssess-ta.
Einstein-TOP Princeton-ACC visit-PAST-DEC
'Einstein visited Princeton.'

Second, when somebody asks what Princeton reminds you of, (31) with *-ess* sounds fine.

(31) einstein-i princeton-ul[12] pangmwuha-yss-ci (ama).
Einstein-NOM Princeton-ACC visit-PFCT-DEC (perhaps)
'Einstein has visited Princeton (perhaps).'

[12] The object Princeton can be marked with the topic marker *-nun* and it can either be scrambled into the sentence-initial position or stay in situ, in which case it should be unstressed.

Here the subject is not marked with the topic suffix, since it is a part of the focus of the sentence. Also when someone asks which Nobel Prize winners have visited Princeton, *-ess* is allowed:

(32) einstein-i princeton-ul pangmwuha-yss-ta.
Einstein-NOM Princeton-ACC visit-PFCT-DEC
'Einstein has visited Princeton.'

The Korean data above show that the grammaticality of the *-ess* sentence relates to the topic marking of the subject, which seems to support Inoue's claim.

However, *-ess* involves more than the repeatability of the topic situation. It is also used in contrastive topic contexts. (30a) is fully acceptable when the speaker is listing who visited which university, for example, Einstein visited Princeton, Churchill visited Yale, etc., even if the visitors are now all deceased.[13] In the same way, (33) is acceptable when the speaker is listing which university was visited by whom.

(33) princeton-un[14] einstein-i pangmwuha-yss-ta.
Princeton-TOP Einstein-NOM visit-PFCT-DEC
'Princeton has been visited by Einstein.'

Here the possible topic is a given group of people who visited a university or a given group of universities that are visited by a person. In this case, it is not clear what the repeatable situation is because the visiting events here do not indicate the possibility of anyone visiting in the future. Instead, the events are restricted to the set that is given by the context. If the notion of repeatability is loosely defined, to include a list of events, then Inoue's analysis can account for data like (33).

[13] Interestingly, the English present perfect sentence in (30) is not allowed in the same contrastive topic context. So it seems that the English present perfect and *-ess* differ with respect to their use in contrastive topics. I do not have an explanation for this difference.

[14] This is the topicalized object.

A stronger argument against repeatability comes from cases where the event cannot be repeated:

(34) a. na-(u)y chinkwu-nun kyothong-sako-lo cwuk-ess-ci.
I-GEN friend-TOP traffic-accident-INSTR die-PFCT-DEC
'My friend has died in a car accident.'[15]

b. shakespeare-nun manhun hwulywunghan pikuk-tul-ul ss-ess-ta.
Shakespeare-TOP many great tragedy-PL-ACC write-PFCT-DEC
'*Shakespeare has written many great tragedies.'

Sentence (34a) is fine in the context where the speaker talks about an unfortunate old friend. The speaker can say, "I had an old friend, who was smart, beautiful, and kind. Unfortunately, she has died in a car accident (recently)." Sentence (34b) is also acceptable when the speaker has introduced Shakespeare as the topic in the classroom. After having listed several of his activities, the speaker says, "Most of all, Shakespeare has written many famous tragedies." None of these sentences allows the repeatability of the situation expressed by the topic because the subjects are dead. I think that the current relevance condition for *-ess* should be more flexible than the repeatability of a given topic situation per se. Current relevance pertains as long as the speaker thinks that the past situation is related to the present situation via the result state, repeatability, or current validity. This raises the question: can the notion of current relevance be defined formally?

McCoard (1978:64–65) summarizes the various characterizations of current relevance that have been offered in the literature:[16]

[15] McCoard (1978) uses similar examples to point out that present repeatability (present possibility, in his terms) does not always work for the English perfect.

[16] For a detailed discussion of these, refer to McCoard (1978:31–73).

(35) The characteristics of current relevance include:

a. recency;

b. present existence of

i) the surface-subject referent,

ii) the deep-subject referent,

iii) a certain state of the subject referent,

iv) a “posthumous personage”,

v) a belief in the subject referent or in some kind of validity,

vi) the object referent;

c. unspecified “connection with the present”;

d. continuation of a state into the present;

e. iterativity;

f. experientiality;

g. present possibility.

According to McCoard (1978:32), the notion of current relevance is too fuzzy and varied to provide any explanatory power: current relevance is totally dependent on the meaning of individual lexical constituents of a sentence and the speaker’s intention of how events and consequences relate together in context. He goes on to say that, though use of the perfect may serve to support a certain inference of result, the inference itself is not part of the meaning proper. For example, statements like (36a) have a virtually unlimited number of relevancies in the present time, as given in (36b) (McCoard 1978:59):

(36) a. You have seen the Cheshire reports.

b. ……so you know what the reports say.

……so I won't have to hunt them down up for you again.

……so you know how voluminous they are.

……so you're certainly better informed than I am.

……

These innumerable relevancies cannot be part of the meaning of the perfect. Moreover, the perfect does not tell us which is the principal relevance at the moment because this depends directly on the speaker's intention. In addition, past tense can also involve current relevance. Thus, McCoard concludes that the present perfect and the past tense do not differ with respect to current relevance.

I agree with McCoard that the notion of current relevance is closely related to inferences associated with the asserted proposition and that these inferences depend solely on the speaker's intention. So inferences themselves cannot be part of the structural meaning of the perfect. However, unlike McCoard, I argue that while past tenses can have inferences (or current relevancies) as simple pragmatic implicatures, the perfect, as a presupposition, has a device for bringing in inferences. This will be addressed in the following section.

3.2.2 Current relevance and the presupposition of the perfect.

Following Inoue, Portner (2003) proposes a modal-temporal analysis of the English present perfect. The English perfect has two components: a truth-conditional

temporal component[17] and a modal pragmatic component. The modal component of the present perfect involves presupposing an epistemic necessity modal operator that relates the proposition expressed by the present perfect to the present consequence, making use of the common ground of the speaker and the hearer. Adopting Inoue's proposal, he suggests the following presupposition of the present perfect, which unifies the different meanings such as result state and experience:

(37) A sentence S of the form (Tense(perfect ϕ)) presupposes:

P (*p*, TENSE(S)), where

p is the proposition expressed by S,

P indicates contextual entailment, and TENSE (s) is a partial or complete answer to the discourse topic T at the time when S is uttered. (Portner 2003)

Here the consequent (or result) state 'TENSE(s)' of the situation (expressed by the perfect) is a partial or complete answer to the current discourse topic, and this answer is induced by the epistemic necessity modal **P**, which is presupposed by the present perfect sentence. Portner (2003) provides the following explanation:

(38) A: We need to get an explanation of George Eliot's style. Who can we ask?

(39) B: Mary is smart, and she has read *Middlemarch*.[18]

When (39) is uttered, the following conversational background is established in the conversation:

[17] This temporal component consists of the Temporal Sequencing Rule mentioned in footnote 8.

[18] This is a shortened version of the conversation given in Portner (2003:42).

(40) {If someone who isn't stupid reads an author's book, they understand her style;
Mary is smart; George Eliot wrote *Middlemarch*}

Here **P** indicates contextual entailment, which means that if the proposition that Mary has read *Middlemarch* is added to (40), it entails that Mary can explain Eliot's style, that is, PRES(s). Here PRES(s) is Mary's ability to explain Eliot's style and thus is an answer to the discourse topic, i.e. who can explain Eliot's style.

Following Portner (2003), I argue that the perfect has a built-in modal operator of necessity that connects the prior event and its consequent states, namely, its current relevance. That is, perfect sentences assert the existence of a prior event and presuppose the necessity that some consequent states of the event hold at the reference time. This necessity operator operates on the conversational background of the context plus the perfect proposition to yield a currently relevant proposition. In addition, although there are innumerable possible relevant propositions that could be derived from the prior event, only one is intended by the speaker. That is why the modal operator is epistemic. At the same time, finding a currently relevant proposition by using a perfect form cannot be arbitrary because the speaker makes use of the common ground and the logical inference process that other people share with the speaker. This means that if the speaker thinks there is some connection between the prior event and the current topic, based on the common ground, the use of a perfect form is justified. Therefore the perfect sentence in (39) shows the following inference schema:

(41) CB = $\{p_1, p_2, p_3, ..\}$----(37)
Mary has read *Middlemarch*: Perfect *p*

□ Mary can explain Eliot's style: *p*′s consequent state

The conversational background and the perfect proposition together constitute the premises, and the necessity modal operator and the consequent state of the perfect proposition constitute the conclusion.

Turning to Korean, let us see if Portner's presupposition in (37) works in data with the suffix *-ess*.

(42) A: nay-ka sutobu-lul an-kku-n kes kath-ay.
I-NOM stove-ACC not-turn.off-ATT thing seem-DEC
'It seems that I did not turn/have not turned off the stove.' (The stove is on.)

(43) B: mina-ka kk-ess-ta/ ??kk-essess-ta.
Mina-NOM turn.off-PFCT-DEC/ ?? turn.off-PAST-DEC
'Mina turned/has turned it off.' (The stove is off.)

(44) A: encey kk-ess-ni/ ??kk-essess-ni?
when turn.off-PFCT-INT/ ?? turn.off-PAST-INT
'When did she turn it off?'
'*When has she turned it off?'

(45) B: cokum-cen-ey/ wuli-ka nao-l ttay
little-before-at/ we-NOM come.out-IR.ATT time
kk-ess-e/ ??kk-essess-e.
turn.off-PFCT-DEC/ ?? turn.off-PAST-DEC
'She turned it off a little while ago/when we went out.'
'*She has turned it off a little while ago/when we went out.'

Even though the discourse topic is not always clear, we can say here that the topic of the conversation is the present state of the stove that the speaker thinks is still on. Sentences (43) and (45) with *-ess* are possible answers to the topic, while the sentences with *-essess* in (43)–(45) do not make appropriate conversations in this context. This indicates that sentences with *-ess* are about the present time and that they are acceptable as long as they talk about the present situation of the stove, even though they contain definite past-time-

denoting adverbials. However, past-time adverbials are not allowed in the corresponding English sentences with perfect forms. I will come back to this shortly.

Compare the sentences in (42)–(45) with the following:

(46) A: nay-ka sutobu-lul an-kku-n kes kath-ay.
I-NOM stove-ACC not-turn.off-ATT thing seem-DEC
'It seems that I did not turn off the stove.' (The stove is on.)

(47) B: **nay-ka nao-l ttay-nun** mina-ka kk-essess/ ?-ess-e.
I-NOM come.out-IR.ATT time-TOP Mina-NOM turn.off-PAST/ -PFCT-DEC
'When I went out, Mina turned it off.'

tasi nwu-ka sutobu-lul khy-ess-nunci molu-ciman.
again someone-NOM stove-ACC turn.on-PFCT-whether not.know-but
'I don't know if somebody has turned it on again though.'

The first topic is the present state of the stove (46). But, in (47), the topic has shifted to the past time referred to by the *nun*-marked adverbial (when the speaker went out), and the speaker only gives the information about that past time. In this discourse, *-ess* is a little odd. Thus *-essess* is fine with the past topic time, but *-ess* is not. This is probably because the present situation should be given as a topic for the sentence with *-ess*. Note that past-time adverbials have different functions in *-ess* and *-essess* sentences even though they are allowed in both. For *-ess*, the past-time adverbials (the *wh*-phrase *encey* 'when' of (44) and the time of going out in (45)) are foci, not topics. For *-essess*, the past-time adverbials are topics, as in (47).

If we go back to (42), the discourse topic is the present state of the stove, and B answers the topic by using an *-ess*-marked sentence (43), in which the epistemic necessity modal provides the contextual entailment that the stove is off now. In the continuation of the story, as long as the discourse topic is the present state of the stove, *-ess* is used. Thus

Portner's presupposition (37) seems to work for *-ess*. I conclude that *-ess* has the presupposition (37).

However, if we look at the English gloss in (43), the present perfect form is not the only appropriate one: simple past tenses are also allowed. Moreover, the present perfect is not even allowed in (44) and (45). According to the presupposition (37), present perfect sentences should be allowed as long as they are used as answers to the discourse topic, but they are not allowed. This means that the presupposition (37) does not always work for the English perfect form. Should the English perfect then differ from the perfect in other languages in terms of presupposition? If it does, we have to say that the category of perfect should somehow be different from language to language, irrespective of the question of what the presupposition of the English perfect looks like. Concluding that the perfect varies across languages does not provide a satisfying result conceptually, since cross-linguistically perfects share many common properties. Also, there would be a learnability issue if the perfect presupposition were not universal.[19] Thus other possibilities should be explored.

My position is that the anterior (perfect) forms have the presupposition in (37) universally, but the difference in behavior between the English perfect and perfect forms in languages like Korean results for independent reasons, as will be addressed in the following section. Therefore, I provide a final definition of perfect, as follows:

(48) [[ANTERIOR (PERFECT)]] $= \lambda P.\ \lambda t.\ \exists e\ [\ \tau(e) < t\ \&\ P\ (e)]$
Presupposition: $\Box\ p'$ at t,
where p' is a consequent state of the perfect proposition p.

[19] Thanks to Lisa Matthewson for pointing this out to me.

Before closing this section, let me compare *-ess* with *-essess* with respect to answers to discourse topics. Consider the following data:

(49) A: onul-nun pang-i kkaykkusha-ney.
today-TOP room-NOM be.clean-S.PRES
'Today, your room is very clean.'

(50) B: ecey chengso-lul com ha-yss/yssess-e.
yesterday cleaning-ACC little do-PFCT/PAST-DEC
'I cleaned the room yesterday.'
'*I have cleaned the room yesterday.'

Sentence (49) suggests that the discourse topic is the present state of the room, and the answer to the topic is given either with *-ess* or *-essess*. There are two ways to answer the topic. One is to make use of the presupposition of the present perfect in (37), and the other is to make use of the conversational implicature of the past tense. That is, the present perfect answer uses semantics, whereas the simple past tense answer uses pragmatics. The suffix *-ess* has the same presupposition that induces the current result state (the room being clean in (49)). On the other hand, *-essess*, like the English simple past tense, only provides an implicature (the room is clean, since B cleaned the room yesterday in (50)), which is cancelable, depending on the context.

The question then is why is the present perfect sentence in English not allowed as an answer to the current discourse topic in cases like (50)? In other words, why is the pragmatic strategy rather than the semantic strategy used in English? In the next section, I will discuss this issue in connection with the use of past-time adverbials.

3.3 The Present Perfect Puzzle

As has been frequently noted, the English present perfect is not acceptable with a certain type of past-time-denoting adverbial (51a), while other perfects are (51b–d):

(51) a. *Mary has left yesterday/last year/in 1900/at 3:00.

b. Mary had left yesterday/last year/in 1900/at 3:00.

c. Mary must have left yesterday/last year/in 1900/at 3:00.

d. Mary seems to have left yesterday/last year/in 1900/at 3:00.

Klein (1992) calls this phenomenon the Present Perfect Puzzle and develops a solution in terms of the notion of p(osition)-definiteness, which he defines as follows:

(52) An expression is p-definite iff its lexical content IN APPROPRIATE CONTEXT fixes the position of a time span on the time axis. (Klein 1992:545–546)

What he observes about English is that the situation time (TSit) and the reference time (TT) cannot both receive a distinct p-definite time reference. According to him, present tense is p-definite but past tense is not.[20] So in the unacceptable present perfect sentence in (51a), the present tense form is p-definite and the adverbials are also p-definite. In contrast, in the other sentences in (51), only the adverbials have p-definite time reference. Thus, he proposes the following P-Definiteness Constraint:

(53) P-Definiteness Constraint (Klein 1992:546):

In an utterance, the expression of TT (or reference time) and the expression of TSit (situation time) cannot both be independently p-definite.

[20] According to Klein (1992:545), the present tense is p-definite because a present tense morpheme denotes a time interval that must contain the utterance time. In contrast, the past tense is not p-definite because it only requires the time interval to precede the utterance time.

According to Klein, this is a pragmatic constraint that does not allow more than one distinct p-definite time reference in a clause. Thus, (51a) violates the P-Definiteness Constraint, whereas (51b–d) do not:

Under the P-Definiteness Constraint, the grammaticality of the following example is predicted:

(54) Why is Chris in jail? — He has worked on Sunday, and working on Sunday is strictly forbidden in this country. (Klein 1992:547)

The adverbial *on Sunday* does not refer to a specific past time, so (54) does not violate the constraint. The P-Definiteness Constraint also accounts for the (un)acceptability of the following sentences:

(55) a. Yesterday, Mary came to Chris's office **at seven**. But Chris had left **at six**.

b. ***At seven**, Chris had left **at six**.

c. **At seven**, Chris had left. (Klein 1992:546)

Clearly the sentences in (55) are all true in the same situation, but (55b) is not acceptable, while the other sentences are. That is because (55b) has two distinct adverbs that are p-definite, violating the constraint.

On the other hand, Klein says that *before*, *just*, and *recently* are not p-definite because they need not be related to the utterance time and thus they cannot by themselves fix the position of the situation time. So the following present perfect sentences do not violate the P-Definiteness Constraint.

(56) a. Chris has been in Pontefract **before**.

b. Chris has **just** left.

c. Chris has **recently** arrived. (Klein 1992:547)

The P-Definiteness Constraint is very appealing in that it accounts for the (un)grammaticality of the sentences in (54)–(56). However, according to Klein's definition of p-definiteness in (53), adverbials such as *long ago* or *once* (*formerly*), are not p-definite, because they do not seem to fix the definite position of a time span on the time axis. Yet present perfect sentences are unacceptable with such adverbials:

(57) a. Mary has left **long since/just now**.

b. *Mary has left **long ago**.

c. *Mary has lived in Vancouver **once** (**formerly**).

The time adverbials in sentences (57b) and (57c) are no more definite than those in (57a). Examples like these call into question the exact definition of p-definiteness. In addition, the constraint cannot account for examples like the following:

(58) a. *Thursday John had telephoned to Mary on Wednesday (and he would do it again on Friday).

b. Thursday John had **already** telephoned to Mary on Wednesday (and he would do it again on Friday). (Giorgi and Pianesi 1997:117)[21]

[21] Giorgi and Pianesi (1997:117) show that the corresponding Italian data also exhibit the same phenomenon.

Both (58a) and (58b) have two distinct p-definite adverbs, violating the constraint. While the former is unacceptable, the latter, which has an additional temporal adverb *already*, is acceptable. Consider also the following examples:

(59) a. *Mary has phoned John on Tuesday.

b. Mary has **already** phoned John on Tuesday.[22] (Giorgi and Pianesi 1997:117)

The adverb *already* in an appropriate context greatly improves a present perfect sentence, as will be discussed shortly.

Moreover, the following sentences, in which the two adverbials are both p-definite, are acceptable.

(60) a. When I talked to her about the book, Mary had read it the day before.

b. When I talked to her about the book, Mary had already read it the day before.

In (60a), the *when*-clause refers to a specific time in an appropriate context and *the day before* also refers to a definite time interval, which is the day before the time when the speaker talked to Mary. So the two intervals are apparently p-definite in Klein's sense. Yet the sentence is acceptable.

Even if the data were more clear, Klein's P-Definiteness Constraint still leaves us with some conceptual problems. First, Klein does not provide any explanation for why more than one p-definite adverbial in a sentence is disallowed. A second problem is why perfect forms in some languages are not subject to it. If it is a pragmatic constraint, every utterance should obey it. One solution is to claim that the perfect forms that do not observe the constraint are not actually perfect but rather something else, for example, past

[22] Sentence (59b) seems more acceptable if the adverbial *on Tuesday* is an afterthought.

tense. However, this view seems incorrect because we have observed similarities among perfect forms in various languages. We cannot disregard these similarities simply because perfects behave differently in other ways without missing an important generalization.

In sum, the Present Perfect Puzzle breaks down into two issues. One concerns a property of temporal adverbials, which is closely related to the deictic and don-deictic property of tense. The other concerns different denotations of the present tense, especially in the present perfect. I will discuss these in the following section.

3.3.1 Rethinking the P-Definiteness Constraint

Temporal adverbials are used to overtly specify the reference time or the situation time of a given sentence. Thus, temporal adverbials are likely to reflect the characteristics of tenses. This means that the unacceptability of past-time adverbials with perfect forms derives from them having different characteristics. So I argue that the incompatibility of the present perfect with past-time adverbials is not a function of the definiteness of the time intervals referred to by temporal adverbials, as Klein argues, but rather of their deictic characteristics. As I have argued above, tense should be classified into deictic tense and non-deictic (anaphoric) tense, and only past and present are deictic. It follows that a clause can have either present or past as a deictic tense. That is to say that basically a clause does not allow more than one deictic tense. Deictic tense provides a reference time that has a certain relationship to the utterance time, which is a necessary condition for the tense to satisfy.

The present perfect is a combination of a deictic present tense and a non-deictic tense: the present tense refers to the utterance time (which is deictic); the perfect has an anterior relationship with respect to the present tense (which is non-deictic). This means

that the present perfect sentence does not have a distinct deictic time reference other than the speech time. So the only temporal adverbials that are allowed in present perfect sentences are utterance-time denoting (deictic) adverbials and non-deictic adverbials. I roughly classify the deictic and non-deictic temporal adverbials, as follows:

(61) a. Deictic T-Adverbials: anchored in the utterance time
— now, today, yesterday, on Tuesday, at 3:00,[23] *long ago, etc.*

b. Non-Deictic T-Adverbials: not necessarily anchored in the utterance time
— just, already, before, later, the day before, etc.

Present perfect sentences with non-deictic temporal adverbials are fine, as in (56). Present perfect sentences containing deictic temporal adverbials are acceptable, as long as the time interval denoted by the adverbial either refers to or includes the utterance time:

(62) a. Today, Chris has finished his work.

b. This morning, Chris has finished his work.

c. This spring, Chris has finished his work. (Klein 1992:550)

If present perfect sentences contain deictic adverbials that refer to a past time that does not include the utterance time, as in (51a), (57b), and (57c), then the sentence is unacceptable.

(51) a. *Mary has left yesterday/last year/in 1900/at 3:00.

(57) b. *Mary has left **long ago**.

c. *Mary has lived in Vancouver **once.' [once = formerly**].

[23] Adverbials such as *on Tuesday* or *at 3:00* can be non-deictic in some situations, as in (54). I ignore the non-deictic case here.

In sum, if there is a constraint on temporal adverbials, it should be based on their deictic characteristics. I therefore modify Klein's P-Definiteness Constraint into the Deictic T(ime)-Adverbial Constraint, as follows:

(63) The Deictic T-Adverbial Constraint (DTAC)

In a clause, the T-adverbial of the reference time (R) and the T-adverbial of the event time (E) cannot both be independently deictic.

The present perfect sentences in (51a), (57b), and (57c) are cases of apparent violations of the DTAC because they contain a deictic T-adverbial that refers to an interval distinct from the utterance time. On the other hand, the past perfect is a combination of past and perfect, that is, a combination of a deictic past tense and a non-deictic (anaphoric) tense. So a sentence with past perfect allows a past-time denoting deictic adverbial as well as a non-deictic temporal adverbial. So the ungrammaticality of (55b) is due to the violation of the DTAC because (55b) contains two distinct deictic T-adverbials.

Furthermore the DTAC accounts for the fact that (60) is grammatical with or without *already.* The *when*-clause refers to a certain time in the past and thus is deictic, and *the day before* is a non-deictic T-adverbial. So there is no violation of the DTAC in (60). The DTAC can also account for the contrast in grammaticality in (58) and (59). Example (58a) is unacceptable because both *Tuesday* and *Wednesday* are deictic T-adverbials, violating (63). However, (58b) is acceptable although it contains the same adverbials. The reason it is grammatical is that the second adverb *Wednesday* is not a true deictic adverbial. That is to say that *Tuesday* is a deictic T-adverbial and *already* is a non-

deictic T-adverbial, and that *Wednesday* is parasitic on the non-deictic adverb *already*.[24] That is why *Wednesday* cannot appear without a non-deictic adverbial *already:*

(58) Thursday John had *(already) telephoned Mary on Wednesday.

The same account applies to (59):

(59) Mary has *(already) phoned John on Tuesday.

In this respect, the (un)acceptability of past-time adverbials in present perfect sentences results from a semantic constraint, and not, as Klein claims, a pragmatic constraint. The past-time deictic adverbials roughly correspond to the [+then] adverbials suggested by McCoard (1978). He classifies temporal adverbials, as follows:

(64) Classes of Adverbials (McCoard 1978:135):

[+ THEN]	**[± THEN]**	**[− THEN]**
long ago	recently	lately
five years ago	long since	at present
once (formerly)	once (one time)	up till now
yesterday	in the past	so far
the other day	today	as yet
those days	in my life	during these days/years
last night	for three years	herewith
in 1900	before	since the war
after war	just now	before now
at 3:00	never	
no longer	often/always	
	already	

[24] According to McCoard (1978:128–129), Koziol (1958:502) accounts for the sentence: *We have already discussed this affair at some length last night* (from Erades 1956:44) as follows: "For the use of present perfect, the word *already* is crucial: without *already* it would go *We discussed it last night*… In the sentence with *already* and *last night*, the *already* dominates, and the time adverb *last night* has the character of a secondary, more precise, specification."

3.3.2 Another puzzle: Exceptions to the Deictic T-Adverbial Constraint

One remaining question is: if the DTAC comes from the nature of tenses, why are perfect forms in some languages, including the Korean suffix *-ess*, **not** subject to the constraint, thus contrasting with the English present perfect, which **is** subject to the constraint?[25] This is another puzzle with respect to perfect forms, which I assume is closely related to the different denotations of the present tense in the two languages. As Giorgi and Pianesi (1997:115) observe, present tenses differ with respect to some past-time adverbials:

(65) a. *I love Mary since yesterday.

b. Amo Mary da ieri.

In English sentences like (65a), the present tense cannot co-occur with time adverbials that fix a time span beginning from a certain past time, such as *since*. In contrast, in Italian present tense sentences like (65b), such adverbials are allowed. This is also the case with the Korean present tense, as seen in (16b).

(16) b. mina-ka ithul-cen-pwuthe aphu-ta.
Mina-NOM two.day-before-from be.sick-DEC
'*Mina is sick for two days now.'
'Mina has been sick for two days now.'

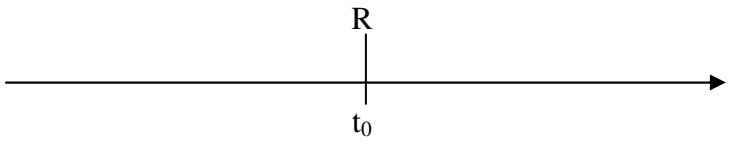
I assume that this difference has to do with two different types of present tense—S-Present and I-Present. As discussed in Section 3.1.2, I-Present indicates a long stretch

[25] One possible argument is that Korean *-ess* is not subject to the constraint due to the lack of present tense morphology in its perfect form. However, languages like Italian and German are also not subject to the constraint, even though they have the perfect morphology parallel to English.

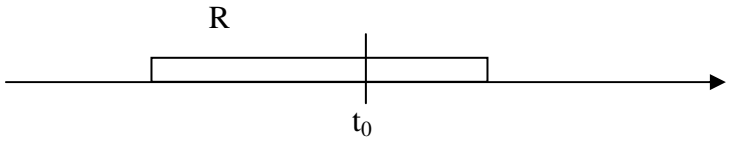
including some past time period as well as the utterance time, whereas the instantaneous S-Present does not include the past time period, as illustrated in (25):

(25) Two types of present tenses

a. Type A: Simple Present (S = R)



b. Type B: Imperfective Present ($S \subseteq R$)

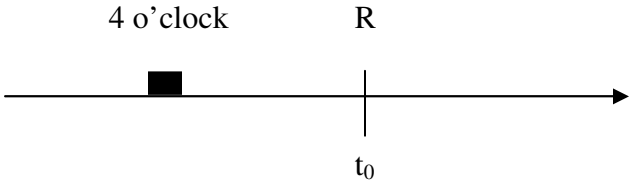


What is relevant here is the existential (anterior) meaning of perfect, since I claim that the universal meaning is absent in the perfect forms in languages with the imperfective present tense. I argue that perfect forms including *-ess* are relational tenses with an existential meaning, and thus the situation described by a perfect sentence has a direct relation to the reference time when the consequent state exists. So there are two factors in perfect forms. First, what is significant is the time when the consequent states begin. For example, the consequent state of a situation begins at the moment when the situation ends, which means there is no interruption between the previous situation and its consequent state. Second, this consequent state is exactly the time span of the reference time. In other words, the time span of the consequent state is exactly equivalent to that of the reference time. In the imperfective present tense, the reference time has a long time span containing the utterance time and so does the consequent state of perfect. Consequently, even if a given situation happened at a specific past time, the perfect

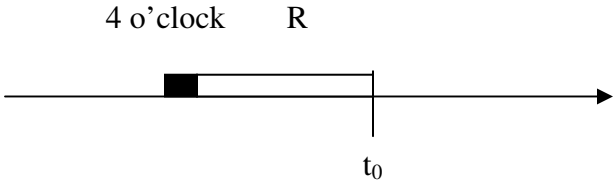
sentence is acceptable because its consequent state begins right after the past time and continuously holds at the utterance time due to the durative nature of the present tense.

On the other hand, the English present tense denotes an instantaneous reference time and accordingly the consequent state of a given situation must also be instantaneous. The present perfect requires that the situation occurs in the past time and connects to its reference time. That is because, as mentioned above, there should be no time gap between the situation and its consequent state (i.e. the time span of the reference time). If the situation happened in a specific past time that is not connected to the reference time, there are two possibilities. First, the consequent state does not completely overlap with the reference time, which should not happen in a perfect sentence. Second, a time gap occurs between the situation and its consequent state and then it is not the consequent state of the perfect. I can illustrate this point, as follows:

(66) a. *John has left at 4:00.



b. Gianni e partito alle quarto.



In (66a), the situation described by the sentence is not connected to the reference time, which means that the result state begins considerably before the reference time begins, yielding no full overlap between the consequent state and the reference time. So the

perfect sentence is unacceptable. On the other hand, in (66b), the consequent state begins when the reference time begins, which means a full overlap between the consequent state and the reference time. The Italian sentence (66b) is grammatical, as are the Korean *-ess* sentences containing past-time adverbials.

Under this analysis, the perfect (anterior) across languages can be claimed to have the same property: a prior event yields consequent states in the reference time immediately after its culmination. However, independent factors, such as the imperfectivity of the present tense, can lead to a difference in behavior.[26] That is, the acceptability of past-time adverbials in present perfect sentences in languages like Italian and Korean comes from the semantic properties of the present tense, not from the semantics of the perfect.

To summarize what I have discussed so far, present perfect forms are manifested as two types, as follows:

(67) Two Types of Present Perfects:

a. S-Present (S=R) Perfect

b. I-Present (S⊆R) Perfect

As illustrated in examples like (66a) with a past-time denoting adverbial, in the S-Present Perfect, the reference time is instantaneous but the time span for the consequent state is durative (an interval from the endpoint of the event up to the utterance time). So the reference time and the time span for the consequent state do not fully overlap, which does

[26] This raises the question: why doesn't the same analysis apply to sentences with a present progressive form, which also contain imperfectivity plus present tense? I assume that the progressive does not affect the denotation of the present tense because it does not map to the tense level. I return to this point in Chapter 6.

not satisfy the meaning of perfect. In contrast, in the I-Present Perfect in (66b), the reference time is a long time span containing the utterance time and so is the time span of consequent state of perfect. This indicates a full overlap between the reference time and the consequent state, which satisfies the definition of perfect.

So it appears that the (in)compatibility of the perfect with past time adverbials derives from the nature of the tense and the perfect per se, and thus we do not have to rely on a constraint such as the DTAC.[27] However, if there are languages in which the present tense is an I-Present but the present perfect sentences does not allow past-time adverbials, then the DTAC is still required.[28] Future research is necessary to reveal the extent of the variation among languages.

To conclude, I have shown that Klein's P-Definiteness Constraint is not well-motivated and cannot account for all the cases where the English present perfect is incompatible with past-time adverbials. This led to an alternative view of the facts based on the deictic and non-deictic properties of tense and the proposal of the Deictic-T Adverbial Constraint, which states that a clause cannot have two independent deictic T-adverbials. Furthermore, I have made an attempt to account for why other perfects, such as the Italian present perfect and the Korean suffix *-ess*, are not subject to the DTAC. English perfect sentences like (66a) violate not only the DTAC but also the meaning of perfect, whereas Italian perfect sentences like (66b), even though they violate the DTAC, preserve the meaning of the perfect due to the durative present tense. What is crucial is

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[27] This was pointed out to me by Lisa Matthewson.

[28] I assume that Greek is one of those languages. In the present perfect sentence, the auxiliary verb *exo* 'have' appears only in the imperfective and past-time adverbials are not allowed (Giannakidou 2003:118–120), as shown in (i).

(i) *I Ariadne exi fiji stis pende.
'*Ariadne has left at five.'

that the I-Present allows a breach of the constraint. That is, having an I-Present is a necessary condition for a breach of (63), not a sufficient condition. Also the reason for the suspension of the constraint is semantic, i.e. the meaning of perfect. As shown in (66), in the S-Present perfect, the use of a deictic past-time adverbial gives us the wrong denotation of the perfect, whereas in the I-Present perfect, the use of a past-time adverbial does not obstruct the denotation of the perfect. Therefore, if the denotation of the perfect is fully satisfied, the DTAC can be violated.

Chapter 4: Spatial Deictic Tense

This chapter concentrates on another Korean suffix that is highly controversial in the Korean literature and thus has intrigued Korean linguists. The suffix *-te* is restricted in its occurrence: it appears only in main clauses and attributive (relative) clauses.[1] Moreover, *-te* does not behave the same way in the two environments: *-te* in main clauses is subject to certain constraints, but *-te* in attributive clauses is not. I focus on the *-te* in main clauses, discussing *-te* in attributive clauses whenever relevant.

First, I examine previous analyses of *-te* and argue that none of them provides a satisfying account. I claim that not only temporality but also the notion of space is relevant to the analysis of *-te*, which thus differs from other tense forms. I propose that *-te* is a spatial deictic past tense in the sense that it not only denotes a temporally deictic past time but also the speaker's spatial deictic vantage point at the reference time (cf. Faller's (2004) spatio-temporal deictic tense). I show that *-te* directly relates to evidentials, that is, *-te*, as a spatial deictic tense, triggers an environment for evidentials but itself is not an evidential form. The suffix *-te* refers to a certain past time when the speaker either perceived a given event itself or some evidence of the event. Thus, Faller's notion of the 'speaker's perceptual field', captured with the formal mechanism of the speaker's perceptual trace function, is relevant for the analysis of *-te*. Furthermore, I argue that the denotation of *-te* is 'overlap', not between the speaker's perceptual field and the situation

[1] The exceptions are the complement clause of a verb *malha* 'say' and a few coordinate clauses, such as *-uni* 'and so' or *-ntey* 'but then'.

(or event) itself, but between the speaker's perceptual field and the **evidence** of the situation at the past reference time. Therefore, to account for the denotation of *-te*, I suggest another trace function, 'evidence trace'.

In addition, I argue that *-te* has a present counterpart, the spatial deictic present tense *-ney,* previously defined as an epistemic mood form with no connection to *-te*. So I suggest that Korean has a systematic spatial deictic tense distinction—the spatial deictic present *-ney* and the spatial deictic past *-te*. As a consequence, I show that there are two types of deictic tenses—simple deictic tenses and spatial deictic tenses. Furthermore, I show that the tense form *-ess*, which has been defined as an anterior (perfect) in the previous chapters, is ambiguous between a tense and an evidential, depending on whether it occurs with a simple deictic tense or a spatial deictic tense.

4.1 The suffix *-te.*

The suffix *-te* has been variously analyzed as a marker of tense (H.-B. Choi 1983, Gim 1980, Han 1996), aspect (Im 1982, 1993), tense-aspect (H.-S. Lee 1991, 1993b), mood-tense (H.-M. Sohn 1975), mood (H.-M. Sohn 1994, D.-J. Choi 1994), or evidentiality (Cinque 1999). The amount of controversy regarding *-te* can be seen in the range of definitions given to it by various Korean linguists:

(1) a. Retrospective tense (H.-B. Choi 1983)

b. Report, pastness, and perception (H.-M. Sohn 1975)

c. Past imperfective (H.-S. Lee 1991, 1993a; K.-D. Lee 1993)

d. Shift of the speaker's viewpoint (D.-J. Choi 1994)

e. The speaker's witness (H.-M. Sohn 1994)

f. Anteriority of cognition time (Han 1996)[2]

Each of these analyses captures some aspect of the meaning of *-te*, but none of them provides a complete explanation. In this chapter, I argue against all of these approaches and instead claim that not only temporality but also the notion of space is relevant to the analysis of *-te*.

In Section 4.1.1, I discuss the relationship between *-te* and imperfectivity, showing that *-te* in main clauses cannot be simply a past imperfective. In Section 4.1.2, I explore the possibility that *-te* is an evidential. I argue that the person restriction previously proposed for *-te* comes from the speaker's passive perception of a given situation. That is, the speaker of sentences with *-te* should be a passive perceiver of a given situation. However, I will show that this perception does not necessarily apply to the event itself, and thus the meaning of the speaker's witness does not always hold. Thus, *-te* provides both a direct evidential meaning and an indirect evidential meaning, ruling out an account that relies solely on the notion of direct evidentiality. In Section 4.1.3, I turn to a discussion of the notion of speaker's perceptual field and spatio-temporal deictic tense, as developed by Faller (2004). I show the relevance of these notions to the analysis of the suffix *-te* and propose that *-te* is a spatial deictic past tense that induces an evidential environment.

4.1.1 Past imperfective approaches.

The suffix *-te* refers to a certain time in the past (2a), and thus it is not allowed in 'here and now' situations (2b):

[2] The translation is my own.

(2) a. keki-nun akka pi-ka o-**te**-la.
there-TOP a.while.ago rain-NOM come-S.PAST-DEC
'[I noticed] it was raining there a while ago.'

b. ??yeki-nun cikum pi-ka o-**te**-la.[3]
here-TOP now rain-NOM come-S.PAST-DEC
'??[I noticed] it is raining here now.'

As (2) shows, *-te* seems to be a past tense. However, as the English gloss in (2a) indicates, *-te* implies that the event of raining was on-going at the past reference time. Let us compare *-te* with the suffix *-essess*, which I have defined as a deictic past tense in Chapter 2:

(3) keki-nun akka pi-ka o-**assess**-ta.
there-TOP a.while.ago rain-NOM come-PAST-DEC
'It rained there a while ago.'

In (3) the past form does not convey that the raining event was going on at the past reference time. Rather it conveys that the event occurred at the reference time without indicating the continuity of the event.

The suffix *-te* appears to be a past imperfective marker, as claimed by H.-S. Lee (1991, 1993b) and K.-D. Lee (1993). In fact, unlike *-essess, -te* indicates that the situation

[3] However (2b) becomes acceptable if an adverbial like *pakk-ey* 'outside' is substituted for *yeki* 'here', as in (i):

(i) pakk-ey-nun cikum pi-ka o-te-la.
outside-LOC-TOP now rain-NOM come-S.PAST-DEC
'[I noticed] it is raining outside now.'

Sentence (i) indicates that the time when the speaker perceived the situation is in the past, probably a few minutes ago or just now, and the situation still holds at the utterance time. This is because *-te* has an imperfective meaning and thus the situation was going on at the past reference time and possibly is still going on at the utterance time. In cases like (i), the adverb *cikum* 'now' forces the on-goingness of the situation at the utterance time.

in question not only occurred at a certain past time but also was going on (or continuous) at the time, as illustrated in (4):

(4) a. nay-ka chacaka-ss-ul ttay jwun-un ca-**te**-la.
I-NOM visit-PFCT-IR.ATT time Joon-TOP sleep-S.PAST-DEC
'Joon was sleeping when I visited him.'

b. nay-ka chacaka-ss-ul ttay jwun-un ca-**ssess**-ta.
I-NOM visit-PFCT-IR.ATT time Joon-TOP sleep-PAST-DEC
'Joon slept/fell asleep when I visited him.'

c. nay-ka chacaka-ss-ul ttay jwun-un ca-**ko iss-essess**-ta.
I-NOM visit-PFCT-IR.ATT time Joon-TOP sleep-PROG-PAST-DEC
'Joon was sleeping when I visited him.'

Sentence (4a) can denote that the event of Joon's sleeping was on-going at a certain past time without the progressive form *-ko iss*, whereas (4b) denotes the event as a whole without its continuity and requires the progressive form in order to indicate an on-going event, as shown in (4c).[4] As a consequence, (4a) involves overlap between the matrix event and the subordinate event, whereas (4b) does not provide a fixed temporal relation between the two events.[5]

There is other evidence for considering *-te* to be an imperfective form. Dahl (1985:78) notes the characteristics of imperfective in comparison with progressive based on cross-linguistic data, summarized as follows:

[4] Im (1982, 1993) also argues that *-te* denotes 'a phase (slice) of a given event', which is similar to the imperfective. On the other hand, some Korean linguists argue that the imperfective meaning is not an inherent feature of *-te*, but comes from the absence of other tense forms, such as *-ess*. This implies that there is a phonologically-null form that denotes imperfectivity (H.-M. Sohn 1975, D.-J. Choi 1994). I will address this in connection with evidentials in Chapter 5 and Chapter 6.

[5] In (4b), the actual temporal order of two events seems somewhat flexible. The speaker's visiting either co-occurs with John's sleeping or precedes John's sleeping.

Table 2. Imperfective vs. Progressive

	IMPERFECTIVE	PROGRESSIVE
BOUND FORMS	yes	no
TENSE-DEPENDENT	yes	no
STATIVE PREDICATES	yes	no
HABITUAL READINGS	yes	no

The progressive form *-ko iss* systematically differs from the suffix *-te*. First, as Dahl predicts, *-te* is a suffix, a bound form, whereas *-ko iss* is a periphrastic form. Second, imperfective is often realized with past time reference, that is, it is tense-dependent, whereas progressive is independent or almost independent of time reference. *-Te* also has a built-in past time reference, and thus it always refers to a past time without any other past tense form. However, this is not the case with *-ko iss*, which requires a past tense to indicate a past situation and otherwise refers to a present event (see (4c)). Third, imperfective does not have a co-occurrence restriction with respect to the type of predicate, while progressive does not normally appear with stative predicates. This also holds for *-te* and *-ko iss*. Unlike *-ko iss, -te* can occur with any predicate type, as illustrated in (5):

(5) a. mina-ka yeyppu-**te**-la.
Mina-NOM be.pretty-S.PAST-DEC.
'[I noticed] Mina was pretty.'

b. *mina-ka yeyppu-**ko iss**-ta.
Mina-NOM be.pretty-PROG-DEC.
'*Mina is being pretty.'

Fourth, a sentence with *-te* allows a habitual reading, while a sentence with *-ko iss* does not, as shown in (6):

(6) a. nay-ka ca-l ttay jwun-un kongpwuha-**te**-la.
I-NOM sleep-IR.ATT time Joon-TOP study-S.PAST-DEC
'[I saw] Joon was studying when I slept.'
Or '[I noticed] Joon (always) studied when I slept.'

b. nay-ka ca-l ttay jwun-un kongpwuha-**ko iss**-ess-ta.
I-NOM sleep-IR.ATT time Joon-TOP study-PROG-PFCT-DEC
'Joon was studying when I slept.'
NOT: 'Joon (always) studied when I slept.'

In sum, *-te* fits Dahl's cross-linguistic characterization of imperfective.

Furthermore, Giorgi and Pianesi (1997:177) note that with achievement verbs, the Italian imperfective form does not express the same aspectual meaning that the progressive form does, as illustrated in (7):

(7) a. Ieri Gianni stave raggiungedo la vetta, quando un violent temporale gli impede di arrivaraci.
'Yesterday Gianni was reaching (**PROG**.IMPF) the top, but then a violent storm prevented him from getting there.'

b. #Ieri Gianni raggiungeva la vetta, quando un violent temporale gli impede di arrivaraci.
'Yesterday Gianni was reaching (**IMPF**) the top, but then a violent storm prevented him from getting there.'

According to them, the progressive in (7a) is fine because it does not entail that the culmination of the event has been reached, whereas the imperfective in (7b) does not make sense because the first conjunct implies that the culmination of the event has been reached and the second conjunct states otherwise. An achievement verb denotes an instantaneous change between two states—a source state and a target state (Klein

1994)—and possibly has some preliminary process, depending on the predicate. The contrast shown in (7) indicates that progressive can hold the achievement event at its preliminary stage, whereas imperfective does not have the same power.[6] *-Te* and *-ko iss* also exhibit this contrast:

(8) a. ecey jwun-i san.cengsang-ey tochakha-**ko iss**-ess-nuntey
yesterday Joon-NOM mountain.summit-LOC arrive-PROG-PFCT-but

kapcaksulen tolpwung-ulo tochakha-ci mos-ha-yss-ta.
sudden strong.wind-with arrive-COMP not-do-PFCT-DEC

'Yesterday Joon was reaching the summit of the mountain, but suddenly a violent storm prevented him from getting there.'

b. #ecey jwun-i san.cengsang-ey tochakha-**te**-ntey
yesterday Joon-NOM mountain.summit-LOC arrive-S.PAST-but

kapcaksulen tolpwung-ulo tochakha-ci mos-ha-yss-ta.
sudden strong.wind-with arrive-COMP not-do-PFCT-DEC

'Yesterday Joon was reaching the summit of the mountain, but suddenly a violent storm prevented him from getting there.'

The discussion so far leads me to define the suffix *-te* as a past imperfective form. In attributive clauses, *-te* also indicates imperfectivity in a given past reference time.

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[6] This fact seems to indicate that the progressive and the imperfective differ completely. The progressive is an operation that changes one situation type into another, either an activity or a stative (Vlach (1981), Moens and Steedman (1988), and Steedman (1997)), and thus it is a situation-internal operation. The imperfective is an operation that applies to a situation externally and thus does not change the situation type. In a slightly different context, Giorgi and Pianesi (1997) distinguish the two categories: the progressive is an intensional operator and the imperfective is an existential operator. The difference is illustrated in (i):

(i) a. Quando Artù entrò, Merlino creava un unicorno.
When Arthur entered, Merlin created(IMP) a unicorn.

b. Quando Artù entrò, Merlino stava creado un unicorno.
When Arthur entered, Merlin was creating(PROG IMP) a unicorn.

Sentence (ia), which is imperfective, entails that the unicorn must exist in the actual world, whereas (ib), which is progressive, does not entail the existence of actual unicorns (Giorgi and Pianesi 1997:172). I will come back to the difference between the progressive and the imperfective in Chapter 6.

However, I show in the next section that *-te* in main clauses is more than just a past imperfective form.

4.1.2 Evidential approaches.

4.1.2.1 Constraints on *-te*.

The suffix *-te* has been claimed to be subject to several constraints. First, according to Suh (1977, 1996:328), a sentence with *-te* must express a situation that the speaker observed (the Speaker's Personal Observation Constraint).[7] H.-M. Sohn (1994), as mentioned above, also claims that a sentence with *-te* must describe a situation that the speaker witnessed, as in (9):

(9) a. ku tangsi mina-ka ce cip-ey sal-te-la.
that time Mina-NOM that house-LOC live-S.PAST-DEC
'[I saw] Mina was living in that house at that time.'

b. *ku tangsi shakespeare-ka ce cip-ey sal-te-la.
that time Shakespeare-NOM that house-LOC live-S.PAST-DEC
'[I saw] Shakespeare was living in that house at that time.'

Sentence (9a) indicates that the speaker witnessed Mina's living at a past time, whereas (9b) is unacceptable because it is impossible for the speaker to have witnessed Shakespeare living.

Other tense forms do not have such a constraint. For example, observe the following sentences with *-essess*:

(10) a. ku tangsi mina-ka ce cip-ey sal-**assess**-ta.
that time Mina-NOM that house-LOC live-PAST-DEC
'Mina lived in that house at that time.'

[7] The translation is my own.

b. ku tangsi shakespeare-ka ce cip-ey sal-**assess**-ta.
that time Shakespeare-NOM that house-LOC live-PAST-DEC
'Shakespeare lived in that house at that time.'

Unlike (9b), (10b) is acceptable even if the speaker has not witnessed Shakespeare's being alive. Interestingly, attributive (relative) clauses with *-te* also do not exhibit this constraint, as shown in (11):

(11) ce cip-i ku tangsi shakespeare-ka sal-te-n. cip-i-ta.
that house-NOM that time Shakespeare-NOM live-S.PAST-ATT house-be-DEC
'That is the house where Shakespeare was living at that time.'

We see that *-te* in main clauses has something extra, the notion of the 'speaker's witnessing', which the simple past *-essess* or *-te* in the attributive clause lacks.

Second, the suffix *-te* has some restrictions on person, particularly on the subject. It has been claimed that there are two distinct constraints with respect to grammatical person: the Equi-Subject Constraint and the Non-Equi-Subject Constraint (Yang 1972, Nam 1978). The former states that the subject of a sentence with *-te* must be the speaker, and only applies to sensory or psych predicates, such as *oylop* 'be lonely' or *coh* 'be good' (or 'like'), as shown in (12):

(12) a. ku-ttay(-nun) nay-ka/na-nun oylop-te-la.
that-time(-TOP) I-NOM/I-TOP be.lonely-S.PAST-DEC
'[I noticed] I was lonely at that time.'

b. ??ku-ttay(-nun) mina-ka/nun oylop-te-la.
that-time(-TOP) Mina-NOM/TOP be.lonely-S.PAST-DEC
'[I noticed] Mina was lonely at that time.'

In contrast, the Non-Equi-Subject Constraint states that the subject of the sentence with *-te* cannot be the speaker, and applies to all predicates except for sensory and psych

predicates. However, many Korean linguists (e.g. Gim 1980, Im 1993) have pointed out that these two constraints do not account for all the data.

In fact, I show below that these restrictions can be handled by reference to the notion of speaker's perceptual field, which will be introduced in Section 4.1.3.1. But for the purpose of discussion, I review the range of facts and suggest some refinements to their characterization. Tentatively, I suggest that the relevant data can be handled with a single constraint: the Person Restriction, which states that the subject of a sentence with *-te* cannot be first person.[8] The Person Restriction is illustrated in (13) and (14):

(13) a. mina-ka/nun hakkyo-ey ka-te-la.
Mina-NOM/TOP school-LOC go-S.PAST-DEC
'[I saw] Mina was going to school.'

b. ??nay-ka/na-nun hakkyo-ey ka-te-la.
I-NOM/I-TOP school-LOC go-S.PAST-DEC
'[I saw] I was going to school.'

(14) a. mina-ka/nun yeyppu-te-la.
Mina-NOM/TOP be.pretty-S.PAST-DEC
'[I saw] Mina was pretty.'

b. ??nay-ka/na-nun yeyppu-te-la.
I-NOM/I-TOP be.pretty-S.PAST-DEC
'[I saw] I was pretty.'

Sentence (13a), which is about a third person's action, is grammatical, whereas (13b), which is about the speaker's action, sounds odd. In the same way, (14b) is unacceptable because it is talking about the appearance of the first person.[9]

[8] First person includes plural, since sentences with 'we' are also bad. Note that in interrogative sentences with *-te*, the subject cannot be second person, either singular or plural.

[9] However, when the speaker describes a situation in his or her dream, (13b) is acceptable. Similarly (14b) is also acceptable if the speaker utters it while looking at himself/herself in the mirror.

Even with sensory or emotional experience predicates with first-person subjects, *-te* is not allowed, as shown in (15):[10]

(15) a. ??ku-ttay-nun nay-ka mopsi **oylow-eha**-te-la.
that-time-TOP I-NOM awfully be.lonely-do-S.PAST-DEC
'[I felt] I was feeling/felt terribly lonely at that time.'

b. ??ku-ttay-nun nay-ka mina-lul **coh-aha**-te-la.
that-time-TOP I-NOM Mina-ACC be.good-do-S.PAST-DEC
'[I felt] I liked Mina at that time.'

c. ??ku-ttay-nun nay-ka kalpi-lul **masiss-eha**-te-la.[11]
that-time-TOP I-NOM kalbi-ACC be.delicious-do-S.PAST-DEC
'[To my taste] I found kalbi delicious at that time.'

In contrast, this Person Restriction is also not observed in attributive clauses with *-te:*

(16) a. hakkyo-ey ka-**te**-n na-nun olaksil-lo cikhayngha-yss-ta.
school-LOC go-S.PAST-ATT I-TOP arcade-to head.straight-PFCT-DEC
'I, who was going to school, headed straight to the arcade.'

b. mopsi oylow-eha-**te**-n na-nun cip-ulo tolao-yss-ta.
awfully be.lonely-do-S.PAST-ATT I-TOP home-to return-PFCT-DEC
'I, who was feeling/felt terribly lonely, returned home.'

Unlike (13b) and (15a), the attributive clauses of (16) with a first-person subject are acceptable, indicating that *-te* in attributive clauses is not subject to the Person Restriction.

Other tense forms, such as *-essess*, are not subject to the Person Restriction:

(17) a. ku-ttay-nun nay-ka mopsi oylow-eha-yssess-ta.
that-time-TOP I-NOM awfully be.lonely-do-PAST-DEC
'I felt terribly lonely at that time.'

[10] As Im (1993) points out, data like (15) are counterexamples to the Equi-Subject Constraint.

[11] The morpheme *-eha* alternates between *-eha* or *-aha*, depending on the preceding vowel.

b. ku-ttay-nun nay-ka mina-lul coh-aha-yssess-ta.
that-time-TOP I-NOM Mina-ACC be.good-do-PAST-DEC
'I liked Mina at that time.'

The sentences in (17) are both acceptable, showing that the Person Restriction does not apply to *-essess* regardless of the clause type.

Thus, the constraints observed above only apply to main clause *-te*. However, there are cases where the Person Restriction gets lifted even in main clauses. First, *-te* is allowed with a first-person subject when the speaker is part of a larger situation:

(18) a. na-honca-man hakkyo-ey ka-te-la.
I-alone-only school-LOC go-S.PAST-DEC
'[I noticed] only I was going to school.' (H.-M. Sohn 1975:93)

b. nay-ka ceyil yeyppu-te-la.[12]
I-NOM/I-TOP first be.pretty-S.PAST-DEC
'[I noticed] I was the prettiest.'

The sentences in (18) are almost the same as (13b) and (14b), except that they contain additional elements—the suffix-like particle *honca-man* 'alone-only' and the superlative adverb *ceyil* 'first' or 'most'. These elements indicate that the speaker is part of a larger group observed by the speaker. So it is possible to say that *-te* is allowed when the speaker describes his (her) action or appearance as compared with third persons within the context of a larger group.

Second, when *-te* occurs with certain sensory or psych predicates, the sentence is acceptable and actually a first-person subject is preferred, as in (19):

[12] A similar example is found in Gim (1980:77).

(19) a. ku-ttay-nun nay-ka **oylop**-te-la.
that-time-TOP I-NOM be.lonely-S.PAST-DEC
'[I felt] I was lonely at that time.'

b. ku-ttay-nun nay-ka mina-ka **coh**-te-la.[13]
that-time-TOP I-NOM Mina-NOM be.good-S.PAST-DEC
Lit. 'At that time, I was fond of Mina.'
'[I felt] I liked Mina at that time.'

c. ku-ttay-nun nay-ka kalpi-ka **masiss**-te-la.
that-time-TOP I-NOM kalbi-NOM be.tasty-S.PAST-DEC
'[To my taste] I found kalbi delicious at that time.'

The sentences in (19) are grammatical even though they have almost the same meanings as the ungrammatical sentences in (15). The question is: why do the data in (15) obey the Person Restriction while the data in (19) do not. I discuss this issue in the next section.

To summarize, *-te* in a main clause is used to describe past continuous situations that the speaker witnessed. With respect to the subject, it is freely used when the sentence is about the actions and appearances of a third-person subject, whereas it is less likely to be used to express the speaker's actions and appearances, except for cases like (18). With sensory or emotional experience predicates, the grammaticality of *-te* varies depending on the predicates and the person. Furthermore, these properties are not observed in *-te* in attributive clauses and in other tense forms.

4.1.2.2 The speaker of *-te* is a passive perceiver.

We have observed that although a sentence with *-te* usually avoids a first-person subject, there are nevertheless some exceptions. That is, the Person Restriction is not observed all the time in main clauses with *-te*. This raises the issue of why the constraint gets lifted. After investigating the counterexamples in detail, I will argue that the speaker

[13] Korean allows more than one nominative-case-marked NP per sentence, particularly in stative sentences like (19b).

of the sentence with the suffix *-te* should be a passive perceiver, not an active participant in the situation described by the sentence. It then follows that when the speaker of a sentence with *-te* is not an active participant, the sentence is acceptable even if the speaker is the subject of the sentence. This means that, strictly speaking, the Person Restriction does not apply to the grammatical subject but to the speaker of the sentence (Chung 1994).

First, consider the following examples: (20a) has an unaccusative predicate and (20b) has an unergative one.

(20) a. nay-ka nwunmwul-i nao-te-la.
I-NOM tear-NOM come.out-S.PAST-DEC
'[I noticed] I had tears coming to/out of my eyes.'

b. ??nay-ka wul-te-la.
I-NOM cry-S.PAST-DEC
'[I noticed] I was crying.'

In the acceptable sentence (20a) the predicate *nao* 'come out' is unaccusative while in the unacceptable sentence (20b) the predicate *wul* 'cry' is unergative.[14] This suggests that *-te* is allowed when the first-person subject is a non-agentive experiencer (or patient).

[14] A discussion of the unaccusative/unergative distinction in Korean is beyond the scope of this dissertation. However, one type of evidence comes from case on duration/frequency adverbials. (Y.-J. Kim 1990, Kim and Maling 1993). The verb *nao* is unaccusative and cannot license an accusative case marker *-(l)ul* to non-arguments, but the verb *uwl* is unergative and thus it can license *-(l)ul*:

(i) ??nay-ka nwunmuwl-i twu-sikan-tongan-ul nao-assess-ta.
I-NOM tear-NOM two-hour-for-ACC come.out-PAST-DEC
'I had tears coming to/out of my eyes for two hours.'

(ii) nay-ka twu-sikan-tongan-ul wul-essess-ta.
I-NOM two-hour-for-ACC cry-PAST-DEC
'I cried for two hours.'

Second, *-te* is allowed with a first-person subject when the subject is not an agent of a sensory predicate, as shown in the following:

(21) a. nay-ka/na-nun ku-ttay heskes-i po-i-te-la.
I-NOM/I-TOP that-time phantom-NOM see-PASS-S.PAST-DEC
'[I noticed] I saw a phantom at that time.'

b. ??nay-ka/na-nun ku-ttay heskes-ul po-te-la.
I-NOM/I-TOP that-time phantom-ACC see-S.PAST-DEC
'[I noticed] I saw a phantom at that time.'

(22) a. nay-ka/na-nun phiano-soli-ka tul-li-te-la.
I-NOM/I-TOP piano-sound-NOM hear-PASS-S.PAST-DEC
'[I noticed] I heard a piano.'

b. ??nay-ka/na-nun phiano-soli-lul tut-te-la.
I-NOM/I-TOP piano-sound-ACC hear-S.PAST-DEC
'[I noticed] I heard a piano at that time.

According to Y.-J. Kim (1990), the presence of a noun with the accusative case marker *-(l)ul* indicates that the predicate is agentive. In the (a) sentences, the predicates are not agentive, and thus the first-person subjects are not agents, and the sentences are acceptable.[15] In contrast, in the (b) sentences, the predicates are agentive, as evidenced by the accusative-marked theme, and the first-person subjects are agents. So the sentences are unacceptable.

Third, the same contrast observed in (21) and (22) seems to hold with predicates of cognition, as in (23a) versus (23b):

[15] My discussion here assumes an analysis that posits that the first nominal in a double nominative construction is the subject. The notion of subject in Korean is a cause of wide debate and is outside the scope of this thesis. Note that under my revised analysis of the Person Restriction below, it is not necessary to refer to the notion of subject.

(23) a. nay-ka/na-nun ku-uy mal-i ihay(-ka) an-toy-te-la.
I-NOM/I-TOP he-GEN word-NOM understanding-NOM NEG-get-S.PAST-DEC
'[I noticed] I did/could not understand what he said.'

b. ??nay-ka/na-nun ku-uy mal-ul ihayha-ci mos-ha-te-la.
I-NOM/I-TOP he-GEN word-ACC understand-COMP NEG-do-S.PAST-DEC
'[I noticed] I did/could not understand what he said.'

The first-person subject is not an agent in (23b)—as evidenced by the fact that the predicate *toy* 'get, become' does not assign accusative case—and thus the example is acceptable. In contrast, the first-person subject is the agent in (23b)—as evidenced by the accusative case marker on the object—and thus the example is unacceptable.

Likewise, *-te* exhibits the same contrast with psych predicates, as seen in (19) and (15). First compare (19b) with (15b), repeated here:

(19) b. ku-ttay-nun nay-ka mina-ka coh-te-la.
that-time-TOP I-NOM Mina-NOM be.good-S.PAST-DEC
'[I felt] I liked Mina at that time.'

(15) b. ??ku-ttay-nun nay-ka mina-lul coh-aha-te-la.
that-time-TOP I-NOM Mina-ACC be.good-do-S.PAST-DEC
'[I felt] I liked Mina at that time.'

The predicate in (19b) does not allow the accusative case marker, indicating that it is not an agentive predicate. So the first-person subject is not an agent and the sentence is acceptable. On the other hand, the predicate in (15b) allows the accusative case marker, indicating that the subject is an agent, and the sentence is unacceptable. Note that both of the predicates (*coh* 'be good, like' in (19b) and *coh-eha* 'like' in (15b)) are two-place predicates even though they exhibit different case marking.

For (19a) and (15a), the predicates also differ in terms of agentivity, although they are one-place predicates and therefore lack an accusative case-marked argument.

(19) a. ku-ttay-nun nay-ka oylop-te-la.
that-time-TOP I-NOM be.lonely-S.PAST-DEC
'[I noticed] I was lonely at that time.'

(15) a. ??ku-ttay-nun nay-ka mopsi oylow-eha-te-la.
that-time-TOP I-NOM awfully be.lonely-do-S.PAST-DEC
'[I noticed] I was feeling/felt terribly lonely at that time.'

Korean has two types of psych predicates: bare psych predicates (19a) and *-eha* psych predicates (15a), which are derived from the bare psych predicates. Y.-J. Kim (1990) argues that *-eha* is an overt morpheme that turns an internal argument with a patient role into an external argument with an agent role. As a consequence, derived *-eha* psych predicates can license accusative case making and thus denote the activity of 'doing' or 'behaving' one's emotion. This means that *-eha* psych predicates license agentive subjects as in (15a), whereas bare psych predicates, as in (19a), do not. Assuming Kim's analysis is correct, we can consistently predict when the Person Restriction will be lifted: a first person is allowed in a sentence with *-te* if and only if the first person is not an active participant.

This claim raises another question: Is the notion of active participant equivalent to the notion of the thematic role *agent*? If so, then the present analysis cannot account for data like (14b), in which the subject is not an agent but the sentence is still unacceptable.

(14) b. ??nay-ka/na-nun yeyppu-te-la.
I-NOM/I-TOP be.pretty-S.PAST-DEC
'[I saw] I was pretty.'

As discussed in (18), *-te* is allowed when the speaker describes his (her) action or appearance within the context of a larger group. Even sentences like (13b) and (14b) become acceptable when they are used to describe the speaker's action or appearance as

if it were somebody else's. In other words, the sentences are acceptable when the speaker utters them in a detached way as an observer of his (her) own action or appearance. This fact can be illustrated by data like the following:

(24) na-to molu-key (nay-ka) ku-uy cip-ulo kele-ka-te-la.
I-even not.know-ADV I-NOM he-GEN house-toward walk-go-S.PAST-DEC
'[I noticed] I was walking toward his house without knowing it/unconsciously.'
(Gim 1980:77)

Sentence (24) conveys that the speaker suddenly realized (perceived) what (s)he is doing. Although (s)he is the person who is doing the action, (s)he is not consciously or voluntarily involved in the event. This indicates that *-te* is allowed even if the speaker is the agent of the event as long as the action is unconscious or involuntary.[16] Thus the notion we need is not agent, but rather active participant. Thus the notion of the active participant cannot be the same as the notion of agent. Therefore, the Person Restriction should be: The speaker of a *-te* sentence cannot be an active participant but should be a passive perceiver of a given situation. So in (24), the speaker is an involuntary agent, not an active participant. In contrast, in (14b), although the speaker is not an agent, (s)he is already conscious of the situation described by a *-te* sentence and thus he is an active participant, and the sentence is unacceptable.

To summarize what we have observed so far, the suffix *-te* in the main clause indicates the speaker's perception of a specific situation at a specific time. Also the speaker is not an active participant in the situation but rather a passive perceiver. This seems to point to one conclusion: *-te* in main clauses functions as a direct evidential

[16] Noting similar facts, Yu (1981) claims that *-te* denotes objective conveyance of a situation that the speaker is involuntarily involved in, and Gim (1980) claims that *-te* indicates "new recognition or realization".

marker. First, a direct evidential requires something like the Speaker's Personal Observation constraint (9). That is, a sentence with *-te* must express a situation that the speaker witnessed. Second, evidentials often exhibit the Person Restriction.[17] For example, according to Schlichter (1986), Wintu distinguishes between visual and non-visual evidentials. The visual evidential is zero-marked, but the non-visual evidential is marked overtly with the suffix *-nthEr*, which covers hearing, feeling, taste, smell, touch, or any kind of intellectual experience of 'a sixth sense'. The non-visual evidential suffix freely occurs with a third-person subject, but it only occurs with a first-person subject under special conditions.[18] Thus, if *-te* is a direct evidential, then the Person Restriction can be automatically accommodated. Most of all, the speaker of a sentence with *-te* expresses what (s)he perceived at some point in the past, and the perception involves not only the visual sense (see (13) and (14)) but also non-visual senses: hearing, feeling, taste, smell, touch, or any kind of intellectual experience (see (19), (22), and (23)).

4.1.2.3 Is *-te* an evidential marker?

Cinque (1999), following H.-M. Sohn (1994), analyzes the suffix *-te* in main clauses as an evidential marker. In this section, I examine the hypothesis that *-te* is an evidential marker and I argue against it. Givón (2001) suggests the following hierarchies of evidential strength based on cross-linguistic data:

[17] According to Givón (2001:328), in languages with evidentials, a sentence with a first-person subject is often exempted from evidential marking because the marking is redundant, since the speaker is a participant in the event in question. However, the appearance of a first-person subject in a sentence with *-te* is not redundant, but gives rise to ungrammaticality. It may be the case that, depending on the language, first-person subjects are either redundant or unacceptable in evidential sentences.

[18] According to Schlichter (1986:48), for the non-visual evidential suffix *-nthEr* to occur with the first-person subject marker, the speaker must be both the agent of the action expressed by the verb and the patient of the sensation that goes with the action. This is similar but not identical to the condition that I have described for Korean examples in which a first-person subject is allowed in a sentence with *-te*.

(25) Hierarchies of evidential strength[19]

a. Access hierarchy:

Direct sensory experience > Inference > Hearsay

b. Sensory sub-hierarchy:

Vision > Hearing > Others

The higher the term is on the hierarchies in (25), the more likely it will be unmarked semantically and morphologically (Givón 2001:327). Consider the suffix *-te*. It is likely to indicate direct sensory experience in the access hierarchy given in (25a), although it does not make a sub-distinction with respect to the sensory experience (25b), covering non-visual as well as visual sensory experience.

However, the evidential analysis is not without problems. In Korean, although the presence of *-te* may indicate direct evidence, the absence of *-te* does not guarantee indirect evidence. In other words, there is no strict division into direct vs. indirect evidence with respect to the occurrence of *-te*. Furthermore, when *-te* co-occurs with other tense or mood suffixes, the sentence expresses the speaker's inference, which is not a direct evidential meaning, but rather an indirect evidential meaning. For example, a sentence with the anterior form *-ess* and *-te* does not express the meaning of direct evidence (that is, the speaker's witnessing of the event) but rather the speaker's inference based on the result state at a specific time:

[19] Givón suggests three more hierarchies of evidential strength—the spatial deixis hierarchy, the person hierarchy, and the temporal deixis hierarchy. These are not relevant here.

(26) a. mina-ka kewul-ul kkay-ss-te-la.
Mina-NOM mirror-ACC break-PFCT-S.PAST-DEC
'[I found out/infer] Mina broke the mirror.'

b. mina-ka kewul-ul kkay-te-la.
Mina-NOM mirror-ACC break-S.PAST-DEC
'[I saw] Mina broke the mirror.'

Although (26a) contains *-te*, it indicates that the speaker did not witness the actual event of Mina's breaking the mirror but (s)he inferred this (or found it out) later based on the evidence, which can be the result state of the event. In contrast, (26b) clearly indicates that the speaker witnessed the actual event of Mina's breaking the mirror.

A sentence containing the suffix *-keyss* and *-te* expresses the speaker's inference based on his (her) reasoning:

(27) nay-ka ka-keyss-te-la.
I-NOM go-MOD-S.PAST-DEC
'[I inferred] I would go.'

Example (27) containing *-te* does not have the direct evidential meaning, but rather denotes the speaker's inference at a certain past time.

To recapitulate, *-te* in the main clause, in the absence of other tense and mood markers such as *-ess* and *-keyss,* indicates a direct evidential meaning, that is, the speaker's direct perception of the situation described by the sentence. In the presence of *-ess* and *-keyss,* a sentence with *-te* expresses an indirect evidential meaning, that is, the speaker's inference of the event. This indicates that *-te* itself is not an evidential: the very purpose of an evidential system is to distinguish direct and indirect evidence, and thus it is unlikely that both direct evidence and indirect evidence would be expressed by the same morpheme.

4.1.3 *-Te* as a spatial deictic tense.

We have seen so far that, unlike *-te* in attributive clauses, *-te* in main clauses is not a past imperfective, nor is it a direct or indirect evidential. It denotes a certain past time when the speaker either perceived a given event itself or some indirect evidence of the event. I argue that *-te* is a spatial deictic tense (cf. Faller's (2004) spatio-temporal deictic tense). Furthermore, I show that this spatial deictic tense *-te* induces an environment for (direct or indirect) evidentials and that the suffixes *-ess*, *-keyss*, and Ø are actually evidentials (Chung 2004).

4.1.3.1 Speaker's perceptual field and spatial deictic tense.

According to Faller (2004), the suffix *-sqa* in Cuzco Quechua is a spatio-temporal deictic past tense in that it not only denotes a temporally deictic past time but also the speaker's spatial vantage point at that reference time. The suffix *-sqa* entails that the situation in question is outside the speaker's perceptual field at the reference time. Faller defines the perceptual field as follows:

> The perceptual field of a person at the reference time is defined as the set of locations l that (s)he has perceptual access to at the time t, where perception may involve any of the senses, not just sight. …… The perceptual field is a sub-space of the physical space surrounding, and including, the speaker. This definition excludes locations in the surrounding physical space that are too far away for the speaker to perceive, as well as locations of a microscopic size. It also excludes locations that are within the perceptual reach of the speaker but which (s)he is not attending to at time t. (Faller 2004)

In terms of deixis, Faller's notion of speaker's perceptual field corresponds to the range in which the speaker uses deictic expressions such as *here* or *there* and *this* or *that*. When the perceptual field has moved temporally, temporal deictic expressions such as *now* and

then are also induced. Thus, the speaker's perceptual field refers to both spatial and temporal deixis.

Faller argues that *-sqa* is not an evidential but a spatio-temporal deictic past tense that requires the event to take place outside the speaker's perceptual field, from which indirect evidentiality is implicated. She compares *-sqa* with the deictic past tense *-rqa* in the following:

(28) a. Para-sha-**sqa**.
rain-PROG-NX.PAST[20]
p(roposition) = 'It was raining.'
Evidential: the speaker was told/infers *p*

b. Para-sha-**rqa**-n.
rain-PROG-PAST-3
p = 'It was raining.'
Implicated evidential: the speaker saw that it was raining. (Faller 2004)

Sentence (28a) with *-sqa* conveys that the raining event occurred outside the speaker's perceptual field at a specific past time. So (28a) implies that the speaker either was told that it rained or that (s)he inferred that it rained based on a result of the raining event, such as the streets being wet. In contrast, (28b) with the evidentially-neutral past tense *-rqa* implicates that the speaker saw the raining event.

In order to analyze this spatial meaning of *-sqa* as well as its temporal meaning, Faller (2004) proposes two spatio-temporal trace functions, called the event trace function *e-trace* and the speaker's perceptual trace function *P-trace*.[21] *E-trace* maps an eventuality onto its time-space coordinates, and its output is the 'run-time-space' of the eventuality. On the other hand, *P-trace* maps a person, i.e. the speaker, onto his (her)

[20] NX.PAST indicates 'non-experienced past' (Faller 2004).
[21] *P-trace* is based on the notion of path function (Verkuyl and Zwarts 1992).

perceptual field for each time during his (her) run-time $\tau(sp)$ (that is, his (her) life span). The definitions of the spatio-temporal traces of an event and a speaker's perceptual field are given in (29):

(29) a. $e\text{-}trace(e) = \{<t, l> \mid t \subseteq \tau(e) \wedge \text{AT}(e, t, l)\ \}$

AT(e, t, l) is true iff the eventuality e takes place at location l at time t.

b. $P\text{-}trace(sp) = \{<t, l> \mid t \subseteq \tau(sp) \wedge \text{PERCEIVE}(sp, t, l)\ \}$

PERCEIVE(sp, t, l) is true iff the speaker sp perceives location l at time t.[22]

E-trace in (29a) indicates a set of pairs of time t and location l such that t is a subset of the run-time of the eventuality e ($\tau(e)$) and e takes place at l at t, which is the run-time-space of an eventuality. *P-trace* in (29b) indicates a set of pairs of time t and location l such that t is a subset of the run-time of the speaker sp (that is, the speaker's life span), and sp perceives l at t, which gives us the run-time-space of a speaker's perceptual field. For *-sqa*, there is no overlap between these two traces—*e-trace* and *P-trace*— at the past reference time, as defined in (30):

(30) Meaning of *-sqa*:

-sqa: $\lambda t_R\,.\,\lambda P.\,\lambda e\,.\,P(e)\ \wedge\ t_R < \text{now}\ \wedge$

$\forall <t, l> [\ t \subseteq t_R\ \wedge <t, l> \in\ e\text{-}trace(e)$

$\rightarrow <t, l> \notin\ P\text{-}trace(sp)$ (Faller 2004:30)

The meaning of *-sqa* is illustrated in Figure 1 (Faller 2004):

[22] In order to accommodate cases in which the speaker perceived an event but does not remember it, Faller (2004) subsequently revises *P-trace* to *mP-trace*, which makes use of the notion of *m(emory)*-perception, modeled on Garrett's (2000) notion of *m(emory)*-demonstrative thought.

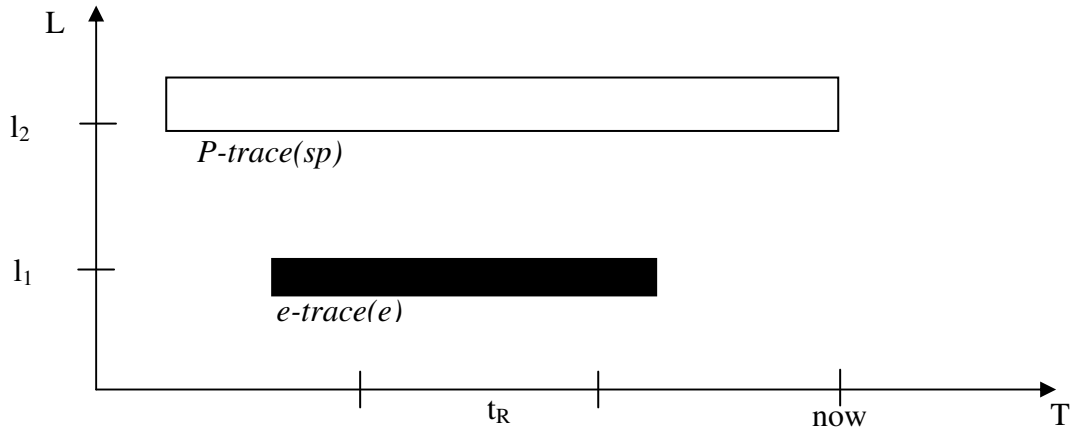

Figure 1: Time-space diagram of *e-trace* and *P-trace*

Here the white strip indicates *P-trace*(*sp*), i.e. the speaker's perceptual field, and the black strip the *e-trace(e),* i.e. the event trace. *-Sqa* requires that *e-trace(e)* is not contained in *P-trace*(*sp*) at the reference time.

4.1.3.2 *-Te* as another spatial deictic tense.

Like the Quechua suffix *-sqa*, main clause *-te* refers to the speaker's spatial deictic vantage point as well as a temporal deictic past time. Also *-te*, like *-sqa*, shows some evidential effects. However, there is one important difference between *-sqa* and *-te*. *-Sqa* entails that the described event is outside the speaker's perceptual field, whereas *-te* allows the event to occur within the speaker's perceptual field.

Let us consider the following Korean data:

(31) a. mina-ka kewul-ul kkay-te-la.
Mina-NOM mirror-ACC break-S.PAST-DEC
'[I saw] Mina broke the mirror.'

b. mina-ka kewul-ul kkay-**ss**-te-la.
Mina-NOM mirror-ACC break-PFCT-S.PAST-DEC
'[I found out] Mina broke the mirror.'

c. mina-ka kewul-ul kkay-**keyss**-te-la.
Mina-NOM mirror-ACC break-MOD-S.PAST-DEC
'[I inferred] Mina would break the mirror.'

Sentence (31a) conveys that the speaker witnessed the event of Mina's breaking the mirror, implying that it occurred within the speaker's perceptual field, whereas (31b) and (31c) convey that the speaker did not witness the event, indicating that it occurred outside the speaker's perception. In a sentence with *-te* then, the event can occur either within (31a) or outside the speaker's perceptual field ((31b) and (31c)). This means that for *-te*, the event time does not necessarily have a direct relation to the speaker's perceptual field, as *-sqa* does. Thus the denotation of *-te* cannot be defined by the relation between the speaker's perceptual field and the event in question.

The sentences (31a), (31b), and (31c) indicate different types of evidence with respect to a given event at the past time. (31a) indicates that the speaker witnessed the event at the reference time, (31b) with *-ess* indicates that the speaker inferred the event based on evidence at the reference time, and (31c) with *-keyss* indicates that the speaker inferred the event based on his (her) reasoning at the reference time. According to Anderson (1986:274), an evidential shows the kind of justification for a factual claim that is available to the speaker: whether the claim is made based on (i) direct evidence plus observation (no inference needed), (ii) evidence plus inference, (iii) inference (evidence unspecified), or (iv) reasoned expectation from logic and other facts. Sentences like (31a) indicate direct evidence plus observation (i), sentences like (31b) evidence plus inference (ii), and sentences like (31c) possibly inference (iii) or reasoned expectation from logic and other facts (iv). What these sentences have in common is that they all express some evidence of the event in question at the past reference time.

Therefore, I argue that for *-te*, the evidence of an event, whether it is direct or indirect, relates to the speaker's perceptual field, and thus *-te* conveys that the evidence is within the speaker's perceptual field. The event is indirectly related to the speaker's perceptual field via evidentials. As observed in (31a), in the absence of other tense, aspect, or mood markers, a sentence with *-te* conveys that the speaker witnessed the event under consideration, whereas in the presence of those markers, the sentence conveys that the speaker infers the event based on the result state and his (her) reasoning. In order to account for this property, I propose an evidence time $\tau(v)$ and an evidence trace function, in addition to Faller's (2004) notion of speaker's perceptual trace.

Before defining the semantics of *-te*, we need to examine whether or not Faller's notion of the speaker's perceptual field is sufficient to account for sentences with *-te*. As mentioned above, the perceptual field is a sub-space of the physical space surrounding the speaker, excluding such locations within the perceptual range of the speaker but not receiving his (her) attention at the reference time (Faller 2004). *-Te* requires that the speaker should be a passive perceiver—not an active participant in the situation that (s)he perceived at the reference time. Faller's notion of the perceptual field can account for this requirement. Perception is more a passive cognitive behavior than a voluntary action. That is, as long as one's five senses are intact, one perceives things unintentionally.[23] Another argument is that, as argued above, active participants are 'conscious and voluntary', and if one is already conscious and aware of the situation in question, one

[23] English perception verbs such as *see* and *hear* do not appear as progressives in their truly involuntary perceptual meanings, since progressives typically have connotations of dynamism and volition (cf. Smith 1997:171).

need not perceive it at the reference time, i.e. the situation is no longer a target of perception.[24]

Extending the idea of the trace function, I suggest that there are of two types of trace functions—a temporal trace function τ and a spatio-temporal trace function $\boldsymbol{T}$. The temporal trace function τ maps an entity to its temporal trace, whereas the spatio-temporal trace function $\boldsymbol{T}$ maps an entity to its time-space coordinates. The suffix *-te* in the main clause requires the following three temporal trace functions and three spatio-temporal functions:

(32) Temporal trace functions that map an entity to their temporal trace.

a. $\tau(e)$: run-time of the eventuality *e* (Krifka 1989)

b. $\tau(s)$: run-time of the speaker *s* (= speaker's lifespan)

c. $\tau(v)$: run-time of the evidence *v* of the eventuality *e* (*v* is either direct evidence or indirect evidence)

(33) Spatio-temporal trace functions that map an entity onto its time-space coordinates.

a. $\boldsymbol{T}(e) = \{<t, l> \mid t \subseteq \tau(e) \wedge \text{AT}(e, t, l)]\}$

AT(e, t, l) is true iff eventuality *e* takes place at location *l* at time *t*.

: run-time-space of the eventuality *e*

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[24] However, there is a problem with the notion of physical space because a sentence with *-te* can be used to describe the speaker's dream:

(i) mina-ka kkwum-eyse kaswu-ka toy-te-la.
Mina-NOM dream-LOC singer-NOM become-S.PAST-DEC
'[I saw] Mina became a singer in my dream.'

If dreams are also part of perception, then the perceptual field is more of a matter of the mental than the physical domain. I do not have an analysis for this at the moment.

b. $\mathcal{T}(s) = \{<t, l> \mid t \subseteq \tau(s) \wedge \text{PERCEIVE}(s, t, l)\}$

PERCEIVE(s, t, l) is true iff the speaker s perceives location l at time t.

: run-time-space of speaker's perceptual field

c. $\mathcal{T}(v) = \{<t, l> \mid t \subseteq \tau(v) \wedge \text{AT}(v, t, l)]\}$

AT(v, t, l) is true iff evidence v appears at a location l at time t.

: run-time-space of the evidence v of the eventuality

The event trace $\mathcal{T}(e)$ in (33a) indicates a set of pairs of time t and location l such that t is a subset of the run-time of the eventuality e ($\tau(e)$) and eventuality e takes place at l at t, which is run-time-space of the eventuality e (Faller's *e-trace*(e)). The speaker perceptual trace $\mathcal{T}(s)$ in (33b) indicates the speaker's perceptual trace, which is the same as Faller's *P-trace*(*sp*). The evidence trace $\mathcal{T}(v)$ in (33c) indicates a set of pairs of time t and location l such that t is a subset of the run-time of the evidence v of e ($\tau(v)$) and evidence v appears at l at t, which is run-time-space of the evidence of a given eventuality.

I claim that *-te* refers to a certain past time when the speaker perceived the evidence of the event, i.e. the time when the speaker's perceptual trace $\mathcal{T}(s)$ overlaps the evidence trace $\mathcal{T}(v)$. Thus the past time serves as a deictic vantage point (there and then) for evidentials and is 'temporally and spatially shifted here and now.' I suggest that the meaning of the past time reference and the overlap between the speaker's perceptual trace and evidence trace are the presupposition of *-te*. This is demonstrated when the sentence in (31b) is negated:

(31b′) mina-ka kewul-ul an-kkay-**ss**-te-la.
Mina-NOM mirror-ACC NEG-break-PFCT-S.PAST-DEC
'[I found out] Mina did not break/has not broken the mirror.'

(34) It is the case that at the contextually salient past time *t*, I perceived that there was **no** prior event such that Mina broke the mirror.

NOT: It is **not** the case that at the contextually salient past time *t*, I perceived that there was a prior event such that Mina broke the mirror.

The correct interpretation in (34) shows that the meaning of the overlap between the speaker's perceptual trace and the evidence trace at a specific past time cannot be negated, indicating that it is not part of the assertion.

Thus, *-te* is a deictic (indexical) tense, but it differs from regular deictic tenses in that it requires reference not only to time but also to space, i.e. the speaker's perceptual field. In contrast, regular deictic past tenses, like *-essess*, do not require reference to the speaker's perceptual field. Thus, in comparison to the definition of the simple deictic tense (35a), I define *-te* in the main clause as a spatial deictic tense (35b):

(35) a. Simple deictic past tense

[[PAST]]^{g,c} is only defined if *c* provides an interval $t < t_0$.

If defined, then [[PAST]]$^{g,c} = t$. (Kratzer 1998)

b. Spatial deictic past tense: *-Te* in the main clause

[[*-te*]]^{g,c} is only defined if *c* provides an interval $t < t_0 \wedge$

$$\exists\langle t', l\rangle [\, t' \subseteq t \wedge \langle t', l\rangle \in \mathcal{T}(s) \cap \mathcal{T}(v)].$$

If defined, then [[*-te*]]$^{g,c} = t$.[25]

[25] Thanks to Lisa Matthewson and Chung-hye Han for their helpful comments on this definition.

The definition of the simple past tense in (35a) has only one condition: the time interval is located in the past. In contrast, the definition of the spatial deictic tense in (35b) has not only the above condition but also a second condition: there should be at least one subinterval of the past time when the speaker perceived the evidence of the event described by the sentence.

4.2 *-Ney* as the spatial deictic present tense.

In this section, I show that *-te* is not the only spatial deictic tense that triggers an evidential environment: the sentence-final suffix *-ney* is also a spatial deictic tense. I claim that *-ney* is on a par with *-te* as a spatial deictic tense that induces an evidential environment, but they differ in that *-ney* refers to the utterance time, while *-te* refers to a past time:

(36) a. mina-ka pap-ul mek-**te-**la.
Mina-NOM meal-ACC eat-S.PAST-DEC
'[I saw] Mina was eating.'

b. mina-ka pap-ul mek-**ney**.
Mina-NOM meal-ACC eat-S.PRES
'[I see] Mina is eating.'

According to H.-S. Lee (1993a), *-ney* and also *-kwun* are epistemic modal suffixes that convey the speaker's spontaneous reaction to what was perceived. Thus, they both indicate 'newly perceived information', which contrasts with 'the speaker's old knowledge'. However the two suffixes differ in that *-ney* can only express what the

speaker has just perceived at the present moment (unexpectedly),[26] while *-kwun* can express either what the speaker perceives at the present moment or what the speaker perceived in the past. Furthermore, newly perceived information conveyed by *-ney* is more factual and definite than that conveyed by *-kwun* (K.-H. Chang 1985, H.-S. Lee 1993a).

(37) a. kan-i nappu-si-**kwun**-yo.
liver-NOM be.bad-HON-EXCLM[27]-DEF
'[It looks like] you have a problem with your liver.'

b. kan-i nappu-si-**ney**-yo.
liver-NOM be.bad-HON-S.PRES-DEF
'[It turns out that] you have a problem with your liver.'

(H.-S. Lee 1993a:148)

Sentence (37a) is likely to be a doctor's diagnosis after a simple description of symptoms by the patient, whereas (37b) is a diagnosis after careful examination. Thus, H.-S. Lee (1993a) defines *-kwun* as an unassimilated marker because it conveys 'consciously known but not assimilated information', which contrasts with assimilated information that has already become an integral part of the speaker's existing body of knowledge. In contrast, he defines *-ney* as a factual realization marker and categorizes it as 'immediate'.[28] S.-J. Choi (1995) gives a similar definition of *-ney*: it is an epistemic

[26] DeLancey (2001) uses a term 'mirative' for information that is new and unexpected to the speaker. According to him (2001:369), evidentials and miratives are distinct in that evidentiality refers to the grammatical marking of the source for a proposition, whereas mirativity refers to the marking of a proposition as representing information that is new or unexpected to the speaker. However, for the opposite view that mirativity is a part of the category of evidentiality, refer to Lazard (1999).

[27] Suh (1996) treats *-kwun* as an exclamatory ending that expresses the speaker's reaction (usually surprise) to a new finding.

[28] According to Nichols (1986:250), the category 'immediate' expresses a spontaneous and immediate reaction by the speaker to newly perceived information.

modal suffix that indicates that information conveyed by the sentence is based on factual evidence.

The definitions given above seem to indicate that *-ney* has something to do with evidentiality. Let us consider the following data:

(38) a. mina-ka kewul-ul kkay-**ney.**
Mina-NOM mirror-ACC break-S.PRES
'[I see] Mina is breaking the mirror(s).'

b. mina-ka kewul-ul kkay-**ss**-**ney**.
Mina-NOM mirror-ACC break-PFCT-S.PRES
'[I see] Mina has broken the mirror(s).'

c. mina-ka kewul-ul kkay-**keyss**-**ney**.
Mina-NOM mirror-ACC break-MOD-S.PRES
'[I infer] Mina will break the mirror(s).'

We see that a sentence-final suffix *-ney* co-occurs with the suffixes *-ess* and *-keyss*, expressing evidential meanings. Sentence (38a) conveys that the speaker is witnessing the on-going event of Mina's breaking the mirror(s) at the utterance time, whereas (38b) conveys that the speaker infers the event based on the result situation and (38c) conveys that the speaker does so based on his (her) reasoning. The only difference is that, unlike sentences with *-te*, sentences with *-ney* take 'here and now' as the reference time (or the vantage point) for evidentials.

In this respect, we can say that (38a) containing only *-ney* is uttered based on the event that the speaker is perceiving (witnessing) at the moment, (38b) with *-ess* and *-ney* is based on the result state, and (38c) with *-keyss* and *-ney* is based on the speaker's inference grounded on the relevant facts, which is the conversational background of the epistemic marker *-keyss*. The evidential meanings of these three forms are exactly the

same as those of forms with *-te,* except for the time difference (see (31)). Thus, *-ney* is on a par with the spatial tense *-te*.

Let us examine whether or not *-ney* is really the counterpart of the spatial deictic past tense *-te*. First, consider direct evidence cases. A sentence with *-ney* observes the Speaker's Personal Observation Constraint, which, as discussed above, *-te* also observes.

(39) a. pusan-ey-nun cikum nwun-i o-**ney**.
Pusan-LOC-TOP now snow-NOM come-S.PRES
'[I see] it is snowing in Pusan.'

b. pusan-ey-nun cikum nwun-i o-n-**ta**.
Pusan-LOC-TOP now snow-NOM come-PRES.IMPF-DEC
'It is snowing in Pusan.'

Sentence (39a) with *-ney* is uttered only when the speaker is observing (or perceiving) the event of snowing in person or on TV at the utterance moment, whereas (39b) with the declarative suffix *-ta* can be uttered as long as (s)he has a valid ground for his or her claim, even if (s)he is not witnessing the event at the moment. Thus, a sentence with *-ney* observes the Speaker's Personal Observation Constraint, as does a sentence with the suffix *-te*. Present-tense sentences with the declarative suffix *-ta* are neutral with regard to this constraint.

According to the Person Restriction, as discussed in Section 4.1.2.1, the subject of a sentence with *-te* cannot be first person (see examples (13) and (14)). The following examples show that *-ney* also obeys this restriction:

(40) a. mina-ka/nun hakkyo-ey ka-ney.
Mina-NOM/TOP school-LOC go-S.PRES
'[I see] Mina is going to school.'

b. ??nay-ka/na-nun hakkyo-ey ka-ney.
I-NOM/I-TOP school-LOC go-S.PRES
'[I see] I am going to school.'

(41) a. mina-ka/nun yeyppu-ney.
Mina-NOM/TOP be.pretty-S.PRES
'[I see] Mina is pretty.'

b. ??nay-ka/na-nun yeyppu-ney.
I-NOM/I-TOP be.pretty-S.PRES
'[I see] I am pretty.'

The (a) sentences, with third-person subjects, are grammatical, whereas the (b) sentences, with first-person subjects, sound very odd unless the speaker utters them in a detached way as an observer of his (her) own action or appearance (see (24)). In addition, when a sentence with *-ney* has a first-person subject, an unaccusative predicate is acceptable (42a) but an unergative predicate is not (42b):

(42) a. nay-ka nwunmwul-i nao-ney.
I-NOM tear-NOM come.out-S.PRES
'[I see] I have tears coming to/out of my eyes.'

b. ??nay-ka wu-ney.
I-NOM cry-S.PRES
'[I see] I am crying.'

Note that this difference was also observed in sentences with *-te* (20). Likewise, when the subject is first person, sentences with *-ney* exhibit a contrast in acceptability with verbs of cognition, just as sentences with *-te* do (see (23)):

(43) a. na-nun ku-uy mal-i ihay(-ka) an-toy-ney.
I-TOP he-GEN word-NOM understanding-NOM NEG-get-S.PRES
'[I see] I do not understand what he has said.'

b. ??na-nun ku-uy mal-ul ihayha-ci mos-ha-ney.
I-TOP he-GEN word-ACC understand-COMP NEG-do-S.PRES
'[I see] I do not understand what he has said.'

We see that (43a) with no accusative object is acceptable but (43b) with an accusative object is not. The data so far show that when there is no other tense or modal form, *-ney* has the same direct evidential interpretation as the spatial deictic tense *–te*, except for the time reference.

Let us consider indirect evidential sentences like (38b) with *-ess*. Compare (38b) with *-ney* to (44) with the declarative form *-ta*:

(38) b. mina-ka kewul-ul kkay-**ss**-**ney**.
Mina-NOM mirror-ACC break-PFCT-S.PRES
'[I see] Mina has broken the mirror(s).'

(44) mina-ka kewul-ul kkay-ss-**ta**.
Mina-NOM mirror-ACC break-PFCT-DEC
'Mina has broken/broke the mirror.'

Sentence (38b) conveys that the speaker did not see the event, that is, it has an indirect evidential meaning. However, (44) does not necessarily have this meaning, that is, it is neutral with respect to the speaker's witness. Also sentences containing *-keyss* denote different meanings depending on the sentential ending:

(45) a. cey-ka ka-keyss-ney-yo.
I.HON-NOM go-MOD-S.PRES-DEF
'[I see/infer] I will go.'[29]

[29] Sentence (45a) is possible in the following situation: someone will be chosen from among a group of people including the speaker to go to a certain place, and the speaker in fact thinks that it is he or she who will be chosen to go.

b. cey-ka ka-keyss-e-yo.[30]
I.HON-NOM go-MOD-DEC-DEF
'I will go'. Or '[I infer] I will go.'

Sentence (45a) with *-ney* expresses the speaker's inference, whereas (45b) with the declarative suffix *-e* expresses either the speaker's inference or the speaker's volition, which does not indicate an evidential interpretation.[31] Moreover, (45b) has a strong preference for an interpretation involving the speaker's volition over the speaker's inference. Thus, the suffix *-ney* induces an evidential environment just like the spatial deictic tense *-te* does. This is the same phenomenon seen in (27) with *-te*.

To summarize, *-ney*, like *-te*, induces evidential meanings when used with the suffixes *-ess* and *-keyss,* and also observes constraints like the Person Restriction. However, in the case of *-ney*, the speaker's perception time is at the utterance time. Thus I

[30] The sentential ending *-ney* does not take the declarative mood form *-ta,* but rather is in complementary distribution with *-ta*. With the deference particle *-yo*, which is used for politeness, *-ta* does not sound natural. Rather, the suffix *-e*, which is another declarative (assertive) suffix used in colloquial speech, is more natural.

[31] When *-keyss* occurs with *-ney* and without the deference particle *-yo*, it is ambiguous:

(i) nay-ka ka-keyss-ney.
I-NOM go-MOD-S.PRES
'I will go.' Or '[I see/infer] I will go.'

Sentence (i) denotes either the speaker's inference or volition. The two readings in (i) do not have the same intonation contour, however: the inferential reading has a rising tone in the end while the volitional reading has a falling tone in the end. This suggests that there are, in fact, two distinct *-ney* suffixes.

Evidence for this comes from data with the deference particle *-yo*. The spatial deictic tense *-ney* can take the deference particle, as in (45a), whereas the suffix *-ney* in the volitional context refuses it. In fact, according to H.-M. Sohn (1994:341), the second suffix is actually the familiar speech style ending *-n-ey*, which is a variant of the plain style ending *-(nu)n-ta* (the combination of the present imperfective form and the declarative mood form) and *-e/a-yo* as the deferential (polite) style ending is also a variant. This explains why the *-ney* of the volitional reading refuses the deferential form *–yo*: it is in complementary distribution with *-yo*. However, the spatial deictic tense *-ney* of the inferential reading is completely different from *-yo*, and thus it can occur with *-yo*, as in (45a).

conclude that *-ney* is a spatial deictic present tense, which is on a par with the spatial deictic past tense *-te*.

4.3 Conclusion

I have argued that *-te* is not a past imperfective, nor an evidential, but a spatial deictic past tense that induces an evidential environment. In addition, I have argued that *-ney* is the present counterpart of *-te*. Thus, I have shown that Korean has two spatial tense forms—the spatial deictic present tense *-ney* and the spatial deictic past tense *-te*. As a consequence, Korean has two distinct types of deictic (indexical) tenses: simple deictic tense and spatial deictic tense. They differ in that the latter necessarily requires reference to spatial locations or to the speaker's own perceptual field but the former does not. Thus, Korean has two types of present-tense forms and two types of past-tense forms, as shown in Table 3:

Table 3. Korean Tense System

	SIMPLE DEICTIC TENSE	SPATIAL DEICTIC TENSE
PRESENT	*-nun* or Ø	*-ney*
PAST	*-essess*	*-te*

The discussion so far leads me to propose that the Korean tense system is bidirectional: on the one hand, it is purely based on time (cf. the simple deictic tenses and aspects), and on the other, it is based on time **and** space (cf. the spatial deictic tenses and evidentials). In other words, Korean tense/aspect/mood morphology makes use of two distinctions: a distinction based on simple deictic tense and aspect on the one hand and a

distinction based on spatial deictic tense and evidentiality on the other hand.[32] Thus, simple deictic tenses provide a vantage point for regular aspects or moods, whereas spatial deictic tenses provide a vantage point for evidentials. The spatial deictic tenses are tenses that contain some information concerning evidentiality, i.e. the overlap relation between the speaker's perceptual field and the evidence of the event, which necessarily connects a spatial deictic tense to one of the evidential forms. Thus, the spatial deictic tenses, *-ney* and *-te*, play a leading role in the in Korean evidential system, although the type of evidentiality is determined by the following morpheme.

One implication of this analysis is that Korean data shows that mirativity is a part of the larger system of evidentiality. *-Ney* is used to convey that information is new and unexpected to the speaker and thus can be defined as a mirative marker in the sense of DeLancey (2001). In Korean, evidential sentences express mirativity when the reference

---

[32] My analysis predicts that the simple deictic tense and the spatial deictic tense cannot co-occur. The following data show that the combination of *-essess* and *-te* sounds odd and, even if it is allowed, it means the same as the combination of the simple *-ess and -te*.

(i) mina-ka ttena-ss-te-la/ ??ttena-ssess-te-la.
Mina-NOM leave-PFCT-S.PAST-DEC/ leave-PAST-S.PAST-DEC
'[I noticed] Mina had left.'

However, data with the verb *ka* 'go' seem to be an exception. *ka* with *-essess* is much better than the *–essess* version of example (i) and furthermore has a slightly different meaning than (iii) with *ka* and *-ess*:

(ii) mina-ka pwusan-ey ka-ess-te-la.
Mina-NOM Pusan-to leave-PFCT-S.PAST-DEC
'[I noticed] Mina had gone.'

(iii) ?mina-ka pwusan-ey ka-ssess-te-la.
Mina-NOM Pusan-to ka-PAST-S.PAST-DEC
'[I noticed] Mina went.'

While (ii) conveys that Mina had gone to Pusan and is back at the past reference time, (iii) conveys that Mina is not yet back at the reference time. One possible account is that the combination *ka-ssess* has changed into an idiomatic expression meaning similar to the English phrase *have been to*.

time is at the utterance time, i.e. when the sentence takes the spatial deictic present *-ney*. Thus Korean system corresponds to the Balkan-West Asian languages in which, according to Lazard (1999), mirativity and evidentiality are intertwined in a single evidential system.

In the next chapter, I discuss evidential forms in Korean and show that the same morphemes manifest different roles in different environments. That is, morphemes like *-ess* or *-keyss* function as simple tenses, aspects, or moods (non-evidentials) or as evidentials, depending on whether they occur with a simple deictic tense or a spatial deictic tense.

Chapter 5: Evidentials in Korean

We have observed that Korean makes use of two distinct tense systems—a simple deictic tense system and a spatial deictic tense system. Furthermore, Korean has an evidential-based distinction with spatial deictic tense. I argued in the previous chapter that *-te*, despite claims in the literature, should not be treated as an evidential, even though it induces evidential meaning. In contrast, the suffixes *-ess* and *-keyss* do function as evidentials.

After briefly reviewing the typological literature on evidentials, I show that Korean has three types of evidentials—the direct, the inferential indirect, and the reportative indirect. My account not only shows what the evidentials have in common and how they differ, but also it relates them to non-evidential uses of the same suffix. Each form has a role in the tense, aspect, or mood system of Korean. In addition, I provide an analysis of the semantics of their evidential uses in conjunction with the semantics of their non-evidential uses.

Finally, I examine why Korean makes use of two distinct systems—a regular tense and aspect system and the evidential system. In other words, what is the purpose of exploiting two distinct systems: what is the basic difference that underlies evidential sentences and non-evidential sentences? I provide a solution in terms of speech acts. I show that, unlike non-evidential (declarative) sentences, evidential sentences do not express assertive speech acts, but rather presentative speech acts (cf. Faller 2002). Moreover, even direct evidential sentences in Korean do not express the speaker's commitment to the truth of the proposition described by the sentences.

5.1 Evidential typology.

Before launching into my study of the Korean evidential system, I briefly review the typology of evidentials based on the cross-linguistic research. Evidentials were defined and illustrated in Chapter 4. As Aikhenvald (2004:xii) notes, about a quarter of the world's languages have evidentials as a grammatical category. Most languages with evidentials have several of them (from two to six) forming a system dividing up the nature of the evidence. The issue then becomes, do evidentials in the languages of the world fall into types and are these organized hierarchically?

Willett (1988) looked at thirty-eight languages from around the world[1] and observed that languages tend to differentiate three general kinds of evidence: Direct (Attested), Reported, and Inferring evidence, where Direct evidence contrasts with two main types of indirect evidence—Reported and Inferring evidence—and each type can be sub-divided, as follows:

(1) Types of Evidence (Willett 1988:57)

Direct	Indirect	
|	/	\
Attested	Reported	Inferring
|	|	|
Visual	Second-hand	Result
Auditory	Third-hand	Reasoning
Other sensory	Folklore	

Willett (1988:96) defines each category as follows:

[1] The languages were chosen primarily from areas of the world known to have grammatical evidential marking: the western U.S., the Himalayas, and the area around the Black Sea. They also include several languages in other parts of the U.S., Mexico, and South America, and a few languages in East Asia and Africa.

(2) The meanings of grammatical evidentials

A. Direct: the speaker claims to have perceived the situation described without any specification of any kind of sensory evidence.

i) Visual: the speaker claims to have seen the situation described.

ii) Auditory: the speaker claims to have heard the situation described.

iii) Other sensory: the speaker claims to have physically sensed the situation. This may be viewed as in opposition to one or both of the above senses.

B. Indirect: the speaker claims not to have perceived the situation described, but may not specify the source of the evidence.

a. Reported: the speaker claims to know of the situation via verbal means.

i) Second-hand: the speaker claims to have heard about the situation described from someone who is a direct witness.

ii) Third-hand: the speaker claims to have heard about the situation, but not from a direct witness.

iii) Folklore: the speaker claims that the situation described is part of established oral history.

b. Inferring: the speaker claims to know of the situations described only through inference, but may not specify whether such inference is based on observable results or solely on mental reasoning.

i) Inference from results: the speaker infers the situation described from the observable evidence (i.e. from perception of the results of the causing event or action).

ii) Inference from reasoning: the speaker infers the situation described on the basis of intuition, logic, a dream, previous experience, or some other mental construct.

According to Willett, if a language has one direct evidential marker, it is usually the marker of the general direct evidence without specifying the type of sensory evidence; if a language has more than one direct evidential marker, then it is usually the case that the markers indicate different sensory experiences: one for visual sensory experience, one for

auditory sensory experience, and one for other sensory experience.[2] Similarly, if a language has one indirect evidential, it either marks both Reported and Inferring evidential or marks only Reported or only Inferring evidential. If a language has two indirect evidentials, it is likely to make a distinction between Reported and Inferring evidential.

As I will show below, Korean is an evidential language with all three evidential types—Direct, Inferring, and Reported evidentials. A sentence with a spatial deictic tense expresses either a direct evidential meaning or an inferential indirect evidential meaning. Moreover, Korean also overtly marks different types of reported evidence.

However, Willett's taxonomy does not fully account for the evidential system in Korean. Rather the Korean data support Faller's (2002) proposal of two independent scales of evidentiality—the Personal Evidence Cline and the Mediated Evidence Cline:

(3) Two scales of evidentials (Faller 2002:228)

a. Personal Evidence Cline:

Performative > Visual > Auditory > Other sensory >
Inference from results > Reasoning > Assumption

b. Mediated Evidence Cline:

(Direct) > Second-hand > Third-hand > Hearsay/Folklore

These two scales make use of different ordering criteria for evidentials. The elements in the Personal Evidence Cline are ordered according to the amount of inference involved in arriving at a statement. On the other hand, those in the Mediated Evidence Cline are

[2] According to Willett (1988:59), most languages that mark direct evidence do not specify as to different sensory types. Languages that have two direct evidential forms are likely to distinguish between the visual sense and other senses.

ordered according to the number of intervening speakers: with Second-hand evidence, there is one intervening speaker; with Third-hand, two; with Hearsay and Folklore, an unspecified number of intervening speakers.

In the subsequent sections of this chapter, I develop an analysis of the evidential system of Korean, showing how various tense, aspect, mood markers function to supply evidential meaning. Faller's terminology helps to organize this discussion by providing definitions and formal mechanisms for the analysis of evidentials.

5.2 The spatial deictic tense and evidentials.

In Chapter 4, I argued that main clause *-te* is not an evidential marker but rather a spatial deictic past tense that provides a vantage point for evidential forms and that *-ney* is the present counterpart of *-te*. In this section, I show that *-ess* and *-keyss* serve as true evidential forms. In addition, evidentiality is sometimes conveyed without any overt morphology, and I refer to this as the zero (Ø) evidential, as argued in the next section. Furthermore, I show that these forms, *-ess, -keyss,* and Ø, serve two distinct functions, as tense/aspect/mood markers or as evidentials, depending on the presence (or absence) of spatial deictic tense. I also show that their definitions consist of a temporal, an evidential, and a modal component. In particular, I focus my discussion on the suffix *-ess*, which I have defined as an anterior (perfect), claiming that it has three meaning components—a prior event, its consequent state, and an epistemic modal of necessity. *-Ess* when functioning as an evidential shares these three core meanings. However, I show that the two functions of the suffix *-ess* differ in how those three meaning components are combined. First, I focus on the evidential and temporal components in Section 5.2.1, and then discuss the modal component in 5.2.2.

5.2.1 Evidentials: *-ess*, *-keyss, and* Ø.

In this section, I discuss the issue of whether or not Korean has true evidential markers as distinct grammatical forms, and if so, what the evidential morphemes and their denotations are. I argue that *-ess* and *-keyss*, together with the zero form Ø, are ambiguous between evidentials and non-evidentials, and show how their evidential definitions differ from their non-evidential definitions. On the other hand, I show that those suffixes have core meanings that they share as an evidential and as a non-evidential, which explains their connections as semantic ambiguity, not as just lexical ambiguity.

Let us review some examples with *-te* from Chapter 4:

(4) a. mina-ka kewul-ul kkay-te-la.
Mina-NOM mirror-ACC break-S.PAST-DEC
'[I saw] Mina broke the mirror.'

b. mina-ka kewul-ul kkay-**ss**-te-la.
Mina-NOM mirror-ACC break-PFCT-S.PAST-DEC
'[I found out] Mina broke the mirror.'

c. mina-ka kewul-ul kkay-**keyss**-te-la.
Mina-NOM mirror-ACC break-MOD-S.PAST-DEC
'[I inferred] Mina would break the mirror.'

As discussed above, these examples convey the source of the evidence of a past event. Sentence (4a) implies that the speaker witnessed the event at the reference time, i.e. a direct evidential meaning. In contrast, (4b) and (4c) both indicate an indirect evidential meaning. (4b) with *-ess* expresses that the speaker inferred the event based on evidence at the reference time, while (4c) with *-keyss* expresses that the speaker inferred the event based on his (her) reasoning at the reference time. Since all the three sentences share the suffix *-te*, the meaning difference comes from the presence or absence of the suffixes *-ess*

and *-keyss*. Without any of these suffixes, a sentence with *-te* expresses a direct evidential meaning, leading me to posit a phonologically-zero direct evidential Ø.

Therefore, Korean has a morphologically zero-marked direct evidential as well as two indirect evidential markers (*-ess* and *-keyss*), each of which plays two roles—one as an evidential and the other as a tense, an aspect, or a mood form. I defined *-ess* as an anterior (perfect) form in Chapter 2 (65b). The epistemic mood marker *-keyss*, as an evidential, denotes that the speaker infers the event in question, which may follow or concur with the reference time.[3] The zero evidential Ø denotes that the reference time is included in or overlaps the event time, indicating imperfectivity.[4] An advantage of this analysis is that the proposed evidential forms are consistent with the cross-linguistic pattern that direct evidentials tend to be morphologically unmarked, as discussed in Section 4.1.2.3. In what follows, I discuss the evidential definitions of the three suffixes, focusing on their meanings as evidentials, i.e. meanings concerning the speaker's witness.

5.2.1.1 Defining the evidential meanings.

First, I investigate the evidential definitions of the three forms—*Ø, -ess,* and *-keyss*. I start with their non-evidential definitions showing that these are not sufficient to account for their use as evidentials. The non-evidential definitions of the three forms are given in (5):

[3] The suffix *-keyss*, as a non-evidential, denotes that the speaker either intends to do or infers the event in question. Thus, in terms of the notion of the speaker's inference, the evidential *-keyss* does not differ from the non-evidential *-keyss*. However, I will discuss the subtle meaning difference between evidential and non-evidential sentences with *-keyss* in the final section of this chapter.

[4] However, I assume that the zero form basically consists of the imperfective and the zero tense in the sense of Kratzer (1998). In terms of semantics, the imperfective does not differ from the zero-tense with imperfectivity. I surmise that imperfectivity actually comes from the suffix *-te* not from the zero form. Nonetheless I use the term and the notation of the imperfective to follow the traditional treatments in the literature. What matters here is that sentences containing only the suffix *-te* express imperfectivity.

(5) a. [[Ø]] = $\lambda P.\ \lambda t\ .\ \exists e\ [t \subseteq \tau(e) \wedge P(e)]$

b. [[*-ess*]] = $\lambda P.\ \lambda t.\ \exists e\ [\tau(e) < t \wedge P(e)]$

c. [[*-keyss*]] = $\lambda P.\ \lambda t\ .\ \exists e\ [t \leq \tau(e) \wedge P(e)]$

The Ø form indicates that the time interval expressed by a given proposition (i.e. the event time) includes the reference time; *-ess* indicates that the event time precedes the reference time; *-keyss* indicates that the event time may follow or be simultaneous with the reference time. The definitions in (5) focus on the temporal meanings of the three suffixes, ignoring for now their modal meanings, which are discussed in Section 5.2.2.

First, let us revisit (4b) and the definition of *-te* in (35b) in Chapter 4, repeated as (6):

(4) b. mina-ka kewul-ul kkay-ss-te-la.
Mina-NOM mirror-ACC break-PFCT-S.PAST-DEC
'[I found out] Mina had broken/broke the mirror.'

(6) *-Te* in the main clause: Spatial deictic past tense

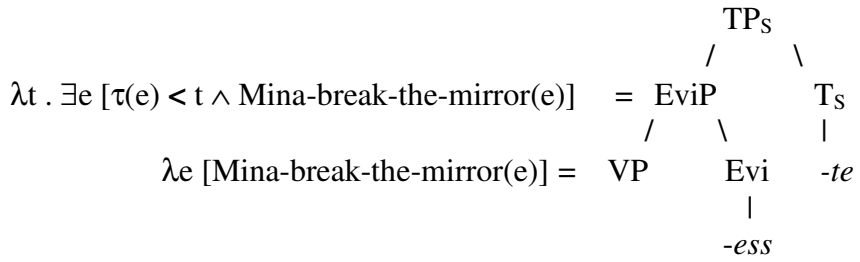
[[*-te*]]^{g,c} is only defined if c provides an interval $t < t_0 \wedge$

$\exists \langle t', l \rangle\ [\ t' \subseteq t \wedge \langle t', l \rangle \in\ \mathcal{T}(s) \cap \mathcal{T}(v)]$.

If defined, then [[*-te*]]$^{g,c} = t$.

Applying the definitions of *-te* in (6) and of *-ess* in (5b) to (4b) yields the following:

(4b´)



T_S: Spatial Deictic Tense
Evi: Evidential

The denotation of *-ess* says that the event time of Mina's breaking the mirror is prior to the reference time. This reference time is determined by a contextually given time interval when the speaker's perceptual field overlaps some evidence of the event, which is given by the denotation of *-te*. Thus, the interpretation of (4b´) predicts that sentence (4b) should only be true as long as the speaker's perceptual trace overlaps the evidence trace at the reference time, and the event in question is prior to the reference time. In other words, according to (4b´), (4b) should be true if the speaker perceived the indirect evidence—the result state of a prior event—without guaranteeing the meaning that the speaker did not witness the event itself. However, (4b) clearly conveys that the speaker did not witness the event of Mina's breaking the mirror. That is because it is also possible that the speaker's perceptual field overlaps the event trace at a time before the reference time.

Let us see if the definiton of *-te* in (6) and Ø in (5a) predict the interpretation of (4a) correctly:

(4a) mina-ka kewul-ul kkay-te-la.
Mina-NOM mirror-ACC break-S.PAST-DEC
'[I saw] Mina broke the mirror.'

(4a´)

```
                                                              TPS
                                                             /    \
λt . ∃e [t ⊆ τ(e) ∧ Mina-break-the-mirror(e)]  =  EviP        TS
                                                  /     \        |
          λe [Mina-break-the-mirror(e)]   = VP        Evi     -te
                                                        |
                                                       -Ø-
```

In (4a), Ø denotes that the event time of Mina's breaking the mirror includes the reference time, which is fixed by the time interval introduced by the spatial deictic tense *-te*. Likewise, (4a) is predicted to be true as long as the speaker's perceptual trace overlaps the evidence trace of the event at the reference time, and the event time is concurrent with the reference time. This appears to provide the overlap between the speaker's perceptual trace and the event trace, which gives rise to a direct evidential meaning.

However, the overlap between the reference time and the event time is purely a temporal relation. Since the speaker's trace and the evidence trace are three-dimensional, even if the reference time temporally overlaps the event time, and the speaker's perceptual trace overlaps the evidence trace at the reference time, the speaker's perceptual field does not necessarily overlap the event trace. This predicts that the definitions of *-te* and Ø above allow for the situations like the one referred to in the following sentence with *-keyss*:

(7) mina-ka (ku-ttay-nun) ca-ko iss-keyss-te-la.
Mina-NOM that-time-TOP sleep-PROG-MOD-S.PAST-DEC
'[I infer] Mina was sleeping at that time.'

Here, possible evidence is the conversational background at the reference time, which may include propositions like *Mina usually gets up late, She did not show up at the meeting,* etc. The time of event is simultaneous with the time of evidence, which is simultaneous with the time of the speaker's perceptual field. However, (7) does not convey that the speaker's perceptual field overlaps the event trace. Therefore, the definitions given above do not predict the correct interpretations of (4a).

The discussion so far tells us that the relation between the speaker's perceptual trace and the evidence trace, which is given by *-te*, is not enough to account for the meanings of the evidential forms. That is, the evidential forms require additional conditions pertaining to the speaker's witnessing the event. As seen in the previous chapter, *-te* cannot be defined by the direct relation of the speaker's perceptual field with respect to the event itself because sentences with *-te* allow the event to be either within or outside the speaker's perceptual field (see (31) in Chapter 4). Rather *-te* only relates the speaker's perceptual field to the evidence of the event, whether the evidence is direct or indirect. This (in)directness of the evidence has to be encoded in the definitions of the evidential forms in Korean and this meaning is something that regular tense and aspect do not contain. Thus, I suggest that the evidential meaning represents a relationship between the event trace $\mathcal{T}(e)$ and the speaker's perceptual trace $\mathcal{T}(s)$, as follows:

(8) a. Direct Evidential: $\mathcal{T}(e) \cap \mathcal{T}(s) \neq \emptyset$

b. Indirect Evidential: $\mathcal{T}(e) \cap \mathcal{T}(s) = \emptyset$

The formula in (8a) says that the speaker's perceptual trace overlaps the event trace, indicating that the speaker witnessed the event in question, i.e. a direct evidential

meaning. On the other hand, (8b) denotes no overlap between the two traces, indicating that the speaker did not witness the event, i.e. an indirect evidential meaning.

5.2.1.2 Implementing the evidential meanings

There seem to be two ways to implement the evidential meanings. One is to add more restrictions on the presupposition of the definition of *-te*; the other is to put additional meaning into the definitions given in (5). If we choose the first option, we may keep the same definitions for Ø, *-ess*, and *-keyss* in (5) for evidential sentences because the evidential meaning is subsumed by spatial deictic tense. This means that the definitions given in (5) might suffice for both evidential and non-evidential uses. In contrast, if we choose the second option, we will need to posit that each form is semantically ambiguous—we will need one definition for the non-evidential and one for the evidential. In the end, I show that the second option is preferable.

Under the first option, we would revise the definition of *-te* (6), as follows:

(9) Spatial deictic past tense *-te* (tentatively revised version):

$[\![\text{-}te]\!]^{g,c}$ is only defined if c provides an interval $t < t_0 \wedge$

$\exists <t',l> [\ t' \subseteq t \wedge <t',l> \in \mathcal{I}(s) \cap \mathcal{I}(v)] \wedge$

If $\mathcal{I}(v) \neq \mathcal{I}(e)$, then $\mathcal{I}(e) \cap \mathcal{I}(s) = \emptyset$

If defined, then $[\![\text{-}te]\!]^{g,c} = t$.[5]

The definition in (9) not only requires at least some overlap between the speaker's trace and the evidence trace at a given past time, but also has another condition: if the evidence is not the event itself, then the event trace does not overlap with the speaker's trace.

[5] Thanks to Lisa Matthewson for her helpful comments regarding this definition.

Hence, we may keep the same definitions for Ø, *-ess* and *-keyss* by positing that the suffix *-te* carries the conditions for evidential interpretations in addition to the meaning of a spatial deictic past tense.

This analysis seems to be desirable for *-ess*, which has an indirect evidential meaning whenever it occurs with *-te*. Without *-te*, it does not necessarily express an evidential meaning. The following sentence without *-te* does not convey an evidential meaning.

(10) mina ka kewul-ul kkay-ss-ta.
Mina-NOM mirror-ACC break-PFCT-DEC
'Mina has broken/broke the mirror.'

Thus, *-te* seems to trigger the evidential meaning, not *-ess*. Also, when the subject is first person, the suffix *-keyss* in examples without *-te* can denote either the speaker's volition or inference, as in (11a), but, *-keyss* in examples with *-te* only denotes the speaker's inference of the event, as in (11b).

(11) a. nay-ka ka-keyss-ta.
I-NOM go-MOD-DEC
'I will go'. Or '[I infer] I will go.'

b. nay-ka ka-keyss-te-la.
I-NOM go-MOD-S.PAST-DEC
'[I inferred] I will/would go.'

In sum, redefining the spatial deictic tense *-te* as in (9) seems to be a workable solution.

However, the definition in (9) seems problematic conceptually. Many languages that exhibit evidential distinctions have no overt tense forms. For example, Wintu has

various evidentials but no past or future tense (Schlichter 1986).[6] In a tenseless language, there is no tense form to carry the evidential meanings given in (8). The only way to account for evidential languages without tense is to posit a zero spatial deictic tense that is underspecified with respect to the past time and the present time. (See Matthewson's (2004) analysis of St'át'imcets, a language that lacks obligatory tense morphology.[7]) Then, this Ø spatial tense can carry the meanings in (8) and thus adopting the definition in (9) may ultimately prove to be the more desirable option.

Nevertheless, I retain definition (6) because there is empirical evidence for the distinctness of the evidential uses versus the non-evidential uses of the suffixes (e.g. the indirect evidential *-ess* versus the perfect *-ess*). First, although historically indirect evidential forms often originate from perfect forms (or resultative forms) (Comrie 2000:3–4, Bybee et al. 1994:80), indirect evidentials differ from perfects in their distribution.[8] Turkish has the finite *-miş* and the nonfinite *-miş*. The finite *-miş*, which originates from the resultative (perfect) *-miş,* is an indirect evidential expressing hearsay or inference from a result state (Johanson 2000:74). The nonfinite *-miş* is a marker denoting relative anteriority and resultativity ('post-terminality' in Johanson's terminology) in nonfinite clauses such as relative and constituent clauses (Aksu-Koç and Slobin 1986:159, Johanson 1996:86, Kiral 2000:91).

Korean *-ess* was also originally the resultative form *-e is(i)*,[9] which has now developed into a marker of anteriority (H.-S. Lee 1991:247, Huh 1987, Han 1986). *-Ess*

[6] Wintu is a Penutian language spoken in northern California.

[7] St'át'imcets (Lillooet) is a Salish language spoken in British Columbia, Canada.

[8] Also in some languages, the perfect and the indirect evidential differ morphologically. For example, in Bulgarian, the present perfect requires a *be*-auxiliary in the third person, whereas the indirect evidential form does not (Izvorski 1997).

[9] The form *-e is(i)* is a combination of a connective vowel *-e* plus the existential verb *is*.

as anterior (perfect) is used freely: it can occur in finite or non-finite and matrix or subordinate clauses. In contrast, *-ess* as an evidential is restricted to main clauses and some coordinate clauses. This means that the evidential *-ess* is allowed in a clause that contains a marker of the sentential force (speech act), which is the highest functional category of the sentence. Thus, evidentials are restricted to finite clauses or main clauses that usually contain mood forms and modals related to the speaker. We can say that evidentials are in some sense speaker-oriented, but perfects or resultatives are not. So the distribution of the two uses of *-ess* is not due to phonological (or morphological) reasons nor to restrictions on persons, but to semantic reasons.

Second, and more importantly, although the two forms—the anterior (or perfect) *-ess* and the indirect evidential *-ess*—share core meanings, they are not the same in terms of their denotations, particularly with respect to epistemic modality, as will be discussed shortly. Thus, I suggest that *-ess* is semantically ambiguous between a marker of anteriority and a marker of indirect evidentiality: the anterior *-ess* and the indirect evidential *-ess* are two distinct categories. In the presence of the spatial deictic tense *-te*, the indirect evidential *-ess* is used, but, in its absence, the anterior *-ess* is used. I suggest that Ø and *-keyss* are also semantically ambiguous. Therefore, instead of revising the definition of *-te* in (6), I provide two different definitions for each morpheme—Ø, *-ess,* and *-keyss*—one definition for the non-evidential use and one for the evidential use.

5.2.1.3 Presupposition of the evidential.

Before defining the evidential meanings of Ø, *-ess,* and *-keyss*, I first examine whether the evidential meaning given in (8) is asserted or presupposed. Let us consider the negative version of (4a):

(12) a. mina-ka kewul-ul an-kkay-**ss**-te-la.
Mina-NOM mirror-ACC not-break-PFCT-S.PAST-DEC
'[I found out] Mina did not break/has not broken the mirror.'

b. It is the case that at the contextually salient past time t, I perceived evidence such that there was **no** prior event such that Mina breaks the mirror, and I did not perceive such an event.

c. *It is the case that at the contextually salient past time t, I perceived evidence such that there was a prior event such that Mina breaks the mirror, and it is **not** the case that I did not perceive the event.

In the two potential interpretations (12b) and (12c), the last clause (*I did not perceive such an event*) represents the evidential meaning, i.e. the relationship between the speaker's trace and the event trace. In the correct interpretation (12b), the negation does not apply to the last clause, which indicates that the evidential meaning is presupposed. The wrong interpretation (12c), where the negation applies to the last clause, indicates that the evidential meaning should be treated as a presupposition.

The evidential *-keyss* shows the same effect. Consider the following negative version of (4c):

(13) a. mina-ka kewul-ul an-kkay-**keyss**-te-la.
Mina-NOM mirror-ACC not-break-MOD-S.PAST-DEC
'[I infer] Mina would not break the mirror.'

b. It is the case that at the contextually salient past time t, I perceived evidence such that there would be **no** event such that Mina breaks the mirror, and I did not perceive such an event.

c. *It is the case that at the contextually salient past time t, I perceived evidence such that there would be an event such that Mina breaks the mirror, and it is **not** the case that I did not perceive the event.

The correct interpretation is (13b); the last clause expressing the indirect evidential meaning is not under the scope of the negation, and thus it is a presupposition. The

interpretation in (13c), in which the last clause is under the scope of the negation, is not correct.

A negative version of the sentence with Ø in (4a) seems to yield the same result:

(14) a. mina-ka kewul-ul an-kkay-te-la.
Mina-NOM mirror-ACC not-break-S.PAST-DEC
'[I saw] Mina was not breaking the mirror.'

b. It is the case that at the contextually salient past time t, I perceived evidence such that there was **an** event such that Mina was not breaking the mirror, and I perceived the event.

c. *It is the case that at the contextually salient past time t, I perceived evidence such that there was an event such that Mina was breaking the mirror, and it is **not** the case that I perceived the event.

It seems to me that (14a) means that the speaker perceived something, but not the event of Mina's breaking the mirror. This could mean either that the speaker did not perceive the event or that the speaker perceived the event of Mina's not breaking the mirror, as in the interpretation in (14b). However, the following example with a temporal adjunct clause clearly indicates the latter meaning:[10]

(15) po-nikka, mina-ka kewul-ul an-kkay-te-la.
see-when Mina-NOM mirror-ACC not-break-S.PAST-DEC
'[I saw] Mina was not breaking the mirror when I looked.'

The sentence in (14a) means that the speaker saw Mina not breaking the mirror. That is, the speaker saw the event of Mina's not breaking the mirror. More importantly, the interpretation in (14c), where the direct evidential meaning is negated, shows a

[10] A temporal adjunct clause can be added when the speaker wants to specify the sense with which the situation was perceived, as in (15).

contradiction: the first conjunct says that the speaker perceived the event but the second conjunct says otherwise.

Therefore, we can conclude that an evidential meaning is not asserted, but should be treated as a presupposition. I thus define the three evidentials as follows:

(16) Evidentials in Korean (preliminary version):[11]

a. [[Ø]] = $\lambda P.\ \lambda t\ .\ \exists e\ [t \subseteq \tau(e) \wedge P(e)\ ]$
Presupposition: $T(e) \cap T(s) \neq \emptyset$

b. [[*-ess*]] = $\lambda P.\ \lambda t\ .\ \exists e\ [\tau(e) < t \wedge P(e)\ ]$
Presupposition: $T(e) \cap T(s) = \emptyset$

c. [[*-keyss*]] = $\lambda P.\ \lambda t\ .\ \exists e\ [t \leq \tau(e) \wedge P(e)\ ]$
Presupposition: $T(e) \cap T(s) = \emptyset$

The definitions given in (16) indicate that the three evidentials assert temporal meanings and presuppose evidential meanings, i.e. extra conditions concerning the relation between the speaker's perceptual field and the event(s) in question. Also the definitions imply that evidentials are like relative tenses—they require a reference time interval to anchor to.

The temporal and evidential meanings of the evidentials are illustrated below:

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[11] Especially the definitions of Ø and *-ess* in (16) are consistent with Nichols's (1986:255) proposal of a universal covariance between aspect and evidentiality:

(i) Universal covariance:

Aspect		**Evidentiality**
Perfective	—	Inferential
Imperfective	—	Immediate (Direct)

This means that perfective favors inferential meanings and imperfective favors immediate (direct evidential) meanings. Nichols (1986:255) explains this covariance thusly: "To be immediately perceived and directly reacted to, a situation or event must be ongoing. If it is not ongoing it cannot be immediately perceived, but must be inferred or predicted form the evidence." The zero form in (16), a direct evidential, has an imperfective meaning, whereas the indirect inferential evidential *-ess* has a perfective meaning by default.

(4) a. mina-ka kewul-ul kkay-te-la.
Mina-NOM mirror-ACC break-S.PAST-DEC
'[I saw] Mina broke the mirror.'

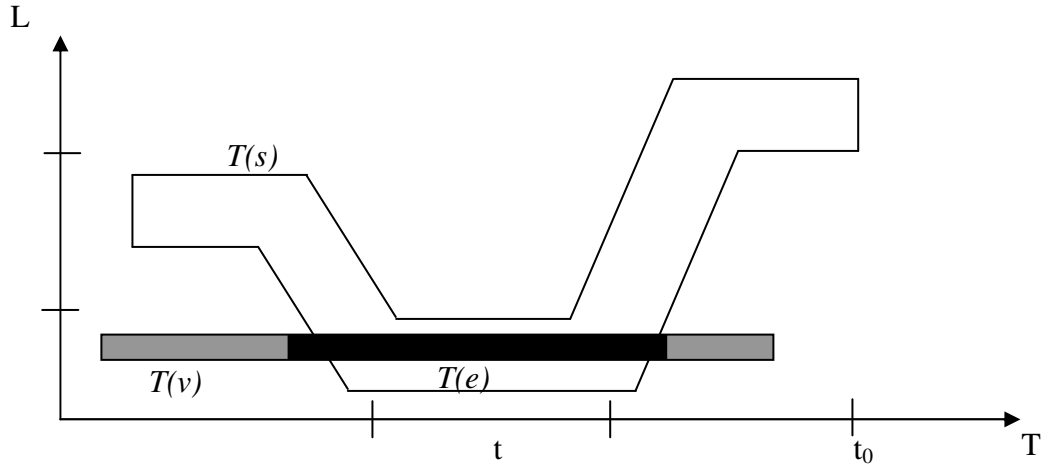

Figure 2: Overlap between $\mathcal{T}(e)$, $\mathcal{T}(v)$, and $\mathcal{T}(s)$ at *t*

b. mina-ka kewul-ul kkay-**ss**-te-la.
Mina-NOM mirror-ACC break-PFCT-S.PAST-DEC
'[I found out] Mina broke the mirror.'

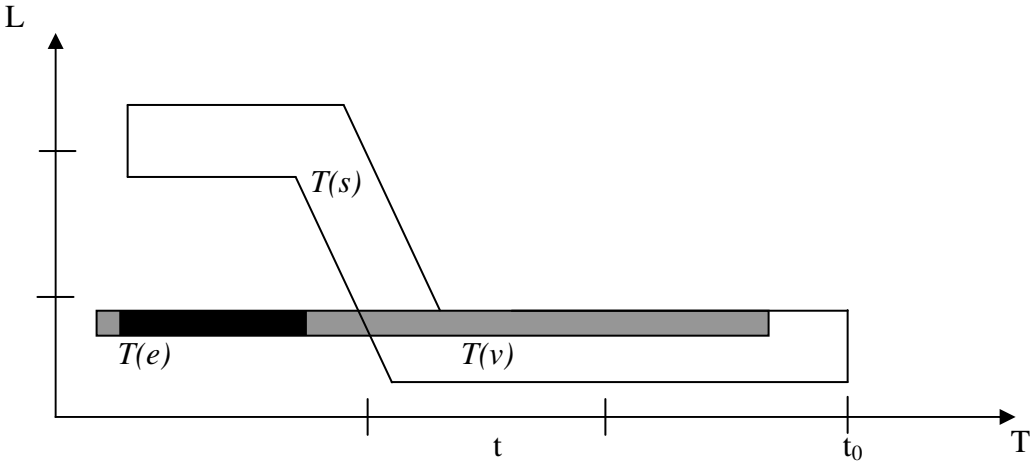

Figure 3: No overlap between $\mathcal{T}(e)$ and $\mathcal{T}(s)$, and $\tau(e)$ before *t*

As in Figure 1 in the previous chapter, the white strip indicates the speaker's perceptual trace and the black strip the event trace. In order to indicate the evidence trace, I add a

gray strip. Figure 2 illustrates cases like (4a), where *-te* occurs with the zero-marked direct evidential, and Figure 3 illustrates cases like (4b), where *-te* occurs with the indirect evidential *-ess*.

5.2.2 Modal meanings of the inferential indirect evidentials.

So far, I have discussed the temporal and the evidential meanings of the evidential suffixes. In what follows, I turn now to their modal meanings. It has been claimed that evidentials are part of the epistemic modal domain. For example, Chung and Timberlake (1985) distinguish two types of epistemic modality: one characterizes the proposition in question with respect to the actual world and the possible worlds, covering the notion of necessity and possibility; the other evaluates the actuality of the proposition with respect to the source of the information conveyed by the proposition. In this section, I show that the evidential suffixes *-ess* and *-keyss*, in addition to the temporal meanings and the presuppositions in (16), have another aspect to their meaning that is not yet captured—epistemic modality. Furthermore, I show how those suffixes differ in terms of their epistemic modality. I focus especially on the modal interpretation expressed by the suffix *-ess*.

5.2.2.1 Indirect evidentials and epistemic modality.

The indirect evidential *-ess* seems to differ from the perfect (anterior) *-ess* when occurring with adverbials, such as *pwunmyenghi* 'evidently' or *thullimepsi* 'certainly'. In a situation where the speaker finds Joon's bag at the moment of utterance, the following sentences with *-ess* show a difference in compatibility with those adverbials:

(17) (When the speaker sees/is seeing Joon's bag,)

a. jwun-i pwunmyenghi/thullimepsi o-**ass**-**ta**.
Joon-NOM evidently /certainly come-PFCT-DEC
'Joon must have come.'

b. ??jwun-i pwunmyenghi/thullimepsi o-**ass**-**ney**.
Joon-NOM evidently /certainly come-PFCT-S.PRES
'Joon must have come.'
Or 'Joon apparently came.'

The sentence final endings differ: (17a) has the declarative form *-ta*, indicating that *-ess* is an anterior, but (17b) has the spatial deictic present tense *-ney*, indicating that *-ess* is an indirect evidential. (17a) sounds natural with the adverbials, *pwunmyenghi* 'evidently' or *thullimepsi* 'certainly' but (17b) does not. This indicates that the incompatibility with the adverbials in (17b) is due to the presence of the indirect evidential *-ess*.[12] Sentence (18), which is (17b) without the adverbials, provides the same interpretation as (17a) with the adverbials.

(18) (When the speaker sees/is seeing Joon's bag,)

jwun-i o-**ass**-**ney**.
Joon-NOM come-PFCT-S.PRES
'Joon must have come.'
Or 'Joon apparently came.'

This indicates that the indirect evidential *-ess* not only has the temporal meaning of the anterior *-ess* but also has the modal meaning denoted by adverbials. Thus, in (17b) the adverbials are semantically redundant, which makes (17b) unacceptable. In sum, the

[12] Also the oddness of (17b) can not be due to the suffix *-ney* rather than the suffix *-ess*. If *-ess* is replaced with *-keyss*, as in (i), the sentence is fine.

(i) jwun-i pwunmyenghi /thullimepsi o-**keyss**-**ney**.
Joon-NOM evidently /certainly come-MOD-S.PRES
'Joon certainly/apparently will come.'

indirect evidential *-ess* has an epistemic necessity modal interpretation like *must* or *evidently* in addition to the spatial and temporal meaning.

5.2.2.2 Izvorski's analysis of the indirect evidential

Izvorski (1997) has claimed that indirect evidentials in Turkish, Bulgarian, and Norwegian are semantically epistemic modal operators. In these languages, the present perfect (or a form historically derived form the present perfect) expresses an indirect evidential: [13]

(19) a. Gel -miş -im.
Come PFCT 1SG Turkish
'I apparently came.'

b. Az sâm dosal.
I be.1SG..PRES come-P.PART Bulgarian
'I apparently came.'

c. Jeg has kommet.
I have.1SG..PRES come-P.PART Norwegian
'I apparently came.' (Izvorski 1997)

The sentences in (19) have either a report interpretation or an inferential interpretation. Under the report interpretation, depending on the source, the modal meaning of the indirect evidential varies ranging from weak possibility to necessity: *I may have come; I probably came; I must have come (given what X says)*. That is, the more trustworthy X is, the closer to universal the modal interpretation is. Under the inferential interpretation, the modal force of the indirect evidential is closer to the universal modal interpretation and

[13] The sentences in (19b) and (19c) are ambiguous between a present perfect interpretation and an indirect evidential interpretation (Izvorski 1997).

thus (19) means: *I must have come* (Izvorski 1997). Here I focus only on the inferential interpretation because the indirect evidential *-ess* seems to lack the report interpretation.[14]

Izvorski (1997) notes that the epistemic modal of the indirect evidential differs from the ordinary epistemic modal *must*, as illustrated by the Bulgarian examples in (20):

(20) Knowing how much John likes wine…

a. toy trybvada e izpil vsickoto vino včera.
he must is drunk all.the wine yesterday.
'…he must have drunk all the wine yesterday.'

b. #toy izpil vsičkoto vino včera.
he drunk.PFCT all.the wine yesterday.
'…he apparently drank all the wine yesterday.'

For the epistemic *must* (20a), the proposition *John likes wine* is sufficient, but for the indirect evidential (20b), it is not. Compared to the regular modals, the indirect evidential requires more restricted facts, i.e. some observable result of John's drinking all the wine, such as empty wine bottles. Moreover, she argues that the modal meaning is asserted, and that the meaning of indirect evidence is not an implicature, nor part of the assertion, but a

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[14] It is possible to use *-ess* in the following context:

(i) A: mina-ka ywulichang-ul kkay-ss-te-la.
Mina-NOM window-ACC break-PFCT-S.PAST-DEC
'[I found out] Mina broke the window.'

B: ettehkey al-ass-ni?
How know-ESS-INT
'How did you know?'

A: jwun-i malha-yss-ta.
Joon-NOM say-ESS-DEC
'Joon said so.'

However, unlike the indirect evidentials in (19), *-ess* does not imply the modal meaning of weak possibility but rather the meaning of necessity. Moreover, Korean has distinct reportative evidential forms, which will be discussed in the following section.

presupposition of indirect evidential sentences. The meaning of an indirect evidential sentence is given in (21):

(21) Interpretation of an Indirect Evidential Proposition: (Izvorski 1997)

a. Assertion: □ *p* in view of the speaker's knowledge state

b. Presupposition: Speaker has indirect evidence for *p*.

Izvorski formalizes the semantics of the indirect evidential modal adopting Kratzer's (1991) system of possible worlds semantics. According to Kratzer, modals are evaluated with respect to two contextually determined parameters—a modal base and an ordering source, both of which are functions from worlds to sets of propositions. The conversational background of the ordinary epistemic modal provides a set of propositions mutually known by the speaker and the hearer, which is a modal base of an epistemic modal *f(w)*. However, the modal base of the indirect evidential is a more restricted set of propositions that constitutes the available indirect evidence for the proposition in question, and thus the set may include propositions like *There are empty wine bottles in John's office*. This modal base determines the domain of quantification, that is, the accessible worlds ∩*f(w)* (the set of worlds in which all propositions that are considered evidence in *w*) are true.

Furthermore, the domain of quantification is restricted by the ordering source *g*, which is the function that assigns to every possible world the set of propositions representing the speaker's beliefs concerning the available indirect evidence for the proposition under consideration. This set *g(w)*may include propositions like, *If there are empty wine bottles in someone's office, that person has drunk the wine.* Izvorski (1997) defines the semantics of the indirect evidential, as follows:

(22) a. f(w) = { p: speaker considers p indirect evidence in w}

p= there are empty wine bottles in John's office

b. $\cap$f(w) = {u$\in$ W: $\forall$p[(p is the indirect evidence in w) $\rightarrow$ u$\in$p]}

c. g(w) = {p: speaker believes p with respect to the indirect evidence in w}

For $\forall$ u, v$\in$ W: v $<_{g(w)}$ u iff {p: p$\in$ g(w) $\wedge$ u$\in$ p} $\subseteq$ { p: p$\in$ g(w) $\wedge$ v$\in$ p}

p= if there are empty wine bottles in John's office, that person has drunk the wine.

(23) $[[\text{Indirect Evidential p}]]^{f,g}$ = { w$\in$ W: $\forall$u$\in$ W[(u$\in \cap$f(w) $\wedge$ $\neg\exists$v$\in$ W (v$\in \cap$f(w) $\wedge$ v $<_{g(w)}$ u)) $\rightarrow$ u$\in$ p]}

Thus, an indirect evidential statement is true in a world *w* with respect to the conversational backgrounds provided by *f* and *g*, iff *p* is true in all worlds accessible from *w*, which come closest to the ideal represented by the speaker's beliefs regarding the available indirect evidence in *w* (Izvorski 1997).

The Korean data also show that the modal meaning of the indirect evidential *-ess* is not the same as the ordinary epistemic modal *must*, as in (24):

(24) Knowing how much Joon likes wine…

a. jwun-i thullimepsi ecey photocwu-lul ta masi-ess-ta.
Joon-NOM certainly yesterday wine-ACC all drink-PFCT-DEC
'…Joon must have drunk all the wine yesterday.'

b. #jwun-i ecey photocwu-lul ta masi-ess-ney.
Joon-NOM yesterday wine-ACC all drink-PFCT-S.PRES
'…Joon apparently drank all the wine yesterday.'

As with the Bulgarian data in (20b), the proposition *Joon likes wine* is insufficient for the indirect evidential *-ess* in (24b). Although *-ess* contains an epistemic necessity modal, it

requires a more restricted conversational background, i.e. a set of propositions that can be indirect evidence for the proposition in question. Thus, as discussed in the previous section, the condition on the indirect evidence is presupposed by sentences with the indirect evidence *-ess*. Following Izvorski, I argue that the modal meaning is asserted and thus I adopt her analysis of the semantics of the indirect evidential given in (22) and (23).

Furthermore, Izvorski (1997) argues that the semantics of the present perfect gives rise to the interpretation of indirect evidentiality. Following Moens (1987) and Parsons (1990), she defines the present perfect as follows:

(25) a. John has left.

b. hold (CS(e),t) & ¬hold (e,t) Consequent State: CS

Here (25a) asserts that a certain state currently holds, which is the consequence state of the event of John's leaving, which does not hold currently, as shown in (25b). Thus, the perfect contributes the meaning that a past eventuality is holding at a given time interval, which is the interpretation of the proposition *p* in the indirect evidential sentence. The present tense contributes the meaning that the consequent state holds at the time of utterance, which corresponds to another proposition *p'*, *There is a consequent/result state of p*. I agree that the semantics of the present perfect is responsible for the meaning of the indirect evidential, which explains why perfect forms are often used to indicate the inferential indirect evidence.

However, some issues arise with Izvorski's analysis. The first issue is whether the consequent state of the perfect, as in (25), is introduced through the assertion or through the presupposition of a perfect sentence. Consider the following negative sentence:

(25´) John has not left.

Sentence (25´) indicates that it is the existence of the event, not the present consequent state, that is negated, although the non-existence of a prior event leads to a different consequent state, for example, *John is here* or *John is still working*. A better account would be to adopt Portner's modal analysis of perfect, in which the consequent state is introduced through the presupposition, as discussed in Chapter 3.

The second issue is where the epistemic modal meaning comes from, since in her definition of the perfect (25b), there is no epistemic modal meaning. Izvorski says that the temporal-aspectual meaning of the present perfect turns into the epistemic modal meaning of the indirect evidential, just like the temporal meaning of the English past tense becomes the modal meaning in a counterfactual, as Iatridou (2000) argues.

Furthermore, Izvorski argues that, although the morpheme of the indirect evidential lexically specifies the intensionality and the kind of modality (i.e. epistemic modality), the universal quantificational force of the indirect evidential form is not specified lexically; rather some default mechanism is responsible for determining that force as universal. She gives several arguments against the lexical specification of the modal force. First, regular modals have counterparts in terms of the scale of probability, for example, *must* vs. *may/can* and *necessarily* vs. *possibly*. However the indirect evidential does not have scalar counterparts. Second, as mentioned above, the present perfect does not have a built-in epistemic necessity modal operator in its semantics.[15]

[15] The other argument is that Izvorski wants to treat the indirect evidential on a par with attitude verbs like *know* or *believe* in that both of them do not lexically specify the quantificational force, in which case the operators end up being interpreted as universal quantifiers by default. However, I will show that the indirect evidential *-ess* clearly has a universal modal force, in contrast with another indirect evidential, the reasoning-based inferential evidential *-keyss*, which is actually lexically underspecified and interpreted as weak necessity by default.

However, I show that Izvorski's arguments are not convincing. Regarding the first argument, the epistemic modality in the evidential does not focus on the dimension of probability, as regular modals do, as will be seen shortly. Rather it focuses on the quality of the evidence, which directly relates to a different modal base. That is why the indirect evidential does not have scalar counterparts like *may* or *possibly*. Regarding the second argument, I have already shown in Chapter 3 that the perfect has a built-in epistemic necessity modal operator in its semantics (cf. Portner 2003). I show that both the perfect and the indirect evidential require the epistemic necessity modal operator. This means that the indirect evidential does not have to rely on some default mechanism.

5.2.2.3 Semantics of the indirect evidential.

Contrary to Izvorski, I argue that the epistemic modal is built into the indirect evidential, just like the perfect form has the epistemic necessity modal operator as its presupposition, as discussed in Chapter 3. I argue that the meaning of the perfect and the indirect evidential are almost the same in that both have three components— a prior event described by the sentence (perfect *p*), its consequent state (CS) at the reference time *t*, and the epistemic necessity modal that relates those two meanings. That is, the perfect and the indirect evidential share the three core meaning components, but they differ in how those meanings are combined. I show that the perfect and the indirect evidential differ only in the order of inference process.

Let me illustrate this point. As mentioned above, in a situation where we seek an explanation of George Eliot's style, the question *Who can we ask?* can be followed by the perfect sentence in (26):

(26) mina-ka middlemarch-lul ilk-ess-ta.
Mina-NOM Middlemarch-ACC read-PFCT-DEC
'Mina has read *Middlemarch*.'

We can assume that, immediately before (26) is uttered, the following conversational background (CB) has been established:

(27) CB = {if someone who isn't stupid reads an authors' book, they understand her style; Mina is smart; George Eliot wrote *Middlemarch*}

Then we can have the following logical reasoning:

(28) CB = {p_1, p_2, p_3,..}----(27)
Mina has read Middlemarch: *p*----(26)

□ Mina can explain Eliot's style: *p'* (Consequent State of *p*)

Here the perfect proposition *p*, *Mina has read Middlemarch* with the conversational background induces the consequent state of the perfect proposition *p'*. In other words, the conversational background and the perfect proposition *p* are the premises and the epistemic modal with the consequent state *p'* is the conclusion. As a result, the perfect proposition restricts the conversational background and thus, based on the perfect proposition and the conversational background, the modal operator is evaluated.

However, in the case of the indirect evidential, the ordering of the inference is reversed. In a situation where Mina is talking about the story and the characters in *Middlemarch*, and about George Eliot's style, the following indirect evidential sentence can be uttered:

(29) mina-ka middlemarch-lul ilk-ess-ney.
Mina-NOM Middlemarch-ACC read-PFCT-S.PRES
'[I see] Mina has read *Middlemarch*.'

Here the consequent state is the situation where Mina knows things about *Middlemarch*. This time the order of inference is as follows:

(30) CB = {p_1, p_2, p_3,..}
Mina knows things about Middlemarch: *p'*
_____
□ Mina has read *Middlemarch*: *p*

The indirect evidence, the consequent state *p'* restricts the conversational background and thus the epistemic necessity modal is evaluated based on the consequent state *p'* and the conversational background. This time, the consequent state is the premise along with the conversational background and the epistemic modal with the perfect proposition is the conclusion. We see that the perfect *-ess* and the indirect evidential *-ess* both have the epistemic necessity modal operator, but the difference is that in a perfect sentence, the operator applies to the CS of *p*, i.e. *p',* whereas in an indirect evidential sentence, the operator applies to *p*. Therefore, I argue that the difference is that the perfect sentence, by asserting the perfect *p*, presupposes the necessity operator □ and a consequent state *p'* of the perfect *p*, whereas the indirect evidential sentence asserts the necessity operator □ and *p*, given the consequent state *p'* of *p*.

Let us compare another inferential indirect evidential *-keyss* with *-ess* with respect to modal interpretation. Unlike *-ess, -keyss* is allowed in contexts like (24):

(24) Knowing how much Joon likes wine…
b. #jwun-i ecey photocwu-lul ta masi-ess-ney.
Joon-NOM yesterday wine-ACC all drink-PFCT-S.PRES
'…Joon apparently drank all the wine yesterday.'

(31) jwun-i ecey photocwu-lul ta masi-ess-**keyss**-ney.[16]
Joon-NOM yesterday wine-ACC all drink-PFCT-MOD-S.PRES
'…Joon probably drank all the wine yesterday.'

This indicates that for the indirect evidential *-keyss*, the proposition, *Joon likes wine,* is sufficient for its conversational background, which is also true of ordinary epistemic modals, (see (20a) and (24a)). Thus, the conversational background of the indirect evidential *-keyss* is the same as that of ordinary modals, such as *must* or *may*. Consequently, the modal base and the ordering sources of *-keyss* are the same as those of the modals.

In terms of modal force, *-keyss* does not seem to have a particular force in that it allows a range of adverbials:

(32) jwun-i thullimepsi/ philsi/ amado o-**keyss**-**ney**.
Joon-NOM certainly probably perhaps come-MOD-S.PRES
'[I infer] certainly/probably/perhaps Joon will come.'

The modal force of the adverbials in (32) varies from necessity to possibility. It seems that the modal force is not specified, although the default modal indicates "weak necessity" (Kratzer 1991)) when there is no adverb, as shown by the English gloss in (32). Thus, the two inferential evidentials *-keyss* and *-ess* do not significantly differ in terms of modal force (probability), but they differ crucially in the conversational background (and thus in the modal base and the ordering source). *-keyss*, like regular modals, has a set of relevant propositions as a conversational background, whereas *-ess* has a more restricted set of propositions that can constitute the consequent states of the proposition in question.

[16] The data in (31), where *-keyss* co-occurs with *-ess*, is problematic if both suffixes are evidentials. However, I treat *-keyss* as an evidential and *-ess* as an anterior, as discussed in Section 5.3.1.

The proposed analysis systematically accounts for the connection between the perfect and the result-state-based indirect evidential. The perfect and the inferential indirect evidential have three meaning components in common: an event described by the proposition in question, its consequent state, and the epistemic modal that relates these two components. It is these common properties that closely connect the two categories diachronically and synchronically. At the same time, the analysis entails that the indirect evidential *-ess* and the perfect (anterior) *-ess* are entirely distinct categories, despite the common properties. First, the way that the three components are combined is not the same. In the perfect, the event described by the sentence is asserted, and the epistemic modal is presupposed with the result state of the event. In the inferential evidential, the epistemic modal is asserted with the perfect proposition, but the consequent state is presupposed. Second, the inferential indirect evidential has an additional meaning component, i.e. the condition of the speaker's witness, whereas the perfect does not.

5.2.3 Modality in the definition of evidentials.

I have shown that the three evidentials, Ø, *-ess,* and *-keyss,* alternate between two distinct grammatical categories—evidential and non-evidential (tense/aspect/mood) forms. Furthermore, I have shown that their evidential definitions consist of temporal meanings, evidential meanings, and modal meanings. Moreover, I have shown that the two inferential evidentials differ in terms of epistemic modality. *-Ess*, as shown above, has universal modal force, whereas *-keyss* does not have specific modal force, allowing both universal and existential modal force. A more significant difference between *-ess* and *-keyss* is in their conversational backgrounds: while *-keyss* has the same modal base

that regular modals have, *-ess* has a more restricted one that contains propositions constituting consequent states of the proposition in question.

I now give the final version of the definitions of their evidential uses:

(33) Evidentials in Korean (final version):

a. [[Ø]] = $\lambda P.\ \lambda t\ .\ \exists e\ [t \subseteq \tau(e) \wedge P(e)\ ]$
Presupposition: $\mathcal{T}(e) \cap \mathcal{T}(s) \neq \emptyset$

b. [[*-ess*]] = $\lambda P.\ \lambda t\ .\ \Box\ [\exists e\ [\ \tau(e) < t \wedge P(e)\ ]]$
Presupposition: $\mathcal{T}(e) \cap \mathcal{T}(s) = \emptyset$

c. [[*-keyss*]] = $\lambda P.\ \lambda t\ .\ \Box/\Diamond\ [\exists e\ [t \leq \tau(e) \wedge P(e)\ ]]$
Presupposition: $\mathcal{T}(e) \cap \mathcal{T}(s) = \emptyset$[17]

To conclude, the evidential forms represent different degrees of the speaker's inference: the direct evidential Ø does not allow any inference; *-ess* induces an inference based on causal relations; *-keyss* induces an inference based on logical reasoning.

The discussion so far has shown that there is a difference between the modal meanings of regular epistemic modals, such as *must* or *may,* and those of evidential forms. Regular modals focus on the difference in probability (i.e. necessity or possibility) while sharing the same modal base and the same ordering source for a given proposition. In contrast, evidentials do not seem to focus on the difference in probability, but rather on the difference in the modal bases and the ordering sources. In this respect, this difference corresponds to the distinction made by Lyons (1977:797–799) between two kinds of epistemic modality—objective epistemic modality and subjective epistemic modality. Objective epistemic modality is quantifiable on a scale of probability whose extremes are

[17] Thanks to Lisa Matthewson and Chung-hye Han for their comments on these definitions.

necessity and impossibility, whereas subjective epistemic modality qualifies the speaker's subjective commitment to the factuality of the proposition in question. According to Lyons, subjective modal utterances are statements of opinion, hearsay, or tentative inference. Maybe evidentials express various types of the speaker's subjective epistemic status,[18] since the evidential forms are purely speaker-oriented: the direct evidential form indicates the speaker's perception without any modality involved; the indirect *-ess* indicates the subjective epistemic modality based on the causal relation between the event in question and its consequent state; the indirect *-keyss* indicates the subjective epistemic modality based on the speaker's reasoning on relevant facts. The speaker's subjective epistemic modality will be discussed in relation with the world argument of evidentials in Chapter 6.

5.3 Reportative evidentials.

As mentioned previously, Willett (1988) observed that reportative evidentials can be further divided into second-hand information, third-hand information, and folklore, depending on whether or not the speaker has heard about the situation described by the sentence from a direct witness. Similarly, Faller (2002) accounts for the different reportative forms by suggesting the Mediated Evidence Cline, which is ordered according to the criterion of the number of intervening speakers:

(34) Mediated Evidence Cline:

(Direct) > Second-hand > Third-hand> Hearsay/Folklore

[18] However, I do not claim that the reverse is also true. In other words, the subjective epistemic modality is not necessarily expressed by the evidential mood forms only. I return to this in Chapter 6.

For second-hand evidence, there is one intervening speaker; for third-hand, two intervening speakers; for hearsay, an unspecified number of intervening speakers. Korean has a couple of reportative evidential markers, and in this section, I examine their characteristics, adopting Faller's definitions of the reportative forms. Furthermore, I discuss the fact that the reportative evidentials do not co-occur with spatial deictic tenses, unlike the direct and inferential indirect evidentials.

5.3.1 Reportative forms: *-tanta* (*-tay*) and *-tatela* (*-tatey*).

According to N.-K. Kim (2000:117–118), (35) are illustrations of the three present reportative hearsay evidentials, *-ta-ko ha-n, -ta ha-n,* and *-ta-n,* and of the morphological fusion of *-ta-n* in (35c):

(35) a. cwungtong-eyse cencayng-i ilena-ss-**ta-ko** **ha-n**-ta.
Middle.East-LOC war-NOM rise-PFCT-DEC-COMP do-PRES.IMPF-DEC

b. cwungtong-eyse cencayng-i ilena-ss-**ta** **ha-n**-ta.
Middle.East-LOC war-NOM rise-PFCT-DEC do-PRES.IMPF-DEC

c. cwungtong-eyse cencayng-i ilena-ss-**ta-n**-ta.
Middle.East-LOC war-NOM rise-PFCT-DEC-PRES.IMPF-DEC
'[They say] a war broke out in the Middle East.'

The form *-ta-ko ha-n* in (35a) is a combination of the declarative mood *-ta* of the embedded clause, the complementizer (or quotative marker) *-ko*, the shortened form *ha* of the full matrix predicate *malha*[19] 'say', and the present imperfective form *-n*. Nam claims that the form *-ta ha-n* in (35b) is derived from *-ta-ko ha-n* by the deletion of the complementizer *-ko*, and the then form *-tan* in (35c) is derived by the deletion of the verb *ha*.

[19] The verb *malha* is a combination of the noun *mal* 'language' or 'speech' (or 'talk') and the verb *ha* 'do'. Thus the verb literally means 'to do a language'.

The degree of morphological fusion (or grammaticalization) is reflected in the syntactic structures of the three reportative forms. They differ with respect to their status as predicates in a matrix clause and thus whether or not a higher subject is associated with them:

(36) a. jwun-i [cwungtong-eyse cencayng-i ilena-ss-**ta-ko]**
Joon-NOM Middle.East-LOC war-NOM rise-PFCT-DEC-COMP
ha-n-ta.
do-PRES.IMPF-DEC
'Joon says that war broke out in the Middle East.'

b. ?jwun-i [cwungtong-eyse cencayng-i ilena-ss-**ta]** **ha-n**-ta.
Joon-NOM Middle.East-LOC war-NOM rise-PFCT-DEC do-PRES.IMPF-DEC
'Joon says that a war broke out in the Middle East.'

c. *jwun-i cwungtong-eyse cencayng-i ilena-ss-**ta-n**-ta.
Joon-NOM Middle.East-LOC war-NOM rise-PFCT-DEC-PRES.IMPF-DEC
'Joon says that a war broke out in the Middle East.'

Sentence (36a) with *-ta-ko ha-n* allows another subject, which is the source of the quoted sentence, whereas (36c) with *-ta-n* does not allow the source subject. The form *-ta ha-n* (36b) is intermediate in terms of grammaticality. Thus, after the deletion of the complementizer *-ko* and of the verb *ha*, the declarative ending *-ta* in the complement clause and the present imperfective suffix *-n* are fused into a new morpheme *-tan* meaning 'hearsay' (N.-K. Kim 2000:117–118).

In addition to this hearsay *-tan*, according to N.-K. Kim (2000), Korean has the past hearsay *-tate,* which is another fusion of the declarative ending *-ta* and *-te*, the spatial deictic past tense (a sensory evidential form in his terms), as illustrated in the following:[20]

[20] Actually, it is not clear whether N.-K. Kim claims that all the reportatives, the three present reportatives in (35) and the three past reportatives in (37), are hearsay or just the two reportatives *-tan* and *-tate*.

(37) a. cwungtong-eyse cencayng-i ilena-ss-**ta-ko** **ha-te**-la.
Middle.East-LOC war-NOM rise-PFCT-DEC-COMP do-S.PAST-DEC

b. cwungtong-eyse cencayng-i ilena-ss-**ta** **ha-te**-la.
Middle.East-LOC war-NOM rise-PFCT-DEC do-S.PAST-DEC

c. cwungtong-eyse cencayng-i ilena-ss-**ta-te**-la.
Middle.East-LOC war-NOM rise-PFCT-DEC-S.PAST-DEC
'They said that a war broke out in the Middle East.' (N.-K. Kim 2000:123)

In the same fashion as in (34), the form *-ta-ko ha-te* in (36a) is a combination of mood morphemes of the embedded predicate, the shortened form *ha* of the full matrix predicate *malha* 'say', and the suffix *-te*. The form *-ta ha-te* in (36b) is derived from *-ta-ko ha-te* in (36a) by the deletion of the complementizer *-ko* and then the form *-ta-te* in (36c) is derived by the deletion of the verb *ha*.

Henceforth, I focus on the two forms *-tan* and *-tate* because these are true reportative suffixes, since they do not appear to allow matrix subjects, as shown in (36). In this section, I investigate the distinct characteristics of the two reportative evidentials. Before turning to the investigation of the reportative evidentials, some discussion of the morphology of these two forms is necessary.

In Korean, different sentential endings are used depending on the level of formality of the situation of the utterance, as shown in the following:

(38) a. cwungtong-eyse cencayng-i ilena-ss-**ta-n**-ta.
Middle.East-LOC war-NOM rise-PFCT-DEC-PRES.IMPF-DEC
'[They say] a war broke out in the Middle East.'

b. cwungtong-eyse cencayng-i ilena-ss-**ta-p-ni**-ta.
Middle.East-LOC war-NOM rise-PFCT-DEC-HON-PRES.IMPF-DEC
'[They say] a war broke out in the Middle East.'

c. cwungtong-eyse cencayng-i ilena-ss-**ta-**y.
Middle.East-LOC war-NOM rise-PFCT-DEC-DEC
'[They say] a war broke out in the Middle East.'

Although the sentences in (38) have the same truth-conditional meaning, they are used in different situations: (38a) with the declarative ending *-ta* is in the plain style, which is preferred in writing;[21] (38b) with the additional addressee-honorific suffix *-p* is used in very formal situations; (38c) has the declarative ending of the intimate style and is used among people in an intimate or familiar relationship, such as among friends.[22] The problem is that, if you look at the gloss of (38c), the sentence ending is a combination of two declarative forms: one is from the embedded clause and the other is a phonologically shortened form of the matrix declarative ending of the familiar style *-e*. Semantically the combined declarative forms have nothing to do with the reportative meaning. This indicates that *-ta-y* is already grammaticized into a category different from the mood form. Thus, I will take *-ta-y* to be just one morpheme *-tay* and treat it as a reportative marker. H.-S. Lee (1993a) and S.-J. Choi (1995) also define *-tay* as a reportative or hearsay marker. Consequently, I take *-tan-ta* in (38a) to be one morpheme and thus an allomorph of *-tay*. In the same way, I treat the past reportative *-ta-tela* in (37c) as one morpheme, i.e. a reportative marker and *-tatey* as its allomorph used in the intimate style. Thus, I begin the discussion of Korean reportative forms, based on the tentative assumption of the two reportatives with allomorphs in terms of stylistic variation, as in Table 4.

Table 4. Korean Reportatives

	PLAIN STYLE	INTIMATE STYLE
PRESENT	*-tanta*	*-tay*
PAST	*-tatela*	*-tatey*

[21] This style is neutral with respect to formality. However, if it is used in colloquial speech, it is usually used when the addressee is younger than the speaker or when a degree of intimacy exists between the speaker and addressee.

[22] There are more style variants than these. For details, refer to H.-M. Sohn (1994:341).

These two forms *-tanta* and *-tatela* do not seem to behave in the same way. Consider the following examples:

(39) a. mina-ka mikwuk-ey ka-ss-**tanta.**
Mina-NOM America-LOC go-PFCT-HEAR
'[They say] Mina went to America.'

b. mina-ka mikwuk-ey ka-ss-**tatela**.
Mina-NOM America-LOC go-PFCT-REP
'[They said] Mina went to America.'

Both of the sentences in (39) convey that the speaker did not witness the prior event of Mina's going to America but just heard of the event. However, they do not seem to convey exactly the same meaning: (39a) simply conveys that (s)he heard of the information without specifying the time when (s) he heard of it, whereas (39b) refers to a certain past time when (s)he heard of the information. This can be illustrated by their use in folk tales, as in (40): sentence (40a) with *-tanta* is perfectly fine when used in a folk tale, whereas sentence (40b) with *-tatela* sounds very odd.

(40) a. yes-nal yes-cek-ey han namwuskkwun-i sal-ass-**tanta**……
old-day old-time-at one wood.cutter-NOM live-PFCT-HEAR
'[They say] once upon a time there lived a woodcutter……'

b. ??yesnal yescekl-ey han namwuskkwun-i sal-ass-**tatela**……
old.day old.time-at one wood.cutter-NOM live-PFCT-REP
'[They said] once upon a time there lived a woodcutter……'

This difference suggests that while *-tanta* is used when the speaker does not specify the time when (s)he heard the information, *-tatela* is used when (s)he refers to the time when (and possibly the place where) (s)he heard the information.

Moreover, unlike *-tanta, -tatela* is not completely unacceptable with an additional nominative-marked noun phrase, as shown in (41):

(41) a. ?jwun-i mina-ka ttena-ss-tatela.
Joon-NOM Mina-NOM leave-PFCT-REP
'Joon said that Mina left/had left.'

b. ?jwun-i mina-ka aphu-tatela.
Joon-NOM Mina-NOM be.sick-REP
'Joon said that Mina is/was sick.'

While *-tanta* is clearly unacceptable with a subject that is the source of the proposition in question, as seen in (36c), *-tatela* seems much better, as seen in (41). Consider the following conversation:

(42) A: mina-ka yocuum way an-po-i-ni?
Mina-NOM these.days why not-see-PASS-INT
Lit. 'Why isn't Mina seen these days?'
'Why hasn't Mina shown up these days?'

(43) B: jwun-i kyay aphu-tatela/ ??/*aphu-tanta.
Joon-NOM (s)he be.sick-REP/ aphu-HEAR
'Joon said that she is sick.'

In (43), the sentence containing *-tatela* sounds fine with an additional subject, whereas a sentence with *-tanta* is unacceptable. Furthermore, (43) conveys that Joon is likely to be the person who saw her and found out that she was sick. This indicates that there is only one intervening speaker. Thus, it seems that *tatela* may be a second-hand reportative marker, in Faller's terms. On the other hand, only *-tanta* is used as a hearsay marker. Thus we can say that *-tanta* covers the folklore reported evidential and the third-hand reported evidential as well as possibly the second-hand reported evidential. Therefore, I claim that *-tanta* (or *-tay*) is a hearsay reportative marker and *-tatela* (or *-tatey*) is a second-hand reportative marker.

Regarding N.-K. Kim's (2000) definition of *-tanta* and *-tatela* as a present and a past reportative (or hearsay) respectively, I speculate that the two forms have lost their temporal properties in their present use. I assume that originally the two forms carried different temporal meanings as quotative forms, and this difference has actually led the two to develop into different reportative forms. That is, *-tanta*, which had a present time reference, is neutral in time reference now, functioning as a hearsay marker. In contrast, *-tatela* still has a past time reference, which indicates the time when the actual speaker heard the utterance of the original source speaker. So this past time reference led *-tatela* to function as a second-hand reportative marker.

The hearsay reportative marker *-tanta* can also occur with other suffixes, for example, *-ess, -keyss,* and Ø, as shown in (44):

(44) a. mina-ka ttena-ss-tanta.
Mina-NOM leave-PFCT-HEAR
'[They say] Mina has left.'

b. mina-ka ttena-keyss-tanta.
Mina-NOM leave-MOD-HEAR
'[They say] Mina will leave.'

c. mina-ka aphu-tanta.
Mina-NOM be.sick-HEAR
'[They say] Mina is sick.'

When the event is prior to the time of reporting, i.e. the utterance time, *-tanta* is used with *-ess*, as in (44a), and when the event is posterior, *-tanta* is used with *-keyss*, as in (44b). However, if the event is simultaneous with the time of reporting, *-tanta* is used with Ø, as in (44c).

It looks like my analysis has a problem if the reportative *-tanta* co-occurs with direct or indirect evidentials. If *-ess* and *-keyss* in (44) are indirect evidentials, the indirect

evidential meaning seems to be redundant because *-tanta* is a hearsay marker and thus also carries the indirect evidential meaning. The redundancy in (44a)–(44b) does not seem to be a major problem, however. In cases like (44c), if Ø is a direct evidential, then the sentence should contain two contradictory meanings—a direct evidence meaning from Ø and an indirect evidence meaning from *-tanta*. The only way out is that *-ess, -keyss,* and Ø in (44) are not evidentials but rather carry only temporal or/and modal meanings, and *-tanta* is a true evidential form. As discussed in the previous section, *-ess, -keyss,* and Ø can be used either as evidentials or as non-evidentials (regular aspects/moods). Therefore, I argue that in cases like (44), only *-tanta* or *-tate* carry evidential meanings, while *-ess, -keyss,* and Ø are not evidentials but an anterior (perfect), a mood, and the zero tense respectively.

One remaining issue is that the hearsay reportative marker *-tanta* does not occur with the spatial-temporal tenses, *-te* or *-ney.* Since these spatial deictic tenses create an environment for evidentials, as argued above, we would expect that the reportative form should co-occur with them. In the following section, I will discuss this issue in detail and suggest a solution.

5.3.2 Reportative versus inferential evidentials.

The Korean reportative evidentials do not behave in the same manner as the evidentials discussed in Section 5.2. First, unlike the other evidential suffixes *-ess*

and *-keyss*, the reportative *-tanta* cannot co-occur with the spatial deictic tense *-ney* or *-te*:[23]

(45) a. *mina-ka aphu-**tanta**-**ney**.[24]
Mina-NOM be.sick-HEAR-S.PRES
'[They say] Mina was sick.'

b. *mina-ka aphu-**tanta**-**te**-la.
Mina-NOM be.sick-HEAR-S.PAST-DEC
'[I heard] Mina was sick.'

Second, unlike other evidentials, *-tanta* can co-occur with the simple deictic tenses, *-nun* or *-essess*: [25]

(46) a. mina-ka pwusan-ey sa-n-tanta.
Mina-NOM Pusan-LOC live-PRES.IMPF-HEAR
'[They say] Mina lives in Pusan.'

b. mina-ka pwusan-ey sal-assess-tanta.
Mina-NOM Pusan-LOC live-PAST-HEAR
'[They say] Mina lived in Pusan.'

This suggests that there might be two distinct types of indirect evidentials that do not compete with each other. Willett's (1988) taxonomy allows for this, since it divides the indirect evidentials into two different subgroups: reported versus inference. The indirect

[23] Another possible reason for their incompatibility with spatial tenses is because, as seen in (35) and (37), reportative forms are morphologically complex containing both tense and sentential mood forms, which appear in the highest position in the sentence. I will return to this point later.

[24] However, the following sentence with *-ney* can have a reportative evidential meaning:

(i) mina-ka aphu-ta-ney.
Mina-NOM be.sick-TA-S.PRES
'[They say] Mina is sick.

Here, I assume that the structure of (i) is similar to that of (35c), which means that the first verbal suffix *-ta* is originally the declarative mood form of the embedded clause and *-ney* is the familiar style ending, not a spatial-deictic tense form, as discussed in Chapter 4 f.n. 31. Thus *-taney* is a style variant of *-tanta*.

[25] This was pointed out to me by Chung-hye Han.

evidentials that occur with the spatial deictic tense *-te* are the inferential indirect evidentials (see (4b) and (4c)), whereas *-tanta* and *-tatela* are reported indirect evidentials.

However, there is another problem. The Korean data have shown that the direct sensory evidential (Ø) competes with the inferential indirect evidentials (*-ess* and *-keyss*) at the same category level, since they both occur with the spatial deictic tenses. This indicates that both the direct evidential and the inferential indirect evidential should belong to the same higher category. However, this is not the case under Willett's taxonomy. Rather the reportative indirect evidential and the inferential indirect evidential both belong to the same higher category—the indirect evidential.

According to Faller (2002:68–71), inferential and reportative evidence are not ordered with respect to each other. When the speaker evaluates the evidence available to him (her), sometimes (s)he prefers the report of a witness over his (her) own inference and sometimes (s)he prefers his (her) inference over a report, especially if the source is not trustworthy. Thus, as mentioned above, she suggests that there should be two independent scales for evidentials—the Personal Evidence Cline and the Mediated Evidence Cline (3), repeated as (47):

(47) Two scales of evidentials (Faller 2002:228)

a. Personal Evidence Cline:[26]

Performative > Visual > Auditory > Other sensory >
Inference from results > Reasoning > Assumption

b. Mediated Evidence Cline:

(Direct) > Second-hand > Third-hand > Hearsay/Folklore

Faller's two independent scales of evidence can account for the Korean case. The evidentials on the Personal Evidence Cline indicate how the speaker is involved in the proposition (s)he expresses. In contrast, the evidentials in the Mediated Evidence Cline indicate how many speakers there are other than the current speaker in the chain of evidence. In order to express the different degrees of inference involved, i.e. the speaker's involvement, Korean utilizes the spatial deictic tenses and the three evidential forms,

[26] The hierarchy of Performative, Visual, and Auditory in the Personal Evidence Cline is based on the following hierarchy suggested by Oswalt (1986:34–37) for Kashaya:

(i) Performative > Factual-Visual > Auditory > Inferential > Quotative

According to Oswalt, Kashaya not only distinguishes the auditory evidential from the visual (factual), but also the performative evidential from the visual (factual) evidential:

(ii) a. quwå.qala — Performative Imperfective (*-ŵela*)
'I am packing (a suitcase).'

b. quwåhmela — Performative Perfective (*-mela*)
'I just packed.'

(iii) a. quwå.q^{h} — Factual Imperfective (*-ŵa*)
'[I see] he is packing.'

b. quwahy — Visual Perfective (*-yă*)
'[I just saw] he packed.'

The performative suffixes indicate that the speaker knows of what he (or she) speaks because he (or she) is performing the act himself (or herself) or has just performed it. The subject of clauses with performative suffixes is always the first person. In contrast, the factual suffix (imperfective) and the visual suffix (perfective) indicate that the speaker sees or saw the event described by the sentence (Oswalt 1986:35).

Ø, *-ess, -keyss.* This aligns with the Personal Evidence Cline (47a). In order to indicate that the speaker is not the one who made the statement in question, Korean uses *-tanta* and *-tatela,* which align with the Mediated Evidence Cline (47b). Thus, the Korean data show that these two types of evidentials do not compete with each other, supporting Faller's view of two independent scales in (47).

Another difference between the inferential indirect and the reportative indirect evidentials is that they apply to different levels. Faller (2004) suggests that two types of evidentiality need to be distinguished: propositional-level (or illocutionary-level) evidentiality, which is a relation between the speaker and the proposition, and event-level evidentiality, which is deictically induced. It is probably the case that Korean reportative indirect evidentials are illocutionary-level evidentials, whereas the evidential forms that occur with a spatial deictic tense are event-level evidentials. I will address this issue in the following section.

5.4 Evidential vs. non-evidential sentences.

So far we have seen that Korean has a rich evidential system, since it not only has two inferential evidential forms, *-ess* and *-keyss,* but also at least two reportative evidential forms, *-tanta* and *-tatela*, although these two types are not in the same level of structure. At the same time, Korean has the evidential and spatial deictic tense system in parallel with the regular tense and aspect system. One question that arises is why Korean exploits two distinct systems. That is, how do evidential sentences and non-evidential sentences differ? We are already aware that, unlike a non-evidential sentence, an evidential sentence conveys the source of the information that the speaker acquired. In this section, I examine whether or not the Korean evidential sentences have more than the

source-conveying meaning, in comparison with non-evidential sentences. In other words, I explore other reasons for Korean to utilize both the evidential and the non-evidential system.

5.4.1 Evidential sentences lack assertive points.

Cuzco Quechua has three evidential markers, the direct evidential *-mi*, the reportative *-si*, and the conjecture *-cha* (Faller 2002). Departing from the previous analysis that the two enclitics *-mi* and *-si* are simple evidential markers, Faller (2002) argues that they are illocutionary operators (or modifiers) in the sense of the speech act theory developed by Searle and Venderveken (1985). For the enclitic *-mi*, the meaning of direct evidence is a part of a wider concept that includes cases where the speaker obtained the information from a source of authority (e.g. teachers or books). Thus, *-mi* is an illocutionary operator that modifies the sincerity condition of simple speech acts by adding the condition that the speaker has the best possible grounds for making the speech act. For the enclitic *-si*, Faller proposes a new type of speech act 'presentation' because *-si* indicates that the speaker brings another speaker's assertion into the conversation. Crucially, *-si* does not have the sincerity condition of an assertion, i.e. the speaker believes the proposition in question. Hence, *-si* changes a speech act of assertion (made by a person other than the actual speaker) into another speech act of 'presentation' (made by the actual speaker).

I argue that the Korean reportative forms also do not convey the meaning of a speech act of assertion, although they contain the declarative form *-ta*. Observe the following data, in which there is a quoted complement clause of the verb *tanenha* 'assert':

(48) a. "mina-ka kyelbaykha-**ta**," lako tanenha-n salam-un na-(i)-ta.
Mina-NOM be.innocent-DEC QUOT assert-ATT person-TOP I-be-DEC
Lit. 'The person who asserted, "Mina is innocent", is I.'
'It is me who asserted that Mina is innocent.'

b. #"mina-ka kyelbaykha-**tanta**," lako tanenha-n salam-un na-(i)-ta.
Mina-NOM be.innocent-HEAR QUOT assert-ATT person-TOP I-be-DEC
'#It is me who asserted that [I am told] Mina is innocent.'

In the grammatical (48a), the quoted clause contains only the declarative form *-ta*, but in the ungrammatical (48b), the quoted clause contains the hearsay marker *-tanta*. Apparently, a reportative sentence does not convey a speech act of assertion, but rather something else. As Faller claims, it may be that in a reportative sentence the speaker simply presents another's assertion. This again confirms that the declarative form *-ta* following the morpheme *-tan* has lost its declarative meaning and *-tan* and *-ta* together function as a hearsay reportative marker. Thus, I argue that the hearsay form *-tanta* does not express a speech act of assertion because the quoted sentence with *-tanta* in (48b) does not necessarily indicate that the speaker believes that Mina is innocent. One way to account for this meaning is to adopt a sentential force other than the assertive force, something along the lines of Faller's (2002) speech act of presentation.

Furthermore, I argue that the direct and inferential indirect evidential forms in Korean also do not convey a speech act of assertion. Several Korean linguists have claimed that, in comparison to a sentence without *-te* (cf. (49a)), a sentence with *-te* (cf. (49b)) implies an abstract concept such as 'psychological distance' (Shin 1980), 'weakened reliability' (Shin 1980), 'irresponsibility' (Y.-H. Kim 1981), 'objective conveyance' (Yu 1981), 'discontinuity of consciousness' (Im 1982), or 'report' (Suh 1996).

(49) a. mina-ka ku phyenci-lul ssu-ko iss-ess-ta.
Mina-NOM that letter-ACC write-PROG-PFCT-DEC
'Mina was /has been writing that letter.'

b. mina-ka ku phyenci-lul ssu-**te**-la.
Mina-NOM that letter-ACC write-S.PAST-DEC
'[I saw] Mina was writing that letter.'

Such meanings are completely unexpected in direct evidential sentences like (49b), which should convey that the proposition in question is more reliable and trustworthy, and thus the speaker feels certain about it.

However, this is not the case with Korean direct evidential sentences, as indicated in the meanings above. Those meanings are all associated with the speaker's attitude about the proposition and derived from the lack of the speaker's belief or commitment.[27] One argument comes from the fact that although *-te* is allowed in the complement clause of the verb *malha* 'say', it is not allowed in those of other attitude verbs, such as *mit* 'believe', *al* 'know', and *sayngkakha* 'think', as illustrated by the following:

(50) mina-nun jwun-i ku pheynci-lul ssu-**te-la**-ko
Mina-TOP Joon-NOM that letter-ACC write-S.PAST-DEC-COMP
malha-yssess-ta.
say-PAST-DEC
'Mina said that [she saw] Joon was writing the letter.'

(51) #mina-nun jwun-i ku pheynci-lul ssu-**te-la**-ko
Mina-TOP Joon-NOM that letter-ACC write-S.PAST-DEC-COMP
mit-essess-ta.
believe-PAST-DEC
'Mina believed that Joon was writing the letter.'

This is also the case in the following directly quoted sentence:

[27] These properties seem to reflect the fact that sentences with *-te* are rarely used in public speeches.

(52) #“mina-nun kyelbaykha-**te-la**,” lako tanenha-n salam-un na-(i)-ta.
Mina-TOP be.innocent-S.PAST-DEC QUOT assert-ATT person-TOP I-be-DEC
‘#It is me who asserted, “[I hear] Mina is innocent”.’

The strangeness of (52) indicates that they do not seem to convey an assertive speech act. Thus, when the speaker utters a direct evidential sentence like (49b), (s)he simply presents the proposition expressed by the sentence to the hearer without his (her) commitment to the proposition. In other words, the speaker of a direct evidential sentence objectively conveys that the proposition refers to a state of affairs that is perceived through his (her) senses. This is also true with the inferential indirect evidential sentences.

(53) a. “mina-ka ku phyenci-lul ssu-ss-**ta**,” lako tanenha-n
Mina-NOM that letter-ACC write-PFCT-DEC QUOT assert-ATT
salam-un na-(i)-ta.
person-TOP I-be-DEC
‘It is me who asserted that Mina wrote that letter.’

b. #“mina-ka ku phyenci-lul ssu-ss-**te-la**,” lako tanenha-n
Mina-NOM that letter-ACC write-PFCT-S.PAST-DEC QUOT assert-ATT
salam-un na-(i)-ta.
person-TOP I-be-DEC
‘#It is me who asserted that [I found out] Mina wrote/had written that letter.’

Unlike the quoted non-evidential sentence in (53a), the evidential sentence in (53b) does not seem to be acceptable as the complement of the verb *tanenha* ‘assert’.

This contrast holds in sentences with the suffix *-keyss*: the non-evidential (epistemic mood) *-keyss* is fine (54a) but the evidential *-keyss* (54b) is not.

(54) a. “mina-ka hoycang-i toy-keyss-**ta**,” lako tanenha-n
Mina-NOM president-NOM become-MOD-DEC QUOT assert-ATT

salam-un na-(i)-ta.
person-TOP I-be-DEC

‘It is me who asserted that Mina would become the president.’

b. #“mina-ka hoycang-i toy-keyss-**te-la**,” lako tanenha-n
Mina-NOM president-NOM become-MOD-S.PAST-DEC QUOT assert-ATT

salam-un na-(i)-ta.
person-TOP I-be-DEC

‘It is me who asserted that Mina would become the president.’

We can interpret this difference as follows: although the quoted non-evidential sentence in (54a) contains the mood form indicating ‘weak necessity’ (or ‘possibility’), it indicates the speaker’s assertion about the probability of the proposition *Mina becomes the president*. In contrast, in the quoted evidential sentence in (54b), the speaker simply presents the probability of the proposition based on his (her) reasoning without asserting it.

Another argument for the non-assertive nature of evidential sentences comes from the fact that the speaker is a passive perceiver of a situation in question, as discussed in the previous chapter. The speaker of an evidential sentence is not a person who is involved in making a judgment, as in a nonevidential sentence, but rather (s)he objectively describes the world as perceived through his (her) senses. In this respect, the speaker of an evidential sentence serves as a channel[28] through which information is obtained and then delivered to the hearer.

This explains why in the present tense, a direct evidential sentence does not take the declarative form *-ta*, as shown in (55b):

[28] Faller (2002) uses the term ‘channel’ in her discussion of the Quechua reportative.

(55) a. pusan-ey-nun cikum nwun-i o-n-**ta**.
Pusan-LOC-TOP now snow-NOM come-PRES.IMPF-DEC
'It is snowing in Pusan.'

b. pusan-ey-nun cikum nwun-i o-**ney/** ***o-ney-ta**.
Pusan-LOC-TOP now snow-NOM come-S.PRES/ come-S.PRES-DEC
'[I see] it is snowing in Pusan.'

The nonevidential sentence in (55a) has the declarative mood form *-ta*, expressing a speech act of assertion. In contrast, the evidential sentence in (55b), which does not express a speech act of assertion, has the spatial deictic present tense form *-ney*. I speculate that *-ney* is a mixture of the old present imperfective form *-nu* and some mood form. Because of this meaning difference, the evidential suffix is not followed by the declarative form *-ta.* Thus, I assume that, in modern Korean, *-ney* is a syncretic morpheme that is composed of the spatial deictic present tense and a mood form indicating a sentential force that is not assertive.

This analysis seems to be problematic for evidential sentences with the spatial deictic past tense *-te*, because *-te* is always followed by the declarative form *-la*.[29] The spatial deictic tense *-te* originates from a past imperfective. I assume that, as a consequence of this meaning change, the declarative form *-la* of *-te-la* also lost the meaning of a true declarative mood form and thus changed into a mood form that expresses a speech act of presentation. Alternatively, we can say that, just like *-ney*, *-te-la* is a mixture of the spatial deictic past tense and a non-assertive mood form, i.e. the speech act of presentation.

[29] The form *-te-la* historically originates from the past imperfect form *-te* and the declarative mood form *-ta*. In the fifteenth century, the use of the suffix *-te* was not restricted as it is today and *-te* as the past imperfective was on a par with the present imperfective *-nu*. (Huh 1987, H.-S. Lee 1991). Historically, *-te* functioned as a past imperfective but became a spatial deictic past tense form in Modern Korean.

One argument for an analysis involving the presentative speech act comes from the fact that, unlike regular declarative sentences, sentences with the spatial deictic tense are not used in the absence of the actual addressee in the utterance context. The spatial deictic tenses require the presence of the hearer and thus are hardly used in written texts. Because of this requirement, I defined *-te* as 'the speaker-addressee-oriented' tense in Chung (1999). In this respect, the spatial deictic tenses are like ditransitive predicates in that the speaker simply conveys some information to the addressee without his (her) commitment to it. I assume that this ditransitive property is equivalent to Faller's presentative mode.

5.5 Conclusion.

I have shown that Korean has direct versus inferential evidentials on the one hand and reportative indirect evidentials on the other. Furthermore, I have shown that all the evidentials (reportative or non-reportative) express the same speech act, i.e. the presentative speech act. Thus, while sentences with the regular declarative ending *-ta* express the assertive speech act, evidential sentences characterize the presentative speech act. An analysis along these lines allows for the following categorization of the evidential and sentential mood system for Korean:

(56) The Sentential Mood and Evidential System in Korean

a. Assertive: *-ta*

b. Presentative:

i) Deictic Evidential: *-ney, -tela*

Direct (Ø) > Inference from results (*-ess)* > Reasoning (*-keyss*)

ii) Reportative Evidential:

Second-hand (*-tatela/-tatey*) > Hearsay (*-tanta/ -tay*)

Thus, we account for the fact that direct and indirect inferential evidentials do not compete with the reportative evidentials, i.e. they are not in the same level. Also we account for the fact that they share a common property, i.e. the sentential force of presentation. This sentential force is one that distinguishes evidential sentences from non-evidential sentences in Korean.

Moreover, the present analysis may apply to data in other languages. It is clear that, as suggested in Faller's (2002) analysis of two scales of evidentials in (47), the deictic evidentials and the reportative evidentials work at different levels: the former applies to the tense and aspect level; the latter applies to the sentential force level. However, the two types of evidentials have often been analyzed as belonging to one category, the evidential, which is unexpected, since the two types are different categories that work at different levels. This fact may be accounted for if cross-linguistically most evidential forms, whether they are reportative or non-reportative evidentials, express a speech act of presentation that lacks the speaker's belief in the proposition in question. Even though the two types work at different levels, they converge on the same sentential force. This may be the reason the two types have been treated as if they compete with

each other. In order to confirm my analysis, a thorough study of the cross-linguistic data is needed.

One remaining question concerns the definition of the speech act of presentation. Faller (2002:199–200) suggests the denotation of the reportative *-si*, as follows:

(57) a. ***-si***: assert(p) ➔ **PRESENT(p)**

SINC= {believe(s, p)} SINC = {$\exists s_2$ [Assert(s_2, p) $\wedge$ $s_2 \notin$ {h, s}]}

b. Para-sha-n-si
Rain-PROG-3-SI
p = 'It is raining.'
ILL = PRESENT(p)
SINC = {$\exists s_2$ [Assert(s_2, p) $\wedge$ $s_2 \notin$ {h, s}]}

s = Speaker
h = Hearer
p = Proposition
ILL = Illocutionary Force
SINC = Sincerity Condition

The enclitic *-si* is a function from a speech act to a speech act, and thus, applies to a speech act of assertion, yielding a speech act of presentation, as shown in (57a). In addition, it introduces a new sincerity condition such that there is some speaker who asserted p, and this speaker is neither the hearer nor the current speaker, and this condition does not include the speaker's belief in p. The problem is that this meaning might work for the Korean reportative forms but cannot work for the non-reportative evidentials because they do not apply to the speech act level. That is, they do not show the change from an assertive act to a presentative act. Rather they inherently convey a presentative speech act. Two questions arise from this discussion. If the deictic (non-reportative) evidentials express presentative speech acts, what should the sincerity

condition be? Is there any way to subsume this meaning under one of the traditionally established speech acts? I will discuss this issue further in the next chapter.

Chapter 6: Conclusions and Further Issues

This thesis has been an exploration of the inflectional system of Korean, focusing on tense, aspect, and mood. I have shown that the distinction between the perfect and the past tense seen in many Indo-European languages is manifested in Korean as the distinction between the simple form *-ess* and the double form *-essess*. I have argued that *-ess* is an operator tense that denotes anteriority, whereas *-essess* is a deictic (indexical) past tense. This suggests that there is an ontological distinction between the anterior and the deictic past tense. Languages like Korean that did not have distinct forms for the past tense opposed to perfect, as European languages do, still found a way to make a distinction, i.e. by doubling the simple morpheme. Furthermore, I have discussed the semantics and pragmatics of the perfect from a cross-linguistic perspective, relating the difference in the semantics of perfect to the difference in the semantics of the present tense in a given language. Also I have suggested that the Present Perfect Puzzle phenomenon in English can be explained by a dichotomy between deictic and non-deictic tense. Moreover, the reason perfect forms in languages like Korean and Italian do not exhibit Present Perfect Puzzle effects relates to the semantics of the present tense in these languages. Further cross-linguistic research is necessary to verify this claim.

In addition, I have proposed that Korean has two spatial tense forms—the spatial deictic present tense *-ney* and the spatial deictic past tense *-te* (or *-tela*). Consequently, Korean has two distinct types of deictic (indexical) tense—simple deictic tense and spatial deictic tense. Table 3 summarizes my analysis of the Korean tense system:

Table 3. Korean Tense System

	SIMPLE DEICTIC TENSE	SPATIAL DEICTIC TENSE
PRESENT	*-nun* or Ø	*-ney*
PAST	*-essess*	*-te*

Simple deictic tense differs from spatial deictic tense in that the latter requires reference to spatial locations or to the speaker's own perceptual field but the former does not. Simple deictic tense provides a reference time for regular aspects or moods, whereas spatial deictic tense does so for evidentials.

Moreover, I have shown that the same morphemes manifest different roles in different environments. That is, the morphemes *-ess, -keyss*, and Ø function as simple non-evidential aspect and mood markers or as evidentials, depending on whether they occur with a simple deictic tense or with a spatial deictic tense. The spatial reference of the spatial deictic tense indicates that the speaker's location is restricted to a certain place at the reference time, which induces different types of evidentials. If the event occurs within the speaker's perceptual field, then direct evidential meanings are induced. If it occurs outside the speaker's perceptual field, then indirect evidential meanings are induced. Thus, Korean has two distinct tense systems: the regular tense/aspect system and the spatial-deictic-tense/evidential system.

In this chapter, I discuss several remaining issues in the areas of evidentiality, aspect, and tense. Section 6.1 discusses the differences between evidential sentences and non-evidential sentences in terms of world arguments and speech acts. I provide a tentative analysis of the speech act of presentation. Section 6.2 posits a syntactic structure for evidential sentences and discusses implications for the universal hierarchy of functional projections (Cinque 1999). Also, I show how my research predicts a four-way

typology of tense and evidential systems in the world's languages. Section 6.3 continues to investigate the nature of the functional architecture, turning now to the area of aspect. I focus on the imperfective and the progressive, particularly their relationship with tense, and show that aspect is a category that maps not to only one level, but to several levels. Finally, Section 6.4 raises an additional issue: temporal interpretation in subordinate clauses. First, I discuss the role of the imperfective in de se (simultaneous) readings of subordinate clauses. Second, I discuss the Sequence of Tense phenomenon in relation to Schlenker's (1999, 2003) analysis of indexicals. I speculate that the SOT phenomenon should be treated independently of the issue of context-shifting indexicals.

6.1 Spatial deictic tenses, world variables, and speech acts.

In Chapter 5, I provided a systematic account for the diachronic and synchronic connection between the anterior (perfect) and inferential indirect evidentials (especially result-state-based evidentials) by integrating Izvorski's (1997) analysis of the indirect evidential and Portner's (2003) modal analysis of the present perfect. The former treats the indirect evidential as an epistemic modal operator and the latter claims that the perfect has an epistemic necessity operator as its presupposition. Thus, I have suggested that both the perfect and the inferential indirect evidential have three meaning components in common: an event described by the proposition in question, its consequent state, and the epistemic modal operator that relates these two.

At the same time, I have shown that the inferential indirect evidential and the anterior (perfect) are completely distinct categories. First, they differ in the way that the three components are combined. In the perfect, the event described by the sentence is asserted, and the epistemic modal with the consequent state of the event is presupposed.

In the inferential evidential, the epistemic modal with the event is asserted, but the consequent state is presupposed. Second, they differ in that the inferential indirect evidential has an additional meaning component, i.e. the speaker has not witnessed the event.

This leads to the following definitions of the anterior (perfect) *-ess* and the indirect inferential evidential *-ess*:

(1) a. [[ANTERIOR *-ess*]] $= \lambda P.\, \lambda t.\, \exists e\, [\, \tau(e) < t \wedge P\,(e)]$
Presupposition: $\Box\, p'$ at t,
where p' is a consequent state of the perfect proposition p.

b. [[INDIRECT EVIDENTIAL *-ess*]] $= \lambda P.\, \lambda t\, .\, \Box\, \exists e\, [\, \tau(e) < t \wedge P(e)\,]$
Presupposition: the speaker has indirect evidence p' for p,
where p' is a consequent state of p.

When there is no overt modal element involved, sentences with the anterior *-ess* are factual (non-modal) with temporal shifts, whereas sentences with the indirect evidential *-ess* are non-factual (modal) with temporal shifts, as illustrated by the following:

(2) a. mina-ka middlemarch-lul ilk-ess-ta.
Mina-NOM Middlemarch-ACC read-PFCT-DEC
'Mina has read *Middlemarch*.'

b. mina ka middlemarch-lul ilk-ess-ney.
Mina-NOM Middlemarch-ACC read-PFCT-S.PRES
'[I infer] Mina has read *Middlemarch*.'
Or 'Evidently/Certainly Mina has read *Middlemarch*.'

Sentence (2a) with the anterior *-ess* is simply a factual statement about a prior event, whereas (2b) with indirect evidential *-ess* is a modal statement about a prior event.

So far, I have discussed the temporal meaning and the epistemic necessity modality of the indirect evidential *-ess,* but I now turn to a discussion of its world argument. The issue is why a sentence with the anterior *-ess* makes a factual (non-modal) statement, whereas a sentence with the indirect evidential *-ess* makes a modal statement. I argue that the difference is that the anterior *-ess* and the indirect evidential *-ess* do not take the same world argument. The world variable *w* that is used in the analysis of regular non-evidential sentences (factual or modal sentences) cannot be used in evidential sentences. For evidential sentences, the distinction between the factual and non-factual is determined by the speaker's perceptual field: direct evidential situations, which occur within the speaker's perceptual field, are factual, and indirect evidential situations, which occur outside the speaker's perceptual field, are non-factual. So, factual statements made with regular non-modal sentences are about the actual world, but direct evidential sentences are about the speaker's own perceptual field, which is included in the actual world. This means that, for evidential sentences, the world that the speaker's perceptual field refers to is much narrower than the actual world.

Arguing along the same lines, Izvorski (1997) uses the notion of the 'world of speaker' w_s for evidential sentences. She suggests that in an indirect evidential sentence, the set of worlds in which the perfect proposition *p* is known is excluded from the speaker's worlds $\cap f(w_s)$ (the set of the worlds accessible from the speaker's world), even though a set of worlds in which the proposition p' (indirect evidence of *p*) is known is included in the speaker's worlds. The resulting interpretation is that the speaker has no direct evidence for *p*. Although she does not elaborate the notion of speaker's world, I assume that it is equivalent to my use of speaker's perceptual field (or speaker's

perceptual world), and adopt her use of w_s for analyzing evidentiality. Therefore, the possible worlds that apply to the anterior *-ess* and those that apply to the indirect evidential *-ess* differ: the former takes world variables *w* and the latter world variables w_s.

If we factor in world arguments, we can revise the definitions in (2) as follows:

(3) a. [[ANTERIOR *-ess*]]
$= \lambda P.\ \lambda t.\ \lambda w.\ \exists e\ [\tau(e) < t \wedge P\ (e)\ (w) = 1\ ]$
Presupposition: $\Box\ p'$ at *t* in *w*,[1]
where p' is a consequent state of *p* denoted by *P*(*e)* in *w*.

b. [[INDIRECT EVIDENTIAL *-ess*]]
$= \lambda P.\ \lambda t\ .\ \lambda w_s.\ \Box\ \exists e\ [\tau(e) < t \wedge P(e)\ (w_s') = 1\ ]$
Presupposition: speaker has p' as indirect evidence for *p* at *t* in w_s,
where p' is a consequent state of *p*.

The definition of the anterior *-ess* in (3a) indicates that the proposition *p* denoted by a given sentence is true in the actual world *w* as long as the proposition *p* denoted by the sentence was held before the reference time *t* in the actual world *w*. On the other hand, the definition of the indirect evidential *-ess* in (3b) indicates that the proposition *p* denoted by a given sentence is true in the speaker's perceptual world w_s with respect to the conversational background if and only if *p* is true prior to *t* in all accessible worlds w_s' from w_s, These worlds are the speaker's belief worlds that are compatible with the indirect evidence of *p* in w_s.

So we can say that evidentials are purely speaker-oriented in that the decision between the factual and the non-factual is based solely on the speaker's perception: either the speaker relies on things available from his (her) perception (direct evidential) or from other sources (indirect evidential). For non-evidential sentences, the decision between

[1] This presupposition can be rewritten as follows:

(i) $\forall w'$ compatible with what we know at *t* in *w*: *p* $(w') = 1$

factual and non-factual is not just based on the speaker's perception. Non-evidential sentences make factual claims based on objective grounds such as opinions or views from reliable sources, including the speaker's perception. In this respect, evidential sentences make very subjective epistemic judgments in the sense of Lyons (1977). Based on Lyons' distinction between subjective and objective epistemic modality, Nuyts (2001:385) further claims that the notion of subjectivity versus objectivity is not inherent to epistemic modality and hence should be defined as an independent dimension of evidence. To be more precise, this dimension is defined in terms of subjective versus objective evidence: one pole, subjectivity, indicates that only the speaker knows (or has access to) the evidence and draws a conclusion from it; the other pole, objectivity, indicates that the evidence is known to (or accessible to) a larger group of people who share the same conclusion based on it (Nuyts 2001:393). Thus, I claim that evidential sentences make use of subjective evidence,[2] whereas non-evidential sentences make use of subjective and/or objective evidence.

The idea that evidential sentences make use of subjective evidence leads to an important insight into the difference between the anterior *-ess* and the indirect evidential *-ess* and, more broadly, the difference between evidential sentences and non-

[2] For evidential sentences with *-ney*, it is possible that the evidence is known not only to the speaker but also to the addressee(s) because they can refer to situations that are occurring at the time of utterance. Nuyts (2001:395) provides the following explanation of data that convey new or surprising information (i.e. mirativity):

> "In this construal of the dimension, subjectivity is probably very often a matter of formulating a hypothesis 'on the spot', without having thought about it beforehand (hence it is strictly personal, but also potentially new and/or surprising to the speaker) and/or without having had time to share information with interlocutors (hence it is potentially new and/or surprising to those interlocutors). In opposition, objectivity (intersubjectivity) means that the information (and the epistemic evaluation of it) is generally known, and hence is not new (or surprising) to speaker and hearer(s)."

evidential sentences. That is, evidential sentences make use of different speech acts than non-evidential sentences do. As discussed in Chapter 5, the Korean data show that non-evidential sentences have assertive speech acts, whereas evidential sentences instead have speech acts of presentation. Even direct evidential sentences do not express assertive points (Chapter 5: (49b), (51), and (52)). I speculate that the reason evidential sentences are not assertive is because they are uttered based only on the speaker's subjective evidence. According to Nuyts (2001:393), in the case of subjective evidence, the speaker assumes personal responsibility for the epistemic qualification, whereas in the case of objective evidence, (s)he assumes a shared responsibility among those who have access to the evidence. This analysis leads to the following reasoning. If the speaker only relies on his (her) subjective evidence when (s)he makes a judgment, then (s)he is the one who takes full responsibility for the judgment, and therefore, the burden is on the speaker. One way to avoid this burden is to make use of a non-assertive mode, i.e. a presentative speech act. Thus, it seems that Korean speakers use evidential sentences to be relieved of full responsibility. In an evidential sentence, the speaker delivers to the addressee a proposition that is based solely on his (her) subjective evidence without necessarily committing to it.[3]

Furthermore, I have shown in Chapter 5 that the Korean data support Faller's (2004) suggestion that two types of evidentiality need to be distinguished—event-level evidentiality, which is deictically induced, and propositional-level (or illocutionary-level) evidentiality, which is a relation between the speaker and the proposition. I have suggested that evidential forms, (Ø , *-ess,* and *–keyss*), that occur with a spatial deictic

[3] Nuyts (2001) also says that the concept of 'subjectivity' should not be treated as the same notion as 'speaker's commitment'.

tense, (*-ney* or *-tela*), are event-level (or deictic) evidentials, whereas reportative evidential forms are illocutionary-level evidentials. Non-evidential sentences, which take the declarative suffix *-ta*, express a speech act of assertion. In contrast, evidential sentences, whether they are reportative or non-reportative, express a speech act of presentation that lacks the speaker's belief in the proposition in question. This indicates that although the two types of evidentials work at different levels, they converge on the same sentential force—the speech act of presentation. Finally, I have provided the following categorization of the evidential and sentential mood system for Korean in Chapter 5 (56), repeated as (4):

(4) The Sentential (Speech Act) Mood and Evidential System in Korean

a. Assertive: *-ta*

b. Presentative:

i) Deictic Evidential: *-ney/-tela*

Direct: Ø > Inference from results: *-ess* > Reasoning: *-keyss*

ii) Reportative Evidential:

Second-hand: *-tatela* > Hearsay: *-tanta* (or *-tay*)

My analysis not only accounts for the fact that direct and indirect inferential evidentials do not compete with the reportative evidentials, but also for the fact that non-reportative and reportative evidentials share a common property, namely the speech act of presentation. Thus, a presentative speech act is what distinguishes evidential sentences from non-evidential sentences in Korean. However, we cannot simply adopt Faller's (2002) sincerity condition on the presentative speech act. Faller's sincerity condition, formulated to account for the Cuzco Quechua reportative *-si*, does not handle the Korean

non-reportative evidentials. I therefore tentatively provide the following sincerity condition on the speech act of presentation:

(5) PRESENT(p) :

SINCERITY CONDITION = {Give(s, h, $\exists v$[Have (s, v for p)])}

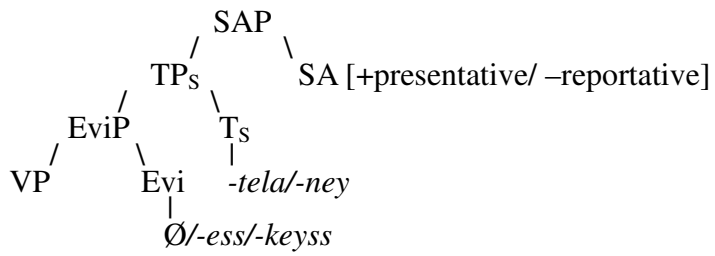
s = speaker
h = hearer
v = evidence
p = proposition

The sincerity condition on the presentative speech act says that the speaker s simply delivers to the hearer h that (s)he has evidence v of proposition p, and the evidence can be direct, inferential indirect, or reportative indirect. The condition has no specification of the speaker's belief in the proposition.

6.2 Syntactic structures of evidential vs. non-evidential sentences.

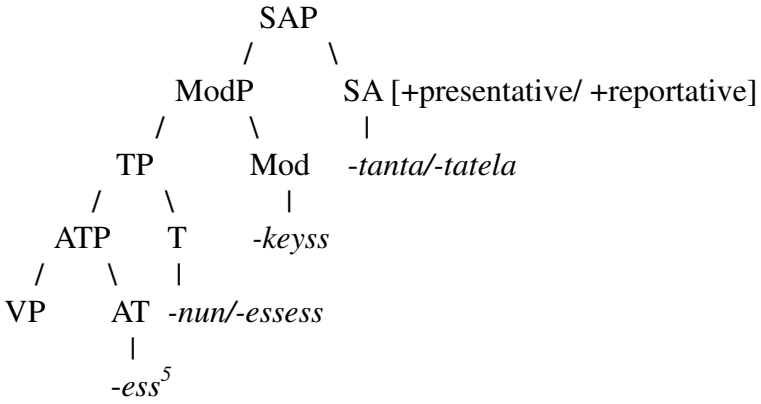
I have suggested above that Korean has two types of evidentials—deictic and reportative—and that the former, which occur with spatial deictic tenses, apply to the event level, but the latter apply to the speech act level. Furthermore, the two types of evidentials share the speech act of presentation, unlike regular non-evidential sentences. Consequently, they exhibit different syntactic structures, as illustrated in (6):

(6) a. Deictic evidential: [4]



[4] I assume this structure based on the surface order of verbal suffixes in Korean.

b. Reportative evidential:



SAP:	Speech Act Phrase
TP_S:	Spatial Deictic Tense Phrase
TP:	Simple Deictic Tense Phrase
EviP:	Evidential Phrase
ModP:	Modal Phrase
ATP:	Anterior Tense Phrase

The structures in (6) both have the speech act feature [+presentative]. They differ in the feature [reportative]. Another difference is that in the deictic evidential (6a), the tense projection is of a spatial deictic tense, whereas in the reportative evidential (6b), the reportative markers themselves do not have the deictic tense feature, as discussed in the

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[5] According to this structure, it should be possible to have both the anterior *-ess* and the deictic past tense *-essess* in a single sentence parallel to the past perfect construction in English. However, the combination of the two sounds odd:

(i) ??nay-ka tolao-ass-ul ttay mina-ka syawe-lul ha-yss-essess-ta.
I-NOM return-PFCT-IR.ATT time Mina-NOM shower-ACC do-PFCT-PAST-DEC
'Mina took a shower when I came back.'

When compared with a sentence with the past *-essess* only in (ii), there seems to be no meaning difference:

(ii) nay-ka tolao-ass-ul ttay mina-ka syawe-lul ha-yssess-ta.
I-NOM return-PFCT-IR.ATT time Mina-NOM shower-ACC do-PAST-DEC
'Mina took a shower when I came back.'

That is, when *-essess* co-occurs with *-ess*, it does not express the meaning of the past perfect.

On the other hand, the spatial deictic past *-te* can co-occur with *-ess* to represent a meaning similar to the past perfect, but it is nonetheless an evidential sentence. I speculate that since *-te* was formerly an imperfective past tense, the combination *-ess-te* presumably functioned as a past perfect but has evolved into an evidential construction.

previous chapter. Instead, reportatives can co-occur with a regular deictic tense, as shown in (46) in Chapter 5, repeated as (7):

(7) a. mina-ka pwusan-ey sa-n-tanta.
Mina-NOM Pusan-LOC live-PRES.IMPF-HEAR
'[They say] Mina lives in Pusan.'

b. mina-ka pwusan-ey sal-assess-tanta.
Mina-NOM Pusan-LOC live-PAST-HEAR
'[They say] Mina lived in Pusan.'

The fact that reportative sentences like (7) have an independent deictic tense seems to provide evidence for the claim that reportative markers do not have tense features by themselves. Thus, Korean reportative sentences have the same syntactic structure as Korean non-evidential sentences, except for their speech act features.

In addition, the structure of a reportative sentence in (6b) predicts that languages that do not have a systematic evidential distinction can have reportative markers. This prediction seems to be born out. According to Aikhenvald (2004:23, 75–76), if a language has one overtly marked evidential, it is likely to be a reportative (or hearsay) marker, which is in opposition to a default 'everything else', which is unspecified or neutral.[6] I have shown in previous chapters that Korean non-evidential sentences are evidentially unspecified or neutral, contrasting with Korean evidential sentences. I assume that in those languages with only reportatives, reportative evidential sentences contrasts with regular non-evidential sentences.[7] This requires further verification.

[6] According to Aikhenvald (2004:29), the other most frequent evidential form in languages with only one evidential type is the 'non-first hand' evidential, which covers information acquired through non-visual senses, by hearsay, and by inference of all sorts. This implies that these languages make a distinction between direct evidentials (visual) versus indirect evidentials (other evidential types). A system like this should be treated distinctly from a system that has only reportative forms.

[7] Alternatively, we can say that in these languages the evidential distinction applies to the speech act level.

The proposed analysis challenges Cinque's (1999) theory of the Universal Hierarchy of Functional Projections in two ways. First, my analysis posits another functional projection, the Spatial Deictic Tense Phrase, on top of the evidential mood phrase, as shown in (6a). Compare (6a) with the hierarchy that Cinque (1999:106) proposes:

(8) [*frankly* $\text{Mood}_{\text{speech act}}$ [*fortunately* $\text{Mood}_{\text{evaluative}}$ [*allegedly* **$\text{Mood}_{\text{evidential}}$**
[*probably* $\text{Modal}_{\text{epistemic}}$ [*once* **Tense (Past)** [*then* Tense (Future)
[*perhaps* $\text{Mood}_{\text{irrealis}}$ [*already* Tense (Anterior) [verb root]…..]…..]]]]]]]

Note that in the structure in (8), there are no tense phrases above the evidential mood phrase, although there are several tense phrases under the evidential mood phrase. Even if the evidential mood in (8) is the reportative evidential, another evidential phrase is probably needed under the past tense phrase.

Second, my analysis suggests that regular tense/aspect phrases should be in complementary distribution with spatial tense/evidential phrases, since they cannot co-occur in a sentence. However, Cinque claims that the full array of functional projections is present in all languages and in every sentence of each language. This approach is not insightful for Korean: either there is a spatial deictic tense with evidentials but not regular deictic tense, or there is a regular deictic tense expressed by aspect or mood forms but not evidentials. Thus, spatial deictic tense, evidentials, simple deictic tense, and aspect cannot all appear together in one sentence. This indicates that at least evidential sentences and non-evidential sentences have a systematically different array of functional projections.[8]

[8] Here I am talking about the functional categories that are syntactically incompatible, not the functional categories that are semantically incompatible.

This second point has implications for the cross-linguistic typology of the relationship of deictic tense and evidentiality.[9] I speculate that four different types of languages are predicted, as shown in Table 5:

Table 5. Four Types of Languages

		EVIDENTIALS	
		+	–
DEICTIC TENSE	+	I spatial deictic tense & evidentials	II simple deictic tense no evidentials
	–	III evidentials & no tense[10]	IV no tense & no evidentials

The first type of language has both tense and evidentials. Such languages are likely to have spatial deictic tense.[11] The second type of language has tense but no evidentials, and

[9] Only event-level evidentials (Faller 2004) are relevant for the typology in Table 2. Illocutionary-level evidentials, I assume, behave independently of the tense system.

[10] What I mean by a tenseless language is one that lacks overt present tense and past tense morphemes. However, I am not ruling out the possibility that tenseless languages have a covert tense that is underspecified with respect to the present and the past time reference. See Matthewson's (2004) analysis of St'át'imcets, which lacks obligatory tense morphology. So in Type III languages, there might be a covert spatial deictic tense that is underspecified with respect to the time reference.

[11] Tariana (an Arawak language spoken in the area of the Vaupes in northwest Amazonia) may exemplifies this first type. According to Aikhenvald (2004:1–2), speakers must specify whether they saw the event happen, or heard it, or know about it. Omitting an evidential results in an ungrammatical and highly unnatural sentence. Furthermore, the morphology of the evidentials is consistent with that of Korean evidentials in that the morpheme *-ka* appears in every evidential sentence, as shown below; following an evidential form; *-ka* without other morphemes expresses a direct visual evidential (i). This indicates that *-ka* may be a spatial past tense form like *-te* although the gloss did not distinguish the tense and the evidential.

(i) Juse iʃida di-manika-**ka** — Direct: Visual
José football 3SG.NF-play-REC.PAST.VIS
'José has played football [we saw it].'

(ii) Juse iʃida di-manika-**mahka** — Direct: Non-visual
José football 3SG.NF-play-REC.PAST.NONVIS
'José has played football [we heard it].'

(iii) Juse iʃida di-manika-**nihka** — Indirect: Inference
José football 3SG.NF-play-REC.PAST.INF
'J José has played football [we infer it from visual evidence].'

(iv) Juse iʃida di-manika-**sika** — Indirect: Assumption
José football 3SG.NF-play-REC.PAST.ASSUM
'José has played football [we assume this based on what we already know].'

the tense forms will be simple deictic tense. English is an example of a language belonging to this type. The third type of language has evidentials but no tense. Wintu illustrates this type, since according to Schlichter (1986:56), it has a complex system of visual and non-visual evidentials but no tense. The fourth type of language lacks both tense and evidentials, but possibly has aspects and moods (or modals). Mandarin Chinese, which appears to lack both tense and evidentials, would be an example of this type of language. Of course, this typology does not exclude languages that mix the two types. For example, Korean manifests both the first and second type, since it has simple deictic tenses and also evidentials with spatial deictic tenses.

I predict that Type II and III are more common than Type I and IV. That is because non-evidential languages do not focus on the source of information and thus are tense-oriented, so Type II is more common than Type IV. However, in evidential languages, conveying the information source is more important than conveying the time reference, which can be always supplied by the context. So Type III is more common than Type I. Further research is necessary to verify this typology.

6.3 Tense and aspect.

Although I have not fully addressed the issue of aspect in this thesis, I have discussed the important role of the imperfective with respect to the present tense and the perfect in Chapter 3 and the difference between the imperfective and the progressive in Chapter 4. In this section, I continue the discussion of the differences between these two aspectual categories, particularly their relationship with tense. I show that the traditional definition of aspect, i.e. that aspect is a means of viewing the internal temporal structure of a situation (cf. Comrie 1976), is too simplistic. I suggest instead that there are two

types of aspect: situation-external aspect (SEA) and situation-internal aspect (SIA). SEA applies to the tense level and SIA applies to the event (or situation) level. SEA includes imperfective forms, whereas SIA includes the progressive. Furthermore, I show that different SIA forms apply to different predicate levels, *v*P and VP. This leads me to speculate that aspect is a category that maps to not one but several different levels of structure.

6.3.1 Imperfective.

In Chapter 3, I discussed two different types of present tense—Simple Present (S-Present) and Imperfective Present (I-Present). Languages like English have S-Present, whereas languages like Italian and Korean have I-Present. Similarly, I assume that there are two types of past tense—Simple Past (S-Past) and Imperfective Past (I-Past). As discussed in Chapter 2, *-essess* is an S-Past, and the spatial deictic tense *-te* and attributive clause *-te* (*-te*^{A}) are I-Pasts. Thus, it is possible to give the following inventory of tense in Korean:

Table 6. The Inventory of Deictic Tense in Korean

	SIMPLE DEICTIC TENSE	SPATIAL DEICTIC TENSE
S-PRESENT	*	*
I-PRESENT	*-nun* or Ø [12]	*-ney*
S-PAST	*-essess*	*
I-PAST	*-te*^{A}-	*-te*

[*-te*^{A}: attributive clause *-te*]

Korean, unlike English, does not have a simple present tense form, as discussed in Chapter 3. However, it has an S-Past, *-essess*. The two simple deictic tense forms, *-nun*

[12] In modern Korean, the phonologically-null form often replaces *-nun*. This tendency is especially strong in main clauses in spoken Korean.

(or Ø) and attributive clause *-te*, contain the imperfective meaing as well as the present and the past temporal meaning respectively.[13] In a parallel fashion, the two spatial deictic tense forms, *-ney* and *-te* are imperfectives with different time reference—I-Present and I-Past.

In Chapter 4, I showed that the imperfective is different from the progressive. Particularly, the imperfective behaves differently than the progressive with respect to achievement verbs. Let us reconsider examples with the progressive *-ko iss* and the I-Past *-te*.

(9) a. ecey jwun-i sancengsang-ey tochakha-**ko iss**-ess-nuntey
yesterday Joon-NOM mountain.summit-LOC arrive-PROG-PFCT-but
kapcaksulen tolpwung-ulo tochakha-ci mos-ha-yss-ta.
sudden strong.wind-with arrive-COMP not-do-PFCT-DEC
'Yesterday, Joon was reaching the summit of the mountain, but suddenly a violent storm prevented him from getting there.'

[13] I define *-nun* as a present imperfective that is on a par with the past imperfective *-te* in attributive clauses. The two suffixes usually occur in the same inflectional slot, showing complementary distribution (H.S. Lee 1991, Han 1996). One problem with this analysis is that, unlike its past counterpart *-te*, *-nun* does not occur with adjectival predicates, i.e. stative predicates. As seen in Chapter 4, if *-nun* is an imperfective, then it should not have co-occurrence restrictions with respect to predicates types. I think that this fact ties to the fact that, in languages without tense and aspect forms, sentences with stative predicates tend to express present situations, whereas sentences with non-stative predicates express past situations (e.g. Haitian and Igbo (Déchaine 1993)). More specifically, languages without imperfective, such as English, show this state/non-state split in terms of present time reference. On the other hand languages with imperfectives like Italian do not exhibit the state/non-state distinction in the present tense. These facts indicate that imperfective plays an important role for non-stative predicates and is redundant for stative predicates because states can denote present situations even when temporally unmarked. That is why *-nun* does not occur with stative predicates. On the other hand, the past imperfective form, which is a syncretic morpheme, cannot be omitted even when it occurs with a stative predicate because it carries a marked notion 'past' and thus should be morphologically marked.

b. #ecey jwun-i san.cengsang-ey tochakha-**te**-ntey
yesterday Joon-NOM mountain.summit-LOC arrive-S.PAST-but

kapcaksulen tolpwung-ulo tochakha-ci mos-ha-yess-ta.
sudden strong.wind-with arrive-COMP not-do-PFCT-DEC

'Yesterday, Joon was reaching the summit of the mountain, but suddenly a violent storm prevented him from getting there.'

As discussed above, the progressive (9a) is acceptable because it does not entail that the culmination of the event has been reached. However, the imperfective (9b) expresses a contradiction: the first conjunct implies that the culmination of the event has been reached, but the second conjunct states otherwise. The contrast seen in (9) shows that the progressive can hold the achievement event at its preliminary stage, whereas the imperfective does not have the same power. The progressive is an operation that changes one situation type into another—into an atelic event (Dowty 1977), a stative (Vlach 1981), or an activity (Moens and Steedman 1988, Steedman 1997). Thus, the progressive is a situation-internal operation. On the other hand, the imperfective is an operation that applies situation externally, since it does not change the original situation type.

Another significant point is that the imperfective can co-occur with the progressive. For example, the Korean I-Past *-te* co-occurs with the progressive:

(10) ku-ttay jwun-i sancengsang-ey tochakha-**ko iss-te**-la.
that-time Joon-NOM mountain.summit-LOC arrive-PROG-S.PAST-DEC
'[I saw] Joon was reaching the summit of the mountain at that time.'

The imperfective and progressive also co-occur in other languages, e.g. Italian (Giorgi and Pianesi 1997):

(11) Ieri Gianni stave raggiungedo la vetta, quando un violent temporale gli impede di arrivaraci.

'Yesterday Gianni was reaching (**PROG.IMPF**) the top, but then a violent storm prevented him from getting there.'

This raises the issue: what is the grammatical category of the imperfective? Is it aspect, as traditionally defined? Or is it something else, for example, a tense form or a mixture of two categories, i.e. a mixture of tense and aspect or tense and something else? If it is aspect, then we have to explain why it can contain a distinct temporal reference, unlike other aspectual categories such as progressive. As discussed above, I claim that the imperfective is a mixture of tense and aspect, either present plus imperfective or past plus imperfective. Thus it has a temporal reference with an imperfective aspectual meaning.[14] Then another question arises: is the meaning of the imperfective the same as the aspectual meaning of the progressive? If both *-te* and the progressive *-ko iss* have the same imperfective meaning, then they are redundant. However, as seen above, the imperfective meanings conveyed by *-te* and the progressive *-ko iss* are not exactly the same.

In order to answer these questions, first we have to provide a correct definition of aspect in general and also an analysis of each morpheme. These questions do not seem to be resolved by the traditional definition of aspect as a different way of viewing the internal temporal structure of a situation (Comrie 1976). Sentences like (10) and (11) convey two different ways of viewing the situation at the same time, and a wrong result unless we are talking about the event in multiple dimensions at the same time. This leads to other questions: how many different types of aspects are there, how do they differ in terms of function, and where do they appear in the syntactic structure? Here I speculate

[14] Alternatively, it could be that the imperfective is an aspect with a temporal reference. I do not have a definitive analysis at this point.

that aspect is not a category that applies only to one level, for example, either the VP level or the *v*P level, but rather it is a category that can apply to several different levels. I assume that mainly there are two distinct types of aspect, situation-external aspect (SEA) and situation-internal aspect (SIA). SEA applies to the tense level and SIA applies to the event (or situation) level. Furthermore, I show that different SIA aspect forms apply to different predicate levels, *v*P and VP.

Regarding the difference between the progressive and the imperfective, Giorgi and Pianesi (1997) claim that the progressive is an intensional operation in the sense of Dowty (1977), but the imperfective is an extensional operation.[15] Their notions are similar to my notions of situation-internal aspect (SIA) and situation-external aspect (SEA). If the operation applies to the situation types themselves, it is likely to be intensional, since situations (or events) without temporal reference are intensional objects. In contrast, SEA applies situation-externally, to tense level, and thus it is likely to be extensional. That is, it yields actual situations in specific time. Thus, I claim that SIA includes the progressive, whereas SEA includes the imperfective.

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[15] Giorgi and Pianesi (1997) distinguish two categories: the progressive is an intensional operator and the imperfective is an existential operator, based on the contrast illustrated in (i):

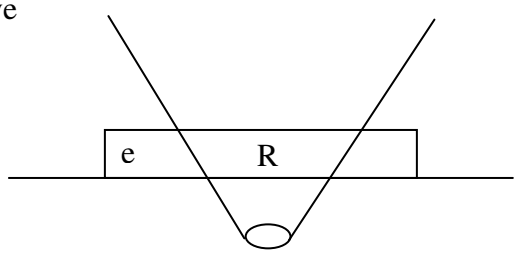
(i) a. Quando Artù entrò, Merlino creava un unicorno.
When Arthur entered, Merlin created(IMP) a unicorn.

b. Quando Artù entrò, Merlino stava creado un unicorno.
When Arthur entered, Merlin was creating(PROG IMP) a unicorn.

Sentence (ia), which is imperfective, entails that the unicorn must exist in the actual world, whereas (ib), which is progressive, does not entail the existence of actual unicorns (Giorgi and Pianesi 1997:172).

Here, I speculate that the imperfective, as an SEA, takes a viewpoint that is like a camera lens zooming in on a situation and has a range of view that falls on the situation, as illustrated below.

(12) Imperfective



The reference time R is the area that the event and the range of view overlap. This gives rise to the extended reference time, which can provide the continuous reading if the situation itself has some temporal interval. However, if the situation does not have any temporal interval, it cannot provide the continuous reading, because, no matter how closely it may zoom in, it is not a durative process but rather an instant change from the source state into the result state (or the target state).

As a result, unlike other situation types, achievements do not express on-going situations:

(13) a. mina-ka keyim-eyse iki-**n**-ta.
Mina-NOM game-LOC win-PRES.IMPF-DEC
'Mina is going to win the game.'
NOT: 'Mina is winning the game.'

b. mina-ka keyim-eyse iki-**te**-la.
Mina-NOM game-LOC win-S.PAST-DEC
'[I saw] Mina won the game.'
NOT: '[I saw] Mina was winning the game.'

Sentence (13a), with the I-Present *-nun,* cannot express an on-going event. Instead it has a near future reading. Also, (13b), with the I-Past *-te*, does not express a continuous

situation but rather a bounded one, indicating that the terminal point has been reached. These examples clearly contrast with progressive-marked sentences:

(14) a. mina-ka keyim-eyse iki-**ko iss**-ta.
Mina-NOM game-LOC win-PROG-DEC
'Mina is winning the game (now).'
NOT: 'Mina is going to win the game.'

b. mina-ka keyim-eyse iki-**ko iss**-ess-ta/te-la.
Mina-NOM game-LOC win-PROG-PFCT-DEC/-S.PAST-DEC
'Mina was winning the game (then).'
NOT: 'Mina won the game.'

No matter what the temporal reference is, sentences with the progressive consistently express an on-going event, that is, the event has not yet reached its endpoint. In contrast, when the I-Present *-nun* is used, the time interval referred to by an achievement event is yet to take place (13a). When *-te* is used, the time interval includes the terminal point and the event has been completed at the reference time (13b). In this respect, imperfective forms do not provide a consistent viewpoint of imperfectivity or continuity. Moreover, imperfective is not the right term to describe their denotation, particularly for achievements. Again, this suggests that the only thing that the imperfective does is to provide an external view to the situation in question together with a temporal reference. However, the progressive, as an SIA, changes an intensional event object into another intensional object excluding the terminal point of the event.

In sum, the semantics of imperfective crucially involves overlap (or inclusion) between the situation(s) in question and the range of view, which is the reference time. This overlap yields different relationships, depending on the situation type. With achievements, the past imperfective denotes overlap between the reference time and a situation containing its endpoint, as shown in (13b), whereas the present imperfective

denotes overlap between the reference time and the preliminary stages of the situation in question, as in (13a).

6.3.2 Progressive and resultative.

In this section, I discuss two situation-internal aspect (SIA) forms and speculate that they map to two distinct levels. In addition to the progressive form *-ko iss*, Korean has another aspectual form *-e iss*, which is composed of a verbal suffix *-e*[16] plus the existential verb *iss*. I have argued elsewhere that *-e iss* is a resultative (Chung 1999). Bybee et al. (1994:54) define the resultative as an aspect that signals that a state exists as a result of a past action. According to them (1994:63–64), the resultative is similar to the passive in that the patient is usually the subject of the clause. However, it differs from the passive in that it may apply to intransitive verbs, as in *He is gone*. The resultative is usually compatible with the adverb *still* and is used only with telic verbs whose situations have an inherent endpoint and involve a change of state. This is the case with *-e iss*: it occurs only with intransitive accomplishment and achievement verbs or lexically passive verbs. For example, in the lexical passive[17] in (15a), the predicate *yel-li* 'open' is intransitive, and it can occur with *-e iss* (15b), which denotes a persisting state resulting from the event of the door opening.

(15) a. mwun-i yel-li-n-ta.
door-NOM open-PASS-PRES.IMPF-DEC
'The door is opening.'

b. mwun-i yel-li-**e iss**-ta.
door-NOM open-PASS-RESL-DEC
'The door is open.'

[16] This suffix is used to connect two lexical items, and is also seen in other forms, e.g. the inchoative *-e ci*. It appears as *-e* or *-a*, depending on the previous vowel.

[17] Korean has several lexical passive suffixes, such as *-i, -li,* and *-hi*.

In contrast, (16a) has two arguments, the second of which is accusative case-marked, and hence the predicate *yel* 'open' is transitive and cannot occur with *-e iss* (16b).

(16) a. mina-ka mwun-ul ye-n-ta.
Mina-NOM door-ACC open-PRES.IMPF-DEC
'Mina is opening the door.'

b. *mina-ka mwun-ul yel-**e iss**-ta.
Mina-NOM door-ACC open-RESL-DEC
'Mina has opened the door.'

On the other hand, the progressive form *-ko iss*, like progressives in other languages, can occur with most non-stative predicates, regardless of their transitivity. However, *-ko iss* exhibits interesting behavior with certain types of predicates. First, I turn to a brief discussion of the classification of predicates in Korean, since this is necessary for the discussion of *-ko iss*.

Korean exhibits a relatively clear grammatical distinction between agentive predicates and non-agentive predicates. Chung (1999) suggests the following classification, using three features, [± stative], [± agentive], and [± telic]:

Table 7. Classification of Korean Predicates

		STATIVE	AGENTIVE	TELIC
ADJECTIVAL	STATE I	+	–	–
	STATE II	+	+	–
VERBAL	PROCESS I	–	–	+
	PROCESS II	–	+	+
	ACTIVITY	–	+	–

I examined verb classes with respect to various tests, such as compatibility with aspect forms, accusative case making,[18] and the imperative suffix *-ela*.[19] Process predicates here include accomplishments and achievements in terms of Vendler's (1967) classification of verbs. Process predicates are classified into two types on the basis of agentivity—process I and process II (Chung 1999:40). Process I predicates are intransitive and process II predicates are transitive.[20]

(17) Process Verbs:[21]

PROCESS I	**PROCESS II**
nok 'melt (vi.)'	*nok-i* 'melt (vt.)'
malu 'get dry'	*mal-li* 'dry (vt.)
tha 'burn (vi.)'	*thay-wu* 'burn (vt.)'
tat-hi 'close (vi.)'	*tat* 'close (vt.)'
yel-li 'open (vi.)'	*yel* 'open (vt.)'
kkhye-ci 'get turned on'	*kkhye* 'turn on (vt.)'
kku-ci 'get turned off'	*kku* 'turn off (vt.)'
tochakha 'arrive'	*tha* 'get on, board (vt.)'
cala 'grow (vi.)'	*ip* 'wear, put on'
etc.	etc.

[18] Predicates that are [– stative] and [+ agentive], i.e. process II verbs and activity verbs, allow accusative case marking.

[19] [+ agentive] predicates usually take the imperative suffix *-ela*, but [– agentive] predicates do not. The form *kippu*, which is a state I predicate and thus [– agentive], is not allowed in the imperative sentence (ia), whereas the derived form *kippu-ha*, a State II predicate and [+ agentive], is allowed (ib):

(i) a. *(Ne) com kippu-ela!
(You) little glad-IMP
'(You) please be happy!'

b. (Ne) com kippu-ha-yla!
(You) little glad-do-IMP
'(You) please be happy!'

[20] Here *vi.* indicates intransitive verb and *vt.* transitive verb.

[21] Many pairs of process I and process II verbs are derivationally related by means of causative or passive suffixes.

The predicate types show differences in compatibility with various aspects, as summarized in the following table (Chung 1999:47):

Table 8. Aspect Markers and Verb Classes in Korean

	-e iss (RESULTATIVE)	*-ko iss* (PROGRESSIVE)	*-ess* (ANTERIOR)
STATE	*	*	√
PROCESS I	√	√	√
PROCESS II	*	√	√
ACTIVITY	*	√	√

Returning to the discussion of the progressive, the form *-ko iss* usually expresses a progressive meaning but can express a resultative meaning with certain process II verbs:

(18) a. mina-ka ppalkah-n os-ul ip-**ko iss**-ta.
Mina-NOM red-ATT clothes-ACC wear-PROG-DEC
'Mina is putting on red clothes.'/'Mina is wearing red.'

b. mina-ka cha-ey tha-**ko iss**-ta.
Mina-NOM car-ACC get.on-PROG-DEC
'Mina is getting in the car.'/'Mina is in the car.'

One reading of (18) is that the event is on-going at the present moment (progressive), and the other conveys a persisting state resulting from the event described by the sentence (resultative). However, as shown in (16b), the real resultative form *-e iss* is not allowed with those verbs, although *-ko iss* with those verbs conveys a resultative meaning. Process II predicates showing ambiguity with *-ko iss* are given in (19) (Chung 1999:45–46):

(19) a. 'open' verbs: *yel* 'open (door)', *ttu* 'open (eyes)', *pelli* 'open (mouth)', *tat* 'close (door)', *kam* 'close (eyes)', *khye* 'turn on', *kku* 'turn off', etc.

b. 'take' verbs: *kaci* 'take', *tul* 'hold', *ci* 'carry on the back', *mey* 'carry on the shoulder', *cap* 'hold, grasp', *cwui* 'grip', *tay* 'touch', etc.

c. 'wear' verbs: *ip* 'wear (clothes)', *sin* 'wear (shoes/socks)', *ssu* 'wear (glasses/hats)', *kki* 'wear (gloves/ring)', *tal* 'hang up', *kel* 'hang on or around', etc.

d. 'posture' verbs: *an* 'hug/embrace', *kko* 'cross (legs)', *cip* 'put hand on', *kitay* 'lean on or against', *tha* 'get on/ride', etc.

These verbs are transitive, [+ agentive], and [+ telic]. They use but *-ko iss* not *-e iss* to express the resultative meaning because *-e iss* is restricted to intransitive process verbs.

To summarize, while *-e iss* has only one interpretation, resultative, *-ko iss* is ambiguous between a progressive meaning and a resultative meaning. So I treat *-ko iss* as two distinct aspectual categories—resultative *-ko iss* and progressive *-ko iss*—and summarize their co-occurrence with predicates as follows:

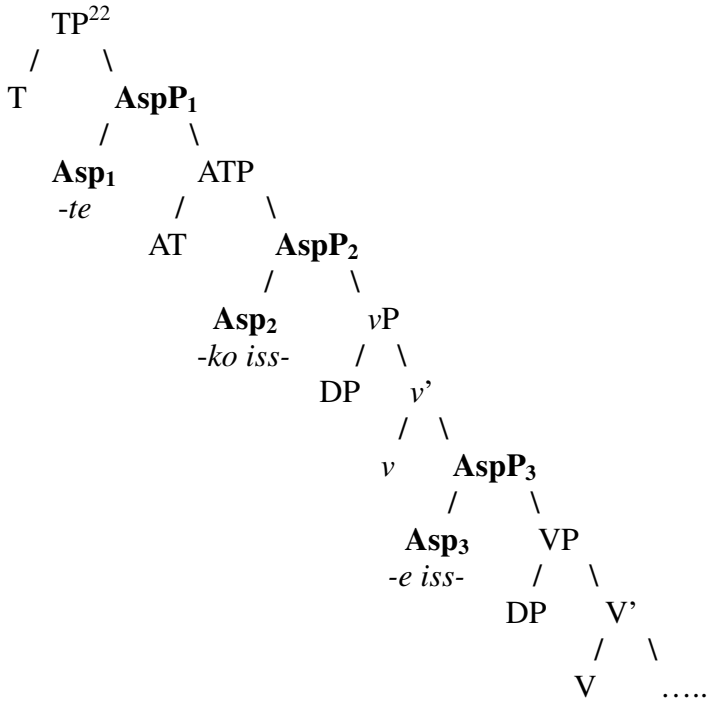
Table 9. Aspect Forms and Predicate Types

	-ko iss (PROGRESSIVE)	*-ko iss* (RESULTATIVE)	*-e iss* (RESULTATIVE)
STATE	*	*	*
PROCESS I	√	*	√
PROCESS II	√	√	*
ACTIVITY	√	*	*

While the progressive *-ko iss* can occur with non-stative predicates (processes and activities), the two resultative forms—resultative *-ko iss* and *-e iss*—can only occur with telic predicates (i.e. processes). Furthermore, the two resultative forms take different predicate types, depending on agentivity: the resultative *-ko iss* can only occur with transitive (agentive) telic predicates (process II) and the resultative *-e iss* can only occur with intransitive (non-agentive) telic predicates (process I).

The discussion above has implications for the analysis of how these aspectual forms map to the syntax. In the case of SEAs like the imperfective, as discussed in the previous section, mapping is only to the tense level. But in the case of SIAs, more than one level of mapping is necessary. The evidence from agentivity (or causativity) indicates that *-e iss* maps to VP, but the resultative *-ko iss* maps to *v*P, as shown in (20):

(20)



[22] Korean is head-final, but I give a head-initial structure for ease of discussion.

The imperfective *-te*, as an SEA, maps to TP[23] and the two SIAs, the resultatives *-ko iss* and *-e iss*, map to *v*P and VP respectively.[24] On the other hand, the progressive *-ko iss* maps either to *v*P or VP. This shows that there are three different levels that aspect maps to. Even if we ignore the distinction between *v*P and VP for SIAs, we still need at least two distinct levels for aspects—TP and *v*P (or VP). Clearly, the syntactic architecture of tense, aspect, and mood requires further research.

6.4 Tense interpretation in subordinate clauses.

In this section, I address an important issue that has so-far been set aside: temporal interpretation in subordinate clauses. I examine how tense and aspect in subordinate clauses, particularly complement clauses, are related to the tense of the matrix clause.

It has been claimed that tense in complement clauses is interpreted relative to tense in matrix clauses, and that different languages use different tenses for the same interpretation (Hornstein 1990, Stowell 1995, Ogihara 1996). For example, for de se (simultaneous) readings of a complement clause under a matrix past tense, languages like English (21) use past tense forms, whereas languages like Russian (Comrie 1985, Binnick 1991) (22a), Japanese (Ogihara 1989, 1996) (22b) use present tense forms:

(21) John said that Mary was sick.
[= John said, "Mary is sick."]

[23] Technically, the imperfective moves to T because it also has a deictic tense feature. The relative placement of TP and $AspP_1$, i.e. whether TP is higher than Asp_1P or the reverse, is not clear at this point.

[24] I assume a device something like a selectional restriction: Asp_2 selects for *v*P and Asp_3 for VP.

(22) a. Petja skazal, čto Miša plačet.
Petja said that Misha is.crying
'Petja said that Misha was crying.' (von Stechow 2003)

b. Taroo-wa Hanoko-ga byooki-da-to it-ta.
Taroo-TOP Hanako-NOM be.sick-PRES-that say-PAST
'Taro said that Hanako was sick [at that time].' (Ogihara 1996:69)

This phenomenon has been referred to in the literature as Sequence of Tense (SOT). [25] Languages like English have the Sequence-of-Tense rule, while languages like Russian (Comrie 1985, Binnick 1991) and Japanese (Ogihara 1989, 1996) are non-SOT languages.

I address two issues concerning SOT phenomena in this section. First, I show how the presence or absence of imperfective forms affects temporal interpretation, particularly for sentences with a non-stative verb. Second, I discuss recent theories regarding variation in SOT phenomenon across languages. I relate the SOT phenomenon to the anaphoric use of deictic (indexical) tenses, subject to a parameter. I further show that, based on the behavior of the Korean tenses, the SOT phenomenon should be kept separate from the issue of context-shifting indexicals (cf. Schlenker 1999, 2003).

6.4.1 Imperfective and de se (simultaneous) interpretation.

In this section, I show that aspect, particularly the imperfective, plays a role in the temporal interpretation of complement clauses.

First, consider complement clauses with stative predicates. Compare examples with direct speech versus indirect speech:

[25] Ogihara (1996:68–99) gives a critical review of the literature on the SOT phenomenon.

(23) a. "**jwun-i** **aphu-ta,**" lako mina-ka malha-te-la.
Joon-NOM be.sick-DEC QUOT Mina-NOM say-S.PAST-DEC
'Mina said, "Joon is sick."'

b. mina-ka **jwun-i** **aphu-ta**-ko malha-te-la.
Mina-NOM Joon-NOM be.sick-DEC-COMP say-S.PAST-DEC
'Mina said that Joon was sick.'

The directly quoted clause without any tense form in (23a) is interpreted as being in the present tense. In (23b), where the complement clause also does not have a tense form, the state of Joon's being sick is simultaneous with the matrix event in the past. Thus, tense forms in Korean complement clauses are not shifted into the past tense forms as in English (21). In contrast, complement clauses in Italian, as in English, show the tense shift: in order to get the simultaneous reading, the complement clause must have a past imperfective form,[26] as in (24a) (Giorgi and Pianesi 1997:174):

(24) a. Gianni mi ha ditto che Maria era(IMPF) incinta.
'Gianni told me that Maria was pregnant.'

b. Ieri Gianni ha ditto che Maria e(IND) incinta.
'Yesterday Gianni said that Maria is pregnant.'

When the embedded clause is in the present tense, as in (24b), it is interpreted as simultaneous not only with the present moment but also with the matrix event (which is called the 'double access' reading). In other words, Maria was pregnant yesterday and is still pregnant today. While Korean uses the present tense under the matrix past tense for the simultaneous reading (23b), both English and Italian use the past tense (24a). So English and Italian are the same; the only difference is that Italian uses the imperfective while English uses the simple past in the complement clause.

[26] The Italian imperfective has a past time reference and thus can be called a past imperfective.

Now consider complement clauses with non-stative verbs.

(25) mina-ka jwun-i sakwa-lul mek-**nun**-ta-ko malha-te-la.
Mina-NOM Joon-NOM apple-ACC eat-PRES.IMPF-DEC-COMP say-S.PAST-DEC
'Mina said that Joon was eating an apple.'

The complement clause in (25) has the present imperfective suffix *-nun* and is interpreted as simultaneous with the matrix event in the past. For the same interpretation, Italian uses the past imperfective in the complement clause:

(26) Mario mi ha ditto che Gianni va(IMPF) una mela.
'Mario told me that Gianni was eating an apple.'

Thus, English and Italian chose the same tense for the simultaneous reading with state predicates. However, when the predicate is non-stative, they differ: Italian does not have to use the progressive because the past tense is imperfective, whereas English always makes use of the progressive form. Without it, the English complement clause does not allow a simultaneous reading:

(27) John said that Mary ate an apple.

The embedded clause of (27) only has a back-shifted reading—the event of eating an apple occurred before the event of John's saying. Thus, we can summarize as follows:

(28) De se interpretation in the complement tense under the past tense:

English: past for stative verbs only[27]
Italian: past imperfective for all verb types
Korean: present for statives and present imperfective for non-statives

[27] For non-stative predicates, the progressive can be used for simultaneous readings in English, Italian, and Korean.

In order to get de se readings, languages make use of imperfectives, either a present imperfective or a past imperfective. However, English, which lacks an imperfective, does not allow simultaneous readings in a non-stative context without a progressive. Thus, we see that the imperfective plays an important role in temporal interpretation. The presence or absence of imperfective forms affects the tense interpretation in a given language, particularly for non-statives.

6.4.2 Deictic tense and the "Sequence of Tense" phenomenon.

Noticing the parallels between the SOT phenomenon and the use of pronouns in embedded contexts, Schlenker (1999) provides a unified interpretative rule across three domains—individuals, times, and worlds—based on Amharic. In reported speech, the Amharic indexical pronoun 'I' of a direct utterance refers to John rather than to the (first person) speaker at the utterance time:

(29) jon jəgna nə-ññ yil-all.
John hero be-1SG say.3M-AUX.3SG.M
'John says that he is a hero.'
(= John says, "I am a hero.")

Thus Amharic does not shift the first person to the third person in reported speech. Schlenker calls languages like Amharic 'Non-Sequence of Person' languages as opposed to 'Sequence of Person' languages like English, just as languages like Russian and Japanese are called 'Non-Sequence of Tense' languages as opposed to 'Sequence of Tense' languages like English.[28] He treats the first-person pronoun in Amharic like the

[28] Schlenker (1999) also discusses the difference between Sequence of Mood languages and Non-Sequence of Mood languages. In languages like Greek, the counterfactual mood of direct speech or thoughts can be retained in reported utterances, whereas this is not possible in English. Thus, English is a Sequence of Mood language, while Greek is a Non-Sequence of Mood language. See Schlenker (1999) for details.

present tense in non-SOT languages—as 'a shiftable indexical', which can shift the context, for example from the actual speech context to another context (i.e. the context in which the matrix subject uttered the embedded clause).[29] Due to the shiftability of indexicals, Schlenker analyzes attitude verbs such as *say, know*, and *believe* as verbal quantifiers that quantify over contexts.

Following Schlenker (1999), von Stechow (2003) suggests an LF feature-deletion theory under semantic binding to account for data like the Amharic example in (28). However, there is a basic difference between Schlenker (1999) and von Stechow (2003): while Schlenker treats attitude verbs as quantifiers over contexts, von Stechow denies the existence of shiftable indexicals[30] and hence treats attitude verbs as intensional operators, i.e. quantifiers that bind three variables—individuals, times, and worlds (cf. Lewis 1979). Under von Stechow's analysis of the Amharic sentence in (29), the verbs only delete the first person features of the variables they bind, without feature agreement. Thus, (29) can have the following two readings, depending on whether the first person is a bound or free variable:

[29] Kaplan (1979) claims that indexicals are directly referential: they pick out their referents directly from the actual context of utterance only. However, Schlenker (1999) uses data like the Amharic example in (29) to argue against this.

[30] In this respect, von Stechow agrees with Kaplan that there are no shiftable indexicals.

(29´) Amharic: John says I am a hero.[31]

a. …..John$^{\underline{3}}$ says$^{\underline{*3}}$ λx$^{\underline{1}}$….x$^{\underline{1}}$ am$^{\underline{*1}}$ a hero (de se reading) [32]

Situation: John says, "I am a hero."

b. …..John$^{\underline{3}}$ says$^{\underline{*3}}$ λx$^{\underline{1}}$….y^{1} am$^{\underline{*1}}$ a hero (direct reference)

Situation: John says, "You are a hero."

In (29´a), the embedded subject is a bound variable, anaphoric to the subject of the matrix clause via the attitude verb, and the sentence has a de se reading. In (29´b), the subject is a free variable and refers to the actual speaker of the utterance.

In the same fashion, von Stechow accounts for the SOT differences in complement clauses in English versus Russian as follows:

(30) English: verbal quantifiers delete the tense features (either the present tense feature *pres* or the past tense features < *pres*) of the temporal variables they bind under agreement.

Russian: verbs of attitude delete (LF) the present tense features *pres* of the temporal variables they bind regardless of the binding tenses.

Thus, English sentences with simultaneous (de se) readings would be analyzed as follows: [33]

[31] I have not specified the time, the world arguments, and the variables because my focus is on the individual arguments.

[32] The superscripts index the features carried by the lexical items. The head is marked by the symbol *. The features of the head are checked off by its arguments (von Stechow 2003).

[33] The meaning given in the brackets is the presupposition of the past tense.

(31) a. John says that Mary **is** sick.

LF: …t_1^{pres} John says$^{\sout{pres}}$ $\lambda t_2^{\sout{pres}}$ ….$t_2^{\sout{pres}}$ Mary $\sout{is}^{\sout{*pres}}$ sick.

b. John said that Mary **was** sick.

LF: …$t_1^{<pres}$ [$t_1 < t_0^{pres}$] John said$^{\sout{*<*pres}}$

$\lambda t_2^{\sout{<pres}}$ ….$t_2^{\sout{<pres}}$ Mary $\sout{was}^{\sout{*<*pres}}$ sick.[34]

pres: present tense feature
<: anterior feature

Here the verb, as a quantifier, binds the variable in the complement clause and deletes the present tense feature *pres* in (31a) and the past tense feature *<pres* in (31b) if the tense feature agrees with that of the matrix tense. On the other hand, under von Stechow's analysis, Korean equivalents with simultaneous readings would be represented as follows:

(32) a. Korean: John says that Mary **is** sick.

LF: …t_1^{pres} John says$^{\sout{pres}}$ $\lambda t_2^{\sout{pres}}$ ….$t_2^{\sout{pres}}$ Mary $\sout{is}^{\sout{*pres}}$ sick.

b. Korean: John said that Mary **is** sick.

LF: …$t_1^{<pres}$ [$t_1 < t_0^{pres}$] John said$^{\sout{*<*pres}}$ $\lambda t_2^{\sout{pres}}$ ….$t_2^{\sout{pres}}$ Mary $\sout{is}^{\sout{*pres}}$ sick.

We see that in Korean, the present tense feature *pres* is deleted regardless of the tense features of the higher tense. Thus, it is possible to say that the SOT parameter boils down to this: languages like Russian and Korean only have present tense feature deletion,

[34] Kratzer (1998) achieves almost the same effect by assuming zero tenses. The technical difference is that, according to her, these bound variable tenses start as zero tenses without any features and only acquire pronunciations from suitable antecedents at PF. Thus they remain as zero tenses at LF and hence there is no need for any deletion rules.

whereas languages like English have deletion of both present tense and past tense features.

Von Stechow's analysis is appealing because it provides a single account for both categories—pronouns and tenses. Parallel properties have been noted by Partee (1973), Kratzer (1998), and Schlenker (1999), among others. Tenses, like pronouns, can be used not only deictically but also anaphorically. However, I find that von Stechow's analysis cannot fully account for the Korean data. It seems that there are two independent issues: one relates to the SOT phenomenon, the other to whether or not there are such things as shiftable indexicals. I speculate that the Korean present tense (not only in complement clauses but also in relative clauses and adjunct clauses) relates to the first issue, and the spatial deictic past tense *-te* in the complement clauses of attitude verbs, particularly *say* verbs, relates to the second issue.

According to Schlenker (1999, 2003), indexicals are expressions whose values are determined by some features of the context of utterance; there is a difference between expressions that are lexically specified as indexical (e.g. 'I'), called 'strict indexicals', and those that have indexical and non-indexical uses (e.g. 'he'). Furthermore, some strict indexicals can be shifted from the actual speech act to another speech act and thus can be subject to quantification over contexts.[35] Amharic first-person and second-person pronouns are strict indexicals like English first-person and second-person pronouns, and

[35] Von Stechow (2003) rejects Schlenker's mechanism of quantification over contexts. So according to von Stechow's analysis, there should not be any indexical expressions that can be shifted from the actual speech act to another speech act.

at the same time, unlike their English counterparts, they are shiftable indexicals.[36] That is because the shifting of those indexicals is only possible in attitude reports but not in other subordinate clauses such as relative clauses or other adjunct clauses. These clauses, unlike clauses embedded under attitude verbs, do not require their own context coordinates—the speaker (or the agent), the time, and the world of a given context. This is also true for the Russian present tense: the shifting is possible in attitude reports but not in other subordinate clauses such as relative clauses (Schlenker 2003:69–71, von Stechow 2003).

However, the Korean present tense differs from the Russian present tense. In Korean complement clauses of attitude verbs and also in other subordinate clauses, such as relative clauses and other adjunct clauses, present tense can be used anaphorically as well as indexically. This is also the case in Japanese (Ogihara 1989, 1996).[37] This difference between present tense in Russian and present tense in Korean and Japanese cannot be accounted for by the simple SOT theory suggested by either Schlenker (1999) or von Stechow (2003). That is because even for Non-SOT languages, we need a

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[36] Thus, different definitions are suggested for the English first-person pronoun and the Amharic first-person pronoun, as follows (Schlenker 2003:82):

(i) a. English first person 'I':
$[[x \{+\text{author}^*(x)\}]]^{c,s}$ is defined only if s(x) is the author of c.
If so, $[[x \{+\text{author}^*(x)\}]]^{sc,s} = s(x)$
author*: the speaker of the actual speech act

b. Amharic first person 'I':
$[[x \{+\text{author}(x, c_i)\}]]^{c,s}$ is defined only if s(x) is the author of $s(c_i)$.
If so, $[[x \{+\text{author}(x, c_i)\}]]^{sc,s} = s(x)$

In the definition of the English first-person 'I' in (ia), the presupposition says that x is the speaker of the actual speech act. In contrast, in the definition in (ib), the Amharic first-person 'I' is defined as a relation between an individual and a context variable c_i, that is, x is the speaker (author) of a given context.

[37] Thus, Ogihara (1996) defines the Japanese present tense form as a relative present tense, not as an absolute present tense.

stipulation: in Russian, only attitude verbs delete the present tense feature, whereas in Korean, the present tense feature can be deleted in any subordinate clause. Alternatively, we can say that the attitude report context can create a special environment, such as shifting contexts, and the other subordinate situations are subject to other mechanisms, such as SOT phenomenon.

At this point, it is not clear which option is preferable, but the Korean data seem to favor the second option. The SOT phenomenon seems to be correlated with the anaphoric use of deictic (or strict indexical) tenses regardless of the clause type. In Korean, the present tense can be used anaphorically in any clause, as mentioned above. Consider the relative clauses in the following examples:

(33) a. mina-ka wu-**nu**-n ai-eykey sakwa-lul hana cwu-te-la.
Mina-NOM cry-PRES.IMPF-ATT child-DAT apple-ACC one give-S.PAST-DEC
'[I saw] Mina gave an apple to a child who was crying.'

b. mina-ka wul-**te**-n ai-eykey sakwa-lul hana cwu-te-la.
Mina-NOM cry-PAST.IMPF-ATT child-DAT apple-ACC one give-S.PAST-DEC
'[I saw] Mina gave an apple to a child who was crying.'

The relative clause with the present imperfect form in (33a) usually has a simultaneous reading: the event referred to by the relative clause is simultaneous with the matrix event.[38] On the other hand, the relative clause with the past imperfective in (33b) is not likely to have a simultaneous reading.[39] Thus, the present tense can be freely used anaphorically, not necessarily requiring context coordinates (the speaker/agent, the time, and the world). This is also the case with English present and past tenses. They are both used not only in complement clauses but also in other subordinate clauses, such as

[38] The relative clause in (33a) can also have an indexical present tense interpretation.

[39] The event referred to by the relative clause can be either before or after the main event, but it must be in the past.

relative clauses and other adjunct clauses, and function anaphorically (as well as indexically), as shown in (34):[40]

(34) a. Mary gave an apple to a child who **was** crying.

b. Mary gave an apple to the child when he **was** crying.

The past tense in the relative clause in (34a) and the temporal adjunct clause in (34b) can have simultaneous readings and is therefore used anaphorically. Ogihara (1996) also says that the SOT phenomenon appears not only in complement clauses, but also in other adjunct clauses such as relative clauses in English and suggests that the SOT phenomenon should not be analyzed solely in terms of direct speech versus indirect speech. Therefore, we can say that the SOT phenomenon is best analyzed as the anaphoric use of deictic (strict indexical) tenses in general. Thus, cross-linguistic variation regarding tense in subordinate clauses can be explained by the SOT parameter:

(35) Sequence of Tense (SOT) Parameter:

SOT languages:	Present and past can be anaphoric under agreement.
Non-SOT languages:	Only present can be anaphoric.

Languages vary as to which deictic tenses can be used anaphorically. This also suggests that there should be a tense distinction between deictic tenses and anaphoric tenses. Deictic tenses have indexical features, and their presuppositions are temporal relations with respect to the utterance time. In contrast, anaphoric tenses do not have any semantic features, functioning instead as co-referential anaphors or bound variables. In this respect,

[40] Also see Stowell (1995). He says that a true simultaneous interpretation is possible in English relative clauses if they contain stative verbs.

anaphoric tenses are 'zero tenses' in the sense of Kratzer (1998). Just as pronouns in finite clauses and the zero form PRO in non-finite clauses can be used anaphorically, so can deictic tenses in finite clauses and zero tenses in non-finite clauses.

This brings up a question: why are there no languages that use past tense but not present tense anaphorically? I speculate that if a language has to choose only one deictic tense for anaphoric use, it is likely to be the present rather than the past. There are two possible reasons. First, the presupposition of the present is basically an identity relation (the reference time is identical with the utterance time), whereas the presupposition of the past is not. Second, usually present tenses are not overtly marked, unlike past tense forms (Bybee et al. 1994:8). Given that zero pronouns are preferred over overt pronouns for anaphoric use in many languages, including Korean, it would be reasonable to expect that zero-marked present tense is preferred over overt past tense for anaphoric tense.

Moreover, the anaphoric use of indexicals predicts the anaphoric use of the English first-person pronoun, as Heim (1994b) notes the following example:

(36) Only I did **my** homework.

Sentence (36) is ambiguous between a deictic reading and an anaphoric reading. Under the deictic reading, the first-person possessive *my* has the interpretable first-person feature and refers to the actual speaker. Under the anaphoric reading, the first-person possessive *my* lacks the interpretable first-person feature [i.e. it is a zero pronoun] and is used as a bound variable.[41] This provides another parallel between pronouns and tenses: just as the English first-person pronoun has anaphoric interpretations, even though it is

[41] When the possessive pronoun *my* is used as a bound variable, sentence (36) means that apart from me, nobody did their homework.

not a shiftable indexical in the sense of Schlenker (1999, 2003), the English deictic tenses can be used anaphorically, even though they are not shiftable indexicals.

6.4.3 Are there indexicals that can shift the context?

I speculate that the issue regarding shiftable indexicals has something to do with attitude report verbs, together with tense forms. For the Korean deictic present tense, we cannot test whether or not it is a shiftable indexical because, as discussed above, it can be used anaphorically in any subordinate clause, including clauses embedded under attitude reports. The spatial deictic present tense *-ney* is a strict indexical, because it always refers to the actual speech time, but it cannot occur in subordinate clauses, indicating that it is not a shiftable indexical. The spatial deictic past tense *-te* is also a strict indexical, because it always refers to the past time with respect to the time and the place where the speaker of the actual utterance is located. Furthermore, it is a shiftable indexical in the sense of Schlenker (1999, 2003) because it can occur in the complement clause of *say* verbs but cannot occur in any other subordinate clauses.[42]

In this respect, *-te* also differs from the perfect (anterior) *-ess*, which appears freely in any subordinate clause and thus does not require context coordinates. This difference cannot be accounted for under von Stechow's analysis because he is using only two tense features, *pres* and <: *pres* denotes the present tense feature and < denotes either the past tense feature or the anterior feature. In other words, he does not distinguish deictic past tense from anterior (perfect), treating both as anterior. However, the Korean

[42] The only subordinate clauses in which *-te* can occur are attributive (relative) clauses. However, as will be discussed later, I assume that *-te* in attributive clauses does not shift the context.

data show that the deictic past tense and the perfect that denotes anteriority do not behave in the same way in complement clauses. Consider the following example with *-ess*:

(37) mina-ka jwun-i hakkyo-ey ka-**ss**-ta-ko malha-te-ta.
Mina-NOM Joon-NOM school-LOC go-PFCT-DEC-COMP say-S.PAST-DEC
'Mina said that Joon had gone to school.'

In (37), the main clause is in the past and the complement clause has only *-ess*. The sentence simply conveys that the event referred to by the embedded clause with *-ess* is anterior to the main past event of Mina saying. In other words, it does not specify the particular time of the event, Joon's going to school. Under von Stechow's analysis, the LF of (37) would be represented as in (37´):

(37´) LF: …$t_1^{<pres}$ [$t_1 < t_1^{pres}$] Mina said$^{*<*pres}$

$\lambda t_2^{<\text{~~pres~~}}$ ….$\exists t_3$ … $t_3^{<\text{~~pres~~}}$ [$t_3 < t_2^{<\text{~~pres~~}}$] Joon ~~has~~ $^{*\text{~~pres~~}}$ ~~gone~~ $^{*<}$ to school.[43]

As in (32), if we delete the present feature *pres*, we have only the anterior (or past tense) feature <, which corresponds to the meaning that the embedded event is anterior to the main event. This provides the correct interpretation. Compare (37) with the following sentence with *-te* in the complement clause: [44]

[43] My analysis of (37) assumes that the anterior *-ess* occurs with a zero-marked present tense.

[44] The past tense suffix *-essess* in the embedded clause also shows some difference in meaning from *-ess*, as in (i):

(i) mina-ka jwun-i hakkyo-ey ka-ssess-ta-ko malha-yssess-ta.
Mina-NOM Joon-NOM school-LOC go-PAST-DEC-COMP say-PAST-DEC
'Mina said that Joon went to school (then).'

The embedded clause of (i) seems to refer to some specific time in the past, which is also past with respect to the matrix event. However, I am using data with *-te* because I find that the tendency is stronger in *-te* sentences than *-ess* sentences.

(38) mina-ka jwun-i hakkyo-ey ka-**te-**la-ko malha-te-ta.
Mina-NOM Joon-NOM school-LOC go-S.PAST-DEC-COMP say-S.PAST-DEC
'Mina said that (when she saw him) Joon was going to school.'

Likewise, the matrix clause of (38) is in the past and possibly the embedded event is before the main event. Thus (38) also would have almost the same LF interpretation as (37´) under von Stechow's analysis: the present tense feature is deleted and only the anterior (past tense) feature remains, as shown in (38´):

(38´) LF: …$t_1^{<pres}$ [$t_1 < t_0^{pres}$] Mina said$^{*<*pres}$

$\lambda t_2^{<\text{~~pres~~}}$ ….$\exists t_3$ … $t_3^{<\text{~~pres~~}}$ [$t_3 < t_2^{<\text{~~pres~~}}$] Joon ~~was~~ $^{*<*pres}$ going to school.

However, (37) and (38) do not convey the same meaning. First, (37) does not require a specific past time of the embedded event—it is just some time anterior to the main clause event of saying. In contrast, (38) requires a specific time interval that the speaker refers to, although this time is also before the main clause event of saying. This interval is known not only to the speaker of the embedded clause, i.e. Mina, but also to the speaker of the actual utterance.[45] Another difference is that (37) conveys that Joon may be at school at the time of the main event of saying,[46] whereas (38) conveys that the complement clause is simply referring to a particular time interval before the main event of saying, but does not imply Joon's being at school at the time of main event.[47] Thus, (37) shows an example of a true dependent tense, that is, being anterior to any local time interval, which I call 'de se anterior'. On the other hand, (38) seems to evoke a de re

[45] It is also possible that the time interval becomes familiar to the actual speaker indirectly, through the information conveyed by direct speech to the speaker.

[46] The time of the main event of saying is in the past, i.e. before the time of the actual utterance.

[47] There is also an aspectual difference: (38) does not imply that Joon's going to school was completed at the time of main event of saying.

interpretation of past tense, which is also past with respect to the main event of saying, and thus it may be subject to the double access interpretation, in that the past time referred to by the embedded clause is past with respect to both the main event and the utterance time. More importantly, the perceptual field referred to by *-te* in the complement clause is that of the shifted speaker (i.e. Mina), not the speaker of the actual speech.

This shifting is also possible when the matrix clause is in the future tense, as shown in (39):

(39) il-cwil-hwu-ey mina-ka keylhonha-n-ta.
one-week.day-after-LOC Mina-NOM marry-PRES.IMPF.DEC

keylhonsik-ey jwun-i chamsekha-lkke-ko ku-taum-nal
wedding.ceremony-LOC Joon-NOM attend-FUT-CONJ the-next-day

jwun-i na-lul mana-lke-ya. kulemyen philsi,
Joon-NOM I-ACC meet-FUT.DEC. then certainly

jwun-i mina-ka cengmal yeyppu-**te**-la-ko malha-**lkke**-ya.
Joon-NOM Mina-NOM really pretty-S.PAST-DEC-COMP say-FUT-DEC

'Mina is going to be married in a week. Joon will attend the wedding ceremony and he will meet me the next day. Joon will say that Mina was really pretty.'

In the last sentence in (39), the event of Joon's speaking is in the future but the predicate in the complement clause is marked by *-te* even though the event described has not yet happened because its time interval is interpreted as past (when he saw her at the wedding ceremony the day before) with respect to the event in the main clause. This is in contrast with relative clauses with the past imperfective *-te*:

(40) mina-nun (ecey/ ?cikum/ *nacwung-ey/ *nayil/ *ku cen-nal-ey)
Mina-TOP yesterday/ now/ later-LOC/ tomorrow/ the before-day-LOC

tochakha-**te**-n phenci-lul motwu taum ilyoil-ey tapchangha-**lkke**-ya.
arrive-S.PAST-ATT letter-ACC all next Sunday-LOC reply-FUT-DEC

'Mina will reply to every letter that arrived (yesterday/*now/*later/*tomorrow/ *on the day before) next Sunday.'

The past imperfective in the relative clause tends not to be interpreted as past with respect to the matrix event in the future, indicating that it is a strict indexical. The meaning of *-te* in the complement clause of *say* verbs in (39) is due to the shifting of the context, i.e. from the actual speech context to another context. Therefore, *-te* is a shiftable indexical and the relative pastness conveyed by *-te* in the complement clause in (38) comes from the shifting of the actual context to another context.

In sum, there are two issues: one pertains to the SOT phenomenon and the other pertains to the shiftability of indexicals. The SOT phenomenon is best analyzed as the anaphoric use of deictic (strict indexical) tenses. The SOT parameter reduces to which deictic tense can be used anaphorically in a language (35). The second issue is that there are two types of strict indexicals, those that can shift contexts and those that cannot. These issues require further investigation.

6.5 Conclusion.

I started my journey from the basic notion that tense is a type of deixis (or index) and argued that tense can be deictic or non-deictic. I have shown that an analysis that makes use of the distinction between deictic and non-deictic can account for the Korean tense forms *-ess* and *-essess*. I have further proposed that deictic tense should be differentiated into simple deictic tense and spatial deictic tense in order to account for

Korean evidential sentences with the suffixes *-te* and *-ney*. I have shown that the Korean tense and aspect system is closely related to the evidential system. The crucial point is that the evidential system refers not only to temporality but also to spatial properties triggered by spatial deictic tenses. Although evidentials themselves are a category distinct from tense, aspect, and mood, they directly interact with those categories. Thus, one important implication of my research is that my view of the Korean system predicts the possibility of four different types of languages in terms of tense and evidentiality. This leads us to the conclusion that evidential forms across languages can be analyzed as part of the tense and aspect system, thus allowing a treatment of evidentials within a formal semantics model.

Moreover, I have suggested that the basic difference between evidential sentences and non-evidential sentences in Korean lies in their different speech acts (or sentential moods): Korean non-evidential sentences express an assertive speech act, whereas Korean evidential sentences (direct or indirect) express a presentative speech act. This difference is due to a difference in the role of the speaker in the two types of sentences. The speaker makes judgments in an assertive speech act but is a passive observer of a situation in a presentative speech act. This implies that evidential sentences cross-linguistically express presentative speech acts. In the languages that make use of evidentials, the assertive mode may actually be subsumed under the evidential system.

I have also shown that tenses can be classified in terms of their aspectual properties—simple tenses (S-Present/S-Past) and imperfective tenses (I-Present/I-Past)—and that these aspectual differences play a significant role in temporal interpretation. Throughout this thesis, I have shown that traditional approaches to tense and aspect are

not sufficient and a more fine-grained taxonomy of tense and aspect is required to account for the facts that the Korean data reveal.

Furthermore, based on the taxonomy that I have proposed, I have made an attempt to account for temporal interpretation in subordinate clauses in Korean and also for cross-linguistic variation in subordinate tenses. I have shown that tense interpretation in subordinate clauses involves two issues: i) Which deictic tenses can be used anaphorically? ii) Can deictic tenses shift the context—the speaker, the place, and the time of the utterance? If my analyses are on the right track, they return to the starting argument that tenses behave like (indexical) pronouns, supporting the referential theory of tense.

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