Predicate Types and the Tense Marker *-ess* in Korean*

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The tense morpheme *-ess* has been traditionally called a past tense marker in Korean linguistics. Despite this, it is compatible with either past time adverbials or speech- time-oriented ones. This may cause difficulty in dealing with *-ess*. After reviewing the previous treatments of *-ess*, specifically focusing on the view of *-ess* as a past tense marker and the view of *-ess* as an aspect marker, I claim that neither of them is sufficient to account for the distribution of *-ess*. As an alternative way, I argue in this paper that the grammatical function of *-ess* is dependent upon the nature of predicate types it is associated with-i.e. what types of predicates are combined with *-ess* plays an important role in predicting the meaning of *-ess* in a sentence. This might assist in understanding the grammatical function of *-ess* systematically, along with its semantics.

Key words: semantics, Korean, tense marker *-ess*, predicate types.

1. Introduction

This paper is an attempt to present an appropriate account of the distribution of the so-called past tense marker *-ess*, along with its semantic interpretation. The tense morpheme *-ess* is one of the issues frequently addressed in the literature of Korean linguistics. Perhaps, the difficulty with the treatment of *-ess* lies in the fact that it can occur with either past time adverbs like *ecey* 'yesterday' or speech-time-oriented adverbs like *cikum* 'now' and *hyencay-e* 'at present,' as exemplified in (1a) and (1b):

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(1) a. John-nun ecey hakkyo-ey ka-ss-ta
TOP yesterday school-to go-ess-DEC
'John went to school yesterday'
b. John-nun cikum hakkyo-ey ka-ss-ta
TOP now school-to go-ess-DEC
'John has gone to school now'

A sentence like (1a) refers to a past event of John's going to school yesterday, and a sentence like (1b) is, on the other hand, interpreted to mean that John has gone to school, implicating that he is at school at the utterance time. A sentence like (1a) suggests that *ess* is a past tense marker since it is compatible with a temporal adverbial like *ecey* 'yesterday' that locates the event of the main verb at a certain time in the past. In contrast, a sentence like (1b) indicates that *-ess* patterns like the English present perfect in the sense that it serves primarily to mark the present relevance of an event which took place in the past. Thus, (1b) shows that the traditional treatment of *-ess* as a past tense marker is not sufficient to account for the distribution of *-ess*. As an alternative way, the view of *-ess* as a perfect marker has been introduced (Nam, 1978). However, this view fails to take account of sentence like (1a).

In this paper, I claim that the facts about the available interpretations for the past and the perfect argues against the possibility that *-ess* can be treated in terms of either of the two approaches (i.e. *-ess* as a past tense marker and *-ess* as a perfect marker) we have seen in the previous paragraph. Based on this, I argue that *-ess* has two distinctive underlying forms: one is a past tense marker, and the other a perfect marker. By observing that it depends on the nature of predicates whether *-ess* is taken to be a past tense marker or a perfect marker, I also claim that predicates are divided into three groups: the first one is a group of predicates which combines with *-ess* to refer to a past tense meaning, the second is a group of predicates which combines with *-ess* to refer to a perfect meaning, and the third is a group of predicates that combines with *-ess* to be interpreted with the ambiguity between a past tense and a perfect meaning. These three groups play an important role in predicting whether *-ess* associated with predicates is a past tense marker or a perfect marker.

2. Problems with Previous Treatments of *-ess*

Scholars like Han (1996) and Kim (1990) claim that *-ess* is a past tense marker due to the fact that it locates its reference time to a certain time in the past, as in (2), and thus, it is compatible with past time adverbials like *ecey* 'yesterday' or *ilcuil cene* 'a week ago,' as in (2a) and (2b).

(2) a. John-nun ecey/ ilcwuil cene hakkyo-ey ka-**ss**-ta
TOP yesterday/ a week ago school-to go-**PAST**-DEC
'John went to school yesterday/ a week ago'
b. ku namca-nun olay cene/ *cikum ku yeca-lul salanghay-**ss**-ta
the man-NOM long-time ago now the woman-ACC love-**ess**-DEC
'The man loved the woman a long time ago / *now'

It appears that (2a) and (2b) are in favor of the claim that *-ess* is a past tense marker since *ess* is compatible with past time adverbs like *ecey* 'yesterday,' rather than with speech-time oriented adverbs like *cikum* 'now'. However, a more close look at other Korean data reveals that the claim is problematic. I will elaborate upon this in what follows.

Noticing that *-ess* is interpreted to present current resultative states or events which are caused by a past state or event, Nam (1978) and Sohn (1975) make a claim that *-ess* should be treated as an aspect marker, not as a past tense marker. Consider the following sentences:

(3) a. ney os-ey hulk-i mwut-**ess**-ta (Nam, 1978, p. 9)
your clothes-on mud-NOM stain-**ess**-DEC
Mud has stained on your clothes
b. John-nun nulk-**ess**-ta
TOP old-**PAST**-DEC
John is old

According to Nam (1978), a sentence like (3a) describes a present eventuality, instead of a past eventuality, implicating 'Mud has stained on your clothes at the time of the utterance of (3a).' The claim that *-ess* is a past tense marker fails to account for a sentence like (3a) properly.

A sentence like (3b) also makes a point in favor of the aspectual view

of *-ess*. (3b) refers to a present state of Johns being old, implicating that the state of Johns being old has persisted up to now, hence *-ess* should be treated as an aspect marker since it does not describe past eventualities despite the fact that *-ess* is explicitly present in (3b). Thus, *-ess* in (3b) is compatible with speech-time oriented adverbials like *cikum* 'now,' but not with past time adverbials like *ecey* 'yesterday,' as illustrated in (4):

(4) *ecey / cikum John-nun nulk-**ess**-ta
yesterday / now TOP old-**ess**-DEC
John is old *yesterday / now

However, the aspectual view of *-ess* is not sufficient to account for *-ess*. Let's get back to (2a-b). A sentence like (2b) is understood to refers to a past eventuality. Thus, as we saw above, (2b) is not compatible with temporal adverbials like *cikum* 'now' including the utterance time. Notice that the fact that speech-time-oriented adverbs like *cikum* 'now' is not compatible with (2b) can be accounted for in terms of the view that *-ess* is a past tense marker.

The following sentence also suggests that the treatment of *-ess* as an aspect marker is not sufficient to account for *-ess* in Korean, as in (5). This is also related to the problem with the view of *-ess* as a past tense marker, as we will see below.

(5) John-nun blue jean-lul ip-**ess**-ta
TOP blue jean-ACC wear-**PAST**-DEC
John put on / has put on jeans

In contrast to sentences like (3a-b) which are in favor of Nam's claim, a sentence like (5) is interpreted with two readings. One reading is that it simply describes a past event of John's putting on blue jeans. It does not follow, on this reading, that the state of John's being in blue jeans persists up to the speech time. The other reading is that John wore blue jeans at a past time, and as a result of it, he is now in the state of being in those blue jeans at the time of the utterance of (5). I will refer to the former reading and the latter reading as a past tense reading and a perfect reading, respectively. In contrast to (3b) which cannot be combined with past time adverbs, (5) can occur with past time adverbs or speech-oriented adverbs, as in (6):

(6) ecey / cikum John-nun blue jean-lul ip-**ess**-ta
yesterday / now TOP blue jean-ACC wear-**PAST**-DEC
'John put on blue jeans yesterday'

Nam's (1978) analysis would predict that when (6) occurs with *ecey* 'yesterday,' it should be unacceptable just as (3b) is. This suggests that in this case, *-ess* should be treated as a past tense marker, rather than as an aspect marker. In addition, a sentence like (5) gives rise to a problem with the treatment of *-ess* as a past tense marker, not only because it cannot account for the perfect reading in (5), but because it fails to provide a satisfactory answer to the question of why *-ess* is compatible with temporal adverbials like *cikum* 'now,' as in (6), if it is a past tense marker.

Neither the traditional view nor the aspectual view provides a satisfactory answer to deal with the tense morpheme *-ess*, as was mentioned above. So the first question that needs to be answered in the treatment of *-ess* would be how we can define the marker *-ess* properly to make a correct predication about the distribution of *-ess*. In what follows, I will explore the answer to this question.

3. Two *-ess's*

This section is devoted to presenting a proper definition of the tense morpheme *-ess*. In order to give an appropriate account of *-ess*, I propose that the marker *-ess* has two distinctive underlying forms in the lexicon. One is an *-ess*Pst marker, and the other an *-ess*Prft marker, where Pst and Prft stand for 'past' and 'perfect,' respectively. The two markers *-ess*Pst and *-ess*Prft correspond to a simple past tense and a present perfect, respectively. They happen to be phonologically and morphologically identical. They both have their own distinctive forms at LF. The former refers to a past eventuality, and on the other hand, the latter a perfect eventuality.[1]

The remaining question is how we know when *-ess* is used as an *-ess*Pst marker and when it is used as an *-ess*Prft marker. We will see how this new treatment fits in. I propose a test to determine whether *-ess*

1) I will discuss this below in this section.

is an *-ess*Pst marker or an *-ess*Prft marker. As was mentioned above, the *-ess*Prft is similar to the present perfect since both of them refer to an eventuality seen as being relevant at the utterance time. One of the properties that the present perfect has is that it can be combined with a temporal adverbial like *now*. Similarly, the *-ess*Prft marker can be used with adverbials like *cikum* 'now,' whereas the *-ess*Pst marker cannot. Consider the following sentences:

(7) *Mary-nun cikum John-lul salanghay-ss-ta
·TOP now ACC love-essPST-DEC
'Mary loved John now'

(8) John-nun cikum nulk-ess-ta
TOP now be old-essPRFT-Dec
'John is old now'

A sentence like (7) is ungrammatical when combined with an adverb like *cikum* 'now'. Thus, we can assume that the surface form *-ess* in (7) is the *-ess*Pst marker at LF. Given that the marker *-ess*Pst only refers to a past eventuality, we can account for the ungrammaticality of these two sentences by claiming that *cikum* 'now,' whose interval is related to the speech time, cannot be compatible with the *-ess*Pst marker which denotes a past eventuality. Given that the marker *-ess*Prft is related to a current relevance, the grammaticality of a sentence like (8) can be explained by the fact that like the English present perfect, the *-ess*Prft marker is compatible with *cikum* 'now'.

Now we are in a position to discuss how the above approach can give a proper treatment of *-ess*. Before we do it, we need to define some of terminology we will employ in this paper. I will refer to the predicates with *-ess* which cannot be combined with *cikum* 'now' as "past-ess predicates," and the predicates with *-ess* which can be combined with it as "perfect-ess predicates." The examples of the past-ess predicates and the perfect-ess predicates are as follows:

(9) Past-ess Predicates
apwu 'sick,' *hyenmyengha* 'wise,' *salangha* 'love,' *sal* 'live,' *chimchakha* 'self-possessed,' *ttwe* 'run,' *ca* 'sleep,' *cohaha* 'like,' *ket* 'walk,' *mit* 'believe,' *yenglihan* 'wise,' (*mwukey-ka* 'weight-NOM') *naka* 'weigh,' etc.

(10) Perfect-ess predicates[2)]
talm 'resemble,' *al* 'know,' *nulk* 'get old,' *tochakha* 'arrive,' *imsinha* 'become pregnant,' *ip* 'wear,' *mek* 'eat,' *cuk* 'die,' *cis* 'build,' *kuli* 'draw,' (*phyenci-lul* 'letter-ACC') *ssu* 'write (a letter)', *po* 'see,' *ka* 'go,' *wus* 'laugh,' etc.

For the moment, I'd like to make a tentative claim that the Past-ess predicate is combined only with the *-ess*Pst marker, whereas the Perfect-ess predicate either with the *-ess*Pst marker or with the *-ess*Prft marker,[3)] and that both the *-ess*Pst marker and the *-ess*Prft marker have *-ess* as their surface form. When the marker *-ess*Pst occurs in a sentence, the eventuality designated by the verb took place within an interval prior to the utterance time without being represented by the speaker as having current relevance. When the marker *-ess*Prft occurs in a sentence, it serves primarily to mark the present relevance of an eventuality by stating that that eventuality extends up to the utterance time.

Let's see whether this claim makes a correct prediction. Consider the following sentences:

(11) John-nun Mary-lul salangha-ss-ta
TOP ACC love-essPST-DEC
'John loved Mary'

(12) John-i ppalkan os-lul ip-ess-ta
NOM red clothes-ACC put on-essPRFT (essPST)-DEC
'John has put on red clothes / John put on red clothes'

According to the approach I propose in this paper, since *salangha* 'love' is a past-ess predicates, we can expect that (11) refers to past eventualities preceding the utterance time, i.e., it receives only a past tense reading.

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2) One anonymous reviewer pointed out to me that the predicates in (10) are claimed to have the perfect meaning in this paper. However, what I am saying in this paper is that those examples in (10) lead to the ambiguity between a perfect reading and a past-tense reading. As will be mentioned below, I will get back to the detailed explanation of the properties of the perfect-ess predicates. For the moment, let us to take this tentative claim to be sufficient.

3) Notice that this is not a finalized claim. I will discuss some problems with this claim below in the sub-section and present a possible way out of this.

Similarly, we can predict that the marker *-ess*Pst is not compatible with a temporal adverbial like *cikum*, 'now', as in (13).

(13) *Sumi-ka cikum camca-ss-ta
Sumi-NOM now sleep-essPST-DEC
'Sumi slept now'

Now let's return to (12) where a perfect-ess predicates like *ip* 'wear' occur. Recall that (12) is ambiguous between a past tense reading and a perfect reading. In this case, the perfect-ess predicate *ip* 'wear' can occur either with the *-ess*Pst marker when it has a past tense reading or with the *-ess*Prft marker when it has a perfect reading. In this way, we can disambiguate sentences like (12).

This is, however, insufficient to account for the perfect-ess predicates. There are some cases where a perfect-ess predicate is ambiguous between a past tense reading and a perfect reading, as we saw above in (12), while in other cases, a perfect-ess predicate yields only a perfect reading, as in (14a) and (14b):

(14) a. John-nun nulk-ess-ta
TOP old-essPRFT(*essPST)-DEC
'John is old'
b. John-nun apeci-lul talm-ass-ta
TOP father-ACC resemble-essPRFT(*essPST)-DEC
'John resembles his father'

According to the test I have proposed above, predicates like *nulk* 'old' in (14a) and *talm* 'resemble' in (14b) are perfect-ess predicates. Thus, it should be predicted that these predicates can combine with either form of *-ess*. One should, however, notice that only a perfect reading is available in sentences like (14a) and (14b), e.g., in (14a), the time interval during which John is old extends up to the present moment (or the interval includes the utterance time). This suggests that the predicates in question should occur only with the *-ess*Prft marker, which gives rise to a problem with the tentative claim about the perfect-ess predicate I made above. In what follows, I will elaborate upon a possible way out.

Recall that what I have made a claim about perfect-ess predicates is that they can occur either with the marker *-ess*Pst or with the marker

*-ess*Prft. So, the question to be answered is why the perfect-ess predicate shows duality that is not expected from the past-ess predicate. To put it differently, is there any way to predict in what situation the perfect-ess predicate combines with the marker *-ess*Prft to produce only a perfect reading, as in (14a) and (14b), or in what situation the prefect-ess predicate combines with the marker *-ess*Pst or the marker *-ess*Prft to lead to the ambiguity between a perfect reading and a past tense reading, as in (12)?

To answer this question, let us discuss the characteristics of the perfect-ess predicates like *nulk* old and *talm* 'resemble' which produce only a perfect reading. I will name these predicates perfect-only predicates to distinguish them from the rest of the perfect-ess predicates which lead to the ambiguity between a past tense and a perfect reading, as in (12) above. I will refer to the predicates leading to the ambiguity as perfect-past predicates when combining with *-ess*. Thus, the set of perfect-ess predicates is the union of the set of perfect-only predicates and the set of perfect-past predicates. First, the perfect-only predicates are characterized by the fact that they receive only a generic meaning when they combine with the present tense marker *-nun*.[4] This is illustrated in (15a-b):

(15) a. inkan-nun nulk-nun-ta
man-TOP be old-PRES-DEC
'Man must become old'

b. pwupwu-nun sal-ta pomyen selo talm-nun-ta
husban-wife-TOP live- while each other resemble-PRES-DEC
'Man and wife resemble each other while living'

Sentences like (15a-b) are interpreted only with a generic meaning. (15a) means that every human being becomes necessarily old. This is a natural law no one in the world can avoid. (15b) is understood to mean that

4) One anonymous reviewer pointed out to me that only *-nun* does not lead to a generic reading. One should notice that I am not claiming here that the present tense marker *-nun* is the only sentential element that is responsible for the generic reading. Instead, I simply address the property of sentences like (15) to show that the kind-referring NPs are required to occupy the subject position in sentences where the present tense marker *-nun* is combined with the perfect-only predicate. The reader refers to the discussion presented below (15a-b).

every man and wife becomes alike or homogeneous in the course of living together, or they come to have much in common. In sentences like (15a-b), the subject NPs are kind-referring NPs or generic NPs in Krifka et al.'s (1995) terms. Thus, the perfect-only predicates with *-nun* impose on their subjects the restriction that they must refer to a kind. I will call this a "kind-referring NP restriction." Otherwise, it would be ungrammatical, as in (16a-b):

(16) a. *John-nun / *ku salam-i / *ce sensayngnim-nun nulk-nun-ta
TOP/ the man-NOM / that teacher-TOP be old-PRES-DEC
'John / the man / that teacher becomes old'
b. *John-nun / *ku salam-i /*ce sensayngnim-nun apeci-lul talm-nun-ta
TOP/ the man-NOM/ that teacher-TOP father-ACC resemble-PRES-DEC
'John / the man / that teacher resembles his father'

Notice that in contrast to (15a-b), the subjects in (16a-b) are not kind-referring NPs but refer to particular individuals denoted by *John*, *the man*, or *that teacher*, respectively and they are blocked from occurring with the perfect-only predicates with *-nun*. The perfect-only predicates with *-nun* respect the kind-referring NP restriction.[5]

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5) One reviewer presented me with two Korean data which seem to be against the kind-eferring restriction imposed on the perfect-only predicate with *-nun*. Consider the following sentences which are due to the reviewer:

(1) a. John-to kyelkwu-un nulk-nun-ta
also finally-TOP old-PRES-DEC
'John also gets old finally'
b. John-i cemcem apeci-lul talm-nun-ta
NOM gradually father-ACC resemble-PRES-DEC
Lit. John is gradually resembling his father
'John is gradually becoming more like his father'

Sentences like (ia-b) seem not to repect the kind-referring restriction since the individuals the perfect-only predicates are predicated of are the object-referring NPs in (ia-b). Compare (ia) and (14a). One should notice that the focus-sensitive marker (or additative marker) like *-to* 'also' appears in a sentence like (ia), while this is not the case with (14a). This plays an important role in differentiating (ia) and (14a), which will be discussed in what follows. A sentence like (14a) simply describes the present state of John's being old, and the sentence in (ia) is, on the other hand, interpreted to mean that John as well as every other human being gets old. When uttering (ia), the speaker presupposes that John is not old at the utterance time. However, this kind of presupposition is not available in (14a). If (ia) were uttered in the situation where John is old, it would be infelicitous. That is, (14a) asserts that John is old at the utterance time. In contrast, (ia) does not assert that John is old at the utterance time. Instead, it asserts that John is young at the time of utterance, but he will surely get old in the future, strongly implicating that John

One should, however, notice that the kind-referring NP restriction disappears when the prefect-only predicates occur with *-ess*. Instead, they are compatible only with the subject NPs denoting a specific entity when they combine with *-ess*, as illustrated in (17a-b) and (18a-b):

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cannot be an exception to the universal law that man must get old. Thus, a sentence like (iia) is acceptable, while (iib) sounds weird.

(ii) a. John-to nulk-ko, Mary-to nulk-ko, sesang-e motun salam-un ta nulk-nun-ta
also old-and also old-and world-in every people-TOP all old-PRES-DEC
'John also gets old, Mary also gets old, and all people in the world get old'
b. ??John-to nulk-ess-ko, Mary-to nulk-ess-ko, sesang-e motun salam-un ta nulk-ess-ta
also old-ess-and also old-ess-and world-in every people-TOP all old-ess-DEC
'John is also old, Mary is also old, and all people in the world is old'

What we have seen so far may give a clue as to accounting for why the subject-referring NP can possibly occur in a sentence like (ia). As illustrated in (ia) and (iib), subject-referring NPs are permitted to be subjects, as long as the covert implication inducing necessity or the universal law is applicable to the individual a perfect-only predicate like *nulk* 'old' is predicated of. Such an implication is covertly involved in a sentence like (ia); hence, the subject-referring NP *John* can occur with the perfect-only predicate and the present tense marker *-nun*. Let us contrast (ia) with the following sentence:

(iii) ??John-to apeci-lul talm-nun-ta
also father-ACC resemble-nun-DEC
'John also resemble his father'

Recall that the predicate *talm* 'resemble' is also a perfect-only predicate. Given this, a sentence like (iii) patterns like (ia). However, (iii) is awkward unlike the sentence in (ia). The state of resembling ones father may differ from person to person, and hence (iii) does not carry any implication of necessity or the general law. That is, the object-referring NP is blocked from occupying the subject position in (iii) due to the unavailability of the implication inducing necessity. Given what I have discussed so far in this footnote, a sentence like (ia) seems to be related to the object-referring NP restriction, even though such a relation is implicitly expressed.

Let us get back to a sentence like (iib). The sentence in (iib) is understood to mean that John is becoming more like his father. Thus, the tense marker *-nun* in (iib) is not a present tense marker, but rather a present progressive marker. In Korean, *-nun* can be used as a present progressive marker in many cases, as illustrated in (iv):

(iv) John-i chayk-ul ilk-nun-ta
NOM book-ACC read-nun-DEC
'John is reading a book'

A piece of evidence that *-nun* in (iib) is a progressive marker is that (iib) is synonymous with the following sentence where the progressive marker "*-ko iss*" occurs.

(v) John-i cemcem apeci-lul talm-ko iss-ta
NOM gradually father-ACC resemble-PROG-DEC
'John is becoming more like his father'

In many languages, progressives usually induce a specific reading. Provided that, we can take account of the fact that the subject-referring NP *John* takes up the subject position in a sentence like (ib). I'd like the reader to note that my argument here focuses on the use of *-nun* as a present tense marker, rather than on the use of *-nun* as a progressive marker. I will not go into the detailed account of the latter case since it is beyond the present study.

(17) a. John-nun / ku salam-nun / ce sensayngnim-nun nulk-ess-ta
TOP / the man-TOP / that teacher-TOP old-ess-DEC
'John/ the man / that teacher is old'
b. John-nun / ku salam-nun / ce sensayngnim-nun apeci-lul talm-ess-ta
TOP / the man-TOP / that teacher-TOP father-ACC resemble-ess-DEC
'John/ the man / that teacher resembles his father'

(18) a. *inkan-nun nulk-ess-ta
man-TOP old-ess-DEC
'Man is old'
b. *pwupwu-nun sal-ta pomyen selo talm-ess-ta[6]
husban-wife-TOP live- while each other resemble-ess-DEC
'Man and wife resemble each other while living'

The contrast between (17a-b) and (18a-b) is that in (17a-b), the subject NPs are object-referring NPs, opposed to kind-referring NPs, in Krifka et al.s (1995) terms, whereas the subject NPs in (18a-b) are kind-referring NPs. Perhaps, the ungrammaticality of (18a-b) is due to the fact that the subjects denote kind referring NPs. In contrast to (15a-b) which are subject to the kind-referring NP restriction, sentences like (17a-b) suggest that the perfect-only predicates with *-ess* impose on their subjects the restriction that an individual they are predicated of does not refer to a kind. I will call this restriction the object-referring NP restriction. Given what I have discussed in the last two paragraphs, the perfect-only with *-nun* respects the kind-referring NP restriction, while the perfect-only with *-ess* obeys the object-referring NP restriction.

However, this is not the case with the prefect-past predicates. The perfect-past predicates with *-nun* can take kind-referring NPs or object-referring NPs as their subjects, as exemplified in (19a-b) where perfect-past predicates like *ip* 'wear' occur:

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6) In contrast to (18b), in a sentence like (i), the subject NP *pwupwu* 'man and wife' which occurs with the determiner *ku* 'the' refers to a particular couple, hence it is compatible with the perfect-only predicate with *-ess*.

(i) ku pwupwu-nun sal-ta poni selo talm-ess-ta
the husband-wife-TOP live- while each other resemble-ess-DEC
'The couple resemble each other while living'

(19) a. salam-nun mom-ul ttattutha-key ha-kiwihaye os-ul ip-nun-ta
human-TOP body-ACC warm-causative do-in order to clothes-ACC wear-PRES-DEC
'Human beings wear clothes to keep their body warm'

b. John-nun / ku salam-i / ce sensayngnim-nun mom-ul ttattutha-key
TOP / the man-NOM / that teacher-TOP body-ACC warm-causative
ha-kiwihaye os-ul ip-nun-ta
do-in order to clothes-ACC wear-PRES-DEC
'John/ the man / that teacher wears clothes to keep his body warm'

The same comments hold for the perfect-past predicates with *-ess*, as illustrated in (20a-b):

(20) a. inkna-nun kwusekki sitay-ey tongmwul-uy kacwuk-lul ip-ess-ta
man-TOP paleolithic age-in animal-POSS hide-ACCput on-ess-DEC
'Man wore animals hide in the Paleolithic age'

b. John-nun / ku salam-nun / ce sensayingnim-nun yangbok-lul ip-ess-ta
TOP / the man-TOP / that teacher-TOP suit-ACC put on-ess-DEC
'John / the man / that teacher put on (or has put on) suits'

Sentences like (19a-c) and (20a-b) indicate that the perfect-past predicates with *-nun* or *-ess* do not impose on their subjects the same restrictions as are imposed by the perfect-only predicate with *-nun* or *-ess*.

The second point I'd like to make is that unlike the past-ess predicate and the perfect-past predicate, the perfect-only predicate presupposes that the subject in question exists or is alive at the utterance time, when it combines with-*ess*. Kratzer (1995) notes that the past tense associated with predicates denoting a permanent property, namely individual-level predicates, restricts the life-time of their subjects, which Musan (1997) calls life-time effects. Consider the following sentences:

(21) a. John was intelligent

b. Mary resembled her mother[7]

7) As Kratzer (1995) and Musan (1997) note, the verb *resemble* can be used as a stage-level predicate in some context, as in *John resembled his father as a child, but now he resembles his grandfather.* This sentence triggers no life-time effect, i.e., it does not presuppose that John is dead. I will only focus on the use of *resemble* as an individual-level predicate here. See Musan (1997, footnote. 16) for more details.

(22) a. John was sick
b. Mary solved the problem

Individual-level predicates like *intelligent* and *resemble* occur in past-tensed sentences like (21a-b), whereas stage-level predicates like *sick* and *solve* denoting a transitory property occur in past-tensed sentences like (22a-b). As discussed by Kratzer (1995) and Musan (1997), the sentences in (20a-b) presuppose that John and Mary are dead when they are uttered, and (21a-b) either are false or lead to presupposition failure in a situation where John and Mary exist or are still alive at the utterance time. In contrast, the sentences in (22a-b) do not impose such a presupposition (i.e. a life-time effect) on their subjects, and furthermore, they are true even in a situation where John and Mary are alive at the utterance time. Kratzer (1995) explains the contrast between (21a-b) and (22a-b) by arguing that the past tense combining with individual-level predicates, as in (21a-b), locates the eventuality under the scope of the past tense not in a particular past time but rather in the whole life of the subject in question.

Irrespective of individual-level or stage-level predicates, however, the present tense requires the individuals they are predicated of (i.e., the subject) to exist or be alive at the utterance time, as noted by Musan (1997). Consider the following sentences:

(23) a. John is intelligent
b. John is sick

The predicates in (23a) and (23b) are individual-level one and stage-level one, respectively. Both (23a) and (23b) presuppose that John exists at the time of the utterance of them. They are both true or felicitous in a situation where John is alive, yet are false or infelicitous in a situation where John is dead at the utterance time.

Let us get back to the main line of our discussion. The marker *-ess* associated with perfect-only predicates triggers the presupposition that the individuals they are predicated of exist or are alive at the utterance time. This is illustrated in the following examples:

(24) a. John-nun nulk-ess-ta
TOP old-ess-DEC
'John is old'
b. John-nun apeci-lul talm-ass-ta
TOP father-ACC resemble-ess-DEC
'John resembles his father'

The sentences in (24a-b) are true or appropriate in a situation where John is alive, that is, they presuppose that John is in existence at the utterance time. Suppose John is dead at the utterance time, then (24a-b) would be false or inappropriate because of the presupposition failure. Thus, this indicates that the perfect-only predicate with *-ess* imposes on the subject in question the restriction that it is in existence at the utterance time.[8] I will refer to restrictions like the one observed in

8) One of the anonymous referees pointed out to me that the following sentences serves as counterexamples to the existence restriction.

(i) a. John-un samang tang si nulk-ess-ta
TOP death time old-ess-DEC
'John was old at the time of his death'
b. John-un yengceng-ul po-ni apeci-lul talm-ass-ta
TOP portrait-ACC see father-ACC resemble-ess-DEC
'The portrait of John indicates that he resembled his father'

The existence restriction is not imposed upon a sentence like (ia). I have no explanation to offer about this. There is, however, one thing one should notice about (ia): the distribution of the sentence in (ia) is extremely limited, and thus it is highly marked in Korean. That is, other sentences than (ia) respect the existence restriction. To illustrate this, consider the following sentences:

(ii) a. John-un samang tang si-e *nulk-ess-ta / nulk-essess-ta
TOP death time-at old-ess-DEC old-essess-DEC
'John was old at the time of his death'
b. John-un [cwu-ess-lul ttay] *nulk-ess-ta / nulk-essess-ta
TOP die-ess-when old-ess-DEC old-essess-DEC
'John was old when he died'

First, contrast (ia) with (iia). Unlike in (ia), the postposition *-e* 'at' is attached to the noun *tang si* 'time' in (iia). When the postposition occurs in a sentence, the existence restriction is respected, as illustrated in (iia). Second, compare (ia) and (iib). A sentence like (iib) contains an embedded clause whereas this is not the case with (ia). The existence restriction is also respected when embedded clauses occur in a sentence like (iib). Let us get back to (ib). The word *yengceng* refers to a portrait of a person who is dead. The use of this word entails that the individual that appears in the portrait is dead at the time of utterance. Perhaps, the reason why a sentence like (iib) is not affected by the existence restriction is that when uttering (iib), the speaker, looking at the portrait of John, focuses on the way he looks in the portrait, rather than on his actual appearance itself. In other words, he or she intends to mean that the way John looks in the portrait is similar to his father's appearance. John's appearance in the portrait the speaker sees is simultaneous

(24a-b) as "existence restrictions." As we will see below, they play a crucial role in differentiating the perfect-only predicates from the perfect-past ones. What I'd like to claim is that the perfect-only predicate with *-ess* is always subject to the existence restriction, whereas the perfect-past predicates with *-ess* is not. I will elaborate upon this in what follows.

Consider the following sentences, keeping (24a-b) in mind:

(25) a. John-nun uymilon-lul a-n-ta
TOP semantics-ACC know-PRES-DEC
'John knows semantics'
b. John-nun uymilon-lul al-ass-ta
TOP semantics-ACC know-ess-DEC
'John knew semantics'

The individual-level *al* 'know' which is also a perfect-past predicate appears in sentences like (25a-b). (25a) suggests that John is alive at the time of the utterance of (25a).[9] Notice that the predicate in (25b) occurs with *-ess*, like the ones in (24a-b). In contrast to (24a-b), (25b) presupposes that John is dead, triggering a life-time effect.[10] Thus, the individual-level perfect-past predicate with *-ess* does not impose the existence restriction on its subject.[11]

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with the time of uttering (iib). This probably makes it possible for a perfect-only predicate like *talm* 'resemble' to occur with the tense marker *-ess*, even though John is dead at the time of the utterance of (iib).

9) Recall that the subject denoting a particular individual is prevented from occurring with the perfect-only predicate with the present tense marker *-nun*. The perfect-only predicate with *-nun* presupposes that the subject denoting the kind, not an individual, is in existence at the time of utterance, which also differentiates the perfect-only predicate from the perfect-past predicate.

10) Here I focus on the interpretation of *al* 'know' as an individual-level predicate. Notice that some of the individual-level predicates, including *al* 'know,' can be used as stage-level predicates. To illustrate this, suppose that John stopped studying semantics ten years ago, so he has forgotten most of what he knew about semantics because he has never studied it ever since then. (25b) is also true and perfectly acceptable in this situation, strongly implicating that John does not know much about semantics now. In this case, the predicate *al* 'know' behaves exactly like a stage-level predicate which imposes no life-time effect, since (25b) does not presuppose that John is dead when it is uttered. When (25b) is interpreted with a stage-level reading, a perfect reading is preferable to a past-tense one, establishing present relevance, namely the state of John's knowing semantics has terminated.

11) This is also true of individual-level predicates which are also past-*ess* ones. Consider the following sentences:

Next, let us consider the case where *-ess* occurs with the perfect-past stage-level predicate. Compare the following sentence with (24a-b):

(26) John-i ppalkan os-lul ip-ess-ta
NOM red clothes-ACC put on-ess-Dec
'John has put on red clothes / John put on red clothes'

The contrast between (24a-b) and (26) is that unlike in (24a-b), (26) can be true and perfectly appropriate either in a situation where the subject, i.e., John, is dead or in a situation where John is alive at the time of utterance of (26). This is largely because the predicate *ip* 'wear' in (26) is a stage-level predicate which has no life-time effects, as mentioned above. Thus, this indicates that the notion of perfect-past predicates does not play a role at all in (26). That is, this is due to the fact that *ip* 'wear' is a stage-level predicate, rather than the fact that it is a perfect-past predicate. For the purpose of our discussion, however, it is sufficient to note that unlike (24a-b), (26) does not impose the existence restriction on its subject.

On the basis of what we have attempted to characterize the perfect-only predicate and the perfect-past predicate, we can define both of them as follows:

(i) a. John-nun chongmyengha-Ø-ta
TOP intelligent-PRES-DEC
'John is intelligent'
b. John-nun chongmyenghay-ss-ta
TOP intelligent-ess-DEC
'John was intelligent'

The predicate *chomyengha* 'intelligent' in (ia-b) is a past-ess and individual-level predicate. (ia-b) behave exactly like their English counterparts in (21a) and (23a) we have seen above. That is, (ia) presupposes that John is alive at the utterance time of it, whereas (ib) presupposes that John is dead, triggering a life-time effect. Unlike (24a-b), (ib) where the individual-level past-ess predicate occurs with *-ess* does not impose the existence restriction on its subject. However, this is not our concern here. Remember that our concern here is to characterize the perfect-only predicate and the perfect-past predicate.

(27) Perfect-only Predicates
A predicate is a perfect-only predicate if and only if
i) it is compatible with speech-oriented adverbs like *cikum* 'now,'
ii) it places on its subject the kind-referring NP restriction in its occurrence with *-nun*, or the object-referring NP restriction in its occurrence with *-ess*,
iii) its occurrence with *-ess* necessarily imposes the existence restriction on an individual it is predicated of.
Examples: *nulk* 'old,' *talm* 'resemble,' *elkwul-ey cwulum-i* ci 'wrinkle up one's face,' *kin pal-lul kaci* 'have a long arm,' etc.

(28) Perfect-past Predicates
A predicate is a perfect-past predicate if and only if
i) it is compatible with speech-oriented adverbs like *cikum* 'now' or with past time adverbs like ecey 'yesterday,' and *caknyen-ey* 'last year,'
ii) it is subject neither to the kind-referring NP restriction nor to the object-referring NP restriction,
iii) its occurrence with *-ess* does not necessarily impose the existence restriction on an individual it is predicated of.
Examples: *tochakha* 'arrive,' *o* 'come,' *ka* 'go,' *mek* 'eat,' *kuli* 'draw,' *ip* 'wear,' *imshinha* 'be pregnant,' *al* 'know,' etc.

Not only under the assumption that there are two distinctive forms of *-ess* but also from the above observation, can we make the following generalization: (i) the past-ess predicate, which is not compatible with *cikum* 'now,' is combined with the marker *-ess*Pst to produce only a past tense reading, and (ii) the perfect-only predicate combines with the marker *-ess*Prft to allow only a perfect reading, and (iii) the perfect-past predicate, which leads to the ambiguity between a perfect reading and a past tense reading when it combines with the surface form *-ess*, occurs either with the marker *-ess*Prft or with the marker *-ess*Pst.

For illustration, lets see how the above generalization works and if this will make a correct prediction. Consider the following sentences.

(29) a. Mary-nun apha-ess-ta
TOP be-sick-essPST (* essPRFT)-DEC
'Mary was sick'
b. John-nun nulk-ess-ta
TOP be old-essPRFT (* essPST)-DEC
'John is old'
c. John-i ppalkan os-lul ip-ess-ta
NOM red clothes-ACC put on-essPRFT (essPST)-DEC
'John has put (put) on red clothes'

Only a past tense reading is available in a sentence like (29a) because *apwu* 'sick' is a past-ess predicate which is compatible with the marker *-ess*Pst, not with the marker *-ess*Prft. Since in a sentence like (29b), the predicate *nulk* 'old' is a perfect-only one, it combines with the *-ess*Prft marker to yield only a perfect reading. If the perfect-only predicate is combined with the marker *-ess*Pst, it will be ungrammatical. In a sentence like (29c), the predicate *ip* 'wear' is a perfect-past predicate, it can occur either with the marker *-ess*Prft or with the marker *-ess*Pst; hence, it can be predicted that (29c) has two-way ambiguity: a perfect reading and a past tense. These are desirable results.

4. Semantic Interpretation of *-ess*Pst

In the previous section, I discussed the definition of the marker *-ess*. Based on what I've discussed in the previous section, let us see in what follows how we can provide the appropriate semantic analysis of the marker *-ess*Pst which causes a sentence where it occurs to have a past tense reading. Consider the following sentence:

(30) John-nun Mary-lul mit-ess-ta
TOP ACC trust-essPST-DEC
'John trusted Mary'

As mentioned in section 3, the verb *mit* 'trust' in (30) is a past-ess predicate, hence it should be combined with the marker *-ess*Pst at LF. If a sentence like (30) had an LF like (31), it would be ruled out as ungrammatical:

(31) *[IP John-nuni [I' [VP e_i [V' [NP Mary-lul] [V mit]]]-essPrft]][12]

It is predicted in terms of what I discussed in the previous section that the ill-formedness of an LF representation like (31) is due to the fact that it is combined with the marker *-ess*Prft which produces a perfect reading.

I assume that the ungrammaticality of (31) is due to the fact that the lexical entry of the past-ess predicates such as *mit* 'trust' fails to respect the semantic interpretability constraint on the lexicon which can be stated as follows:

(32) Semantic Interpretability Constraint On the Lexicon (SICOL)
The interval defined in the semantics of a predicate in the lexicon must be compatible with that defined in the semantics of the given tense.

In order for LF's to be interpretable, they must respect the constraint in (32). Otherwise, they would be uninterpretable. In what follows, I will discuss how (32) accounts for the ungrammaticality of (31).

I assume that all information that is necessary for the semantics of past-ess and perfect-only predicates is defined in the lexicon. Recall that the perfect-only predicates associated with the surface form *-ess* are compatible with *cikum* 'now,' while the past-ess predicates are not. I will use a special feature [±now] to indicate whether a given predicate is compatible with *cikum* 'now' when occurring with either from of *-ess*. The past-ess predicates are incompatible with *cikum* 'now,' hence they require [-now]. The perfect-only predicates are compatible with *cikum* 'now,' hence they allow for [+now]. Finally, since the compatibility with *cikum* 'now' is not a necessary condition for the perfect-past predicates, they require either [-now] or [+now] (in this case, I will simply use [±now] for convenience' sake).

The past tense is compatible with past time adverbs, while the present tense speech-oriented time adverbs. Temporal adverbs may be expressed

12) Throughout the derivation of LF, I adopt the VP-internal hypothesis (Sportiche (1988) and others) that subjects of verbs are base-generated in the specifier (SPEC) of VP and move to the SPEC of IP at S-Structure, leaving a trace behind. For example, the empty category e_i in (31) is a trace for the NP *John* which has moved out from the SPEC of VP to SPEC of IP. Notice that this has the same effect as Quantifier Raising (QR).

explicitly or implicitly[13] in a given sentence. I assume that the feature [now] is given by the temporal adverbs and its function is something like that of the temporal adverbs. The value of the feature [±now] is determined by the temporal adverb in question. That is, the value of the feature should be [-now] in a situation which requires a past time adverb, whereas it should be [+now] in a situation which requires a speech-time oriented adverb. Provided that the feature [±now] behaves like temporal adverbs, it can be taken to be a function applied to a predicate. In addition, I assume that the feature [±now] is treated syncategorematically. Given all this, [-now](γ), [+now](γ), and [±now](γ), where γ is a predicate, refers to past-ess predicates, perfect-only predicates, and perfect-past predicates, respectively. In other words, the function of the feature [±now] is to convert a predicate γ to one of the three classes of predicates, when ± combines with either form of *-ess*.[14] In what follows, I will discuss this in more detail by giving examples.

The predicate *mit* 'trust' in (31) can be defined in the lexicon as follows:

(33) $\|mit\|^{M,\ w,\ g,\ c,\ u}$ is that function $f \in D_{\langle e,\ \langle e,\ \langle i,\ t\rangle\rangle\rangle}$ such that for any α, $\beta \in D_e$, $f(\beta)(\alpha)$ is that function $h \in D_{\langle i,\ t\rangle}$ such that for any $t \in D_i$, $h(t) = 1$ iff α trusts β at t.

The definition given in (33) places no restrictions whatsoever on the location of the interval related to *mit* 'trust,' hence the interval picked out by *mit* 'trust' is compatible either with *cikum* 'now' or with past time adverbs like *ecey* 'yesterday.' Therefore, (33) does not provide the

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13) Bäuerle (1979) argues that the sentence in (ia) contains an implicit temporal adverb meaning "once in a past," as in (ib) (see also Bäuerle and von Stechow (1980)):

(i) a. John left
b. John left at some past time

What I intend to mean here is along the lines of Bäuerles claim. Given this, (30) can be analyzed in the same way (ia) is. That is, we can assume that (30) contains such an implicit temporal adverb as *kwake han ttay-ey* 'at some past time.'

14) One should note that it is crucial what class a given predicate belongs to, only when the predicate in question occurs with either form of *-ess*, but it does not matter whether that predicate is a past-ess predicate, a perfect-only predicate, or a perfect-past predicate, when it combines with the other tense markers such as the present tense marker *-nun* and the past tense marker *-essess*. Thus, I will keep the use of [±now](γ), where γ is a predicate, within limits of referring to the case where the predicate γ combines with either form of *-ess*.

information that *mit* 'trust' is a past-ess predicate. We need to indicate this information. The feature [-now] does this job. Since *mit* 'trust' is a past-ess predicate, it is represented as [-now](mit) which is in turn defined as (34):

(34) $||[\text{-now}]||^{M, w, g, c, u}(||\text{mit}||^{M, w, g, c, u})$ is that function $f \in D_{\ll e, \ll e, <i, t\gg\gg}$ such that for any α, $\beta \in D_e$, $f(\beta)(\alpha)$ is that function $h \in D_{<i, t>}$ such that for any $t \in D_i$, t is in the domain of h iff t precedes u, $h(t) = 1$ iff α trusts β at t.

According to (34), [-now] restricts the domain of h. This indicates that [-now] places restrictions on the location of the interval related to *mit* 'trust.'

Let us define the semantics of *-ess*Prft in (31). Recall that *-ess*Prft is parallel to the English present perfect, as mentioned in section 3. I will incorporate what McCoard (1978) calls "the extended now" into the semantics of *-ess*Prft. The extended now is the contextually supplied interval that began in the past and extends up to the present, hence it is regarded as an interval overlapping the speech time. Given this, the semantics of *-ess*Prft can be defined as follows:

(35) $||\textit{-ess}\text{Prft}||^{M, w, g, c, u}$ is that function $f \in D_{\ll s, <i, t\gg, t>}$ such that for any $h \in D_{<s, <i, t\gg, t>}$, $f(h) = 1$ iff there is a time $t \in D_i$ which is extended now, and there is another time $t_1 \in D_i$ such that $t_1 \subset t$, and for any $w \in W$, $h(w)(t_1) = 1$.

Given the lexical definition of [-now](mit) in (34) and the semantics of *-ess*Prft in (35), the interval picked out by [-now](mit) is not compatible with that picked out by *-ess*Prft since the former refers to a past time interval, and the latter, on the other hand, refers to the extended now interval which is counted as the present. Thus, the LF in (31) violates the SICOL.

One might raise a question of why the interval picked out by [-now](mit) is not compatible with the interval denoted by *-ess*Prft, since according to (35), [-now](mit) 'trust' only describes a subinterval of the extended now interval (notice that the IL translation "[-now](*mit'*)(a)(b)", where a and b are of type e, denotes the function h in the definition (35)). In what follows, I'd like to make a point about this question.

The subinterval of an extended now interval can overlap a final

subinterval of that extended now interval. The truth conditions for "extended-now(t)," where extended-now is a one-place predicate and t is an interval, says that "extended-now(t)" is true at i iff i is a final subinterval of the interval denoted by t (Dowty (1979)). To reinterpret this in terms of our framework, we can state the truth conditions for "extended-now(t)" as follows:

(36) $||\text{extended-now(t)}||^{M, w, g, c, u}$ = 1 iff u is a final subinterval of $||t||^{M, w, g, c, u}$

According to (36), the final interval u is the utterance time. This indicates that the subinterval, more precisely the subinterval picked out by the function h, of the extended now interval may precede or overlap the final subinterval which is the utterance time. Thus, this does not guarantee that the subinterval denoted by h is always compatible with the interval denoted by [-now](mit), since unlike the former, the latter must precede the utterance time in any circumstance. Given this, the interval picked out by [-now](mit) is incompatible with the subinterval of the extended now interval.

I assume that whether the LF respects the SICOL is checked when the tense in question combines with the given predicate in the course of the IL translation of a given LF, as in INFL(^[±now](γ'_n)(α_1, α_2,....., α_n)), where INFL' and γ'_n are the IL translation of INFL (i.e., I), the IL translation of an *n*-place predicate, respectively, and an argument. For instance, in the LF (31), the SICOL is checked when *-ess*Prft combines with [-now](mit), as in *-ess*Prft(^[-now](mit')(a)(b)), where a and b are type of e.

Instead of (31), the LF of (30) should look like (37), where the marker *-ess*Pst occurs with the verb *mit* 'trust.'

(37) [$_{IP}$ John-nun1 [$_{I'}$ [$_{VP}$ e$_1$ [$_{V'}$ [$_{NP}$ Mary-lul] [$_V$ mit]]]-essPst]]

The LF in (37) satisfies the SICOL, thus both *mit* 'trust' and *-ess*Pst are interpretable. Let us see how the SICOL is respected in (37). The semantics of *-ess*Pst can be given as follows:

(38) $||\textit{-ess}\text{Pst}||^{M, w, g, c, u}$ is that function f $\in D_{\ll s, i, t\gg, t\gg}$ such that for any h $\in D_{s, i, t\gg}$, f(h) = 1 iff there is a time t $\in D_i$ such that t precedes u, and for any w $\in$ W, h(w)(t) = 1.

As we can see in (38), the interval picked out by [-now](mit) 'trust' is compatible with that denoted by *-ess*Pst. Thus, the SICOL is respected. The IL tranlsation of *-ess*Pst would be like this:

(39) Translation of -essPst
$\lambda P \exists t[past(t) \& P\{t\}]$, where P is a variable of type $\langle s, \langle i, t \rangle \rangle$.

Notice that the translation of *-ess*Pst in (39) is something like that of the past tense. In what follows, we will see how this works out with our IL translation.

Let us get back to the sentence (30) and its LF (37), which are repeated as (40) and (41) for convenience' sake:

(40) John-nun Mary-lul mit-ess-ta
TOP ACC trust-ess-ta
'John trusted Mary'

(41) [$_{IP}$ John-nun1 [$_{I'}$ [$_{VP}$ e_1 [$_{V'}$ [$_{NP}$ Mary-lul] [$_{V}$ mit]]]-essPst]]

On the basis of LF in (41), we can give the IL translation as follows:

(42) Translation into IL
1. V' : mit (trust) ==> trust'[15]
2. NP' : Mary-lul ==> m
3. $\overline{V}$' : trust'(m)
4. NP_1' : e_1 ==> x_1
5. VP' ==> trust'(x_1, m,)
6. I' : *-ess*Pst ==> $\lambda P \exists t[past(t) \& P\{t\}]$
7. $\overline{I}$' ==> $\lambda P \exists t[past(t) \& P\{t\}](\hat{}trust'(x_1, m))$
=> $\exists t[past(t) \& trust'(x_1, m, t)]$
8. NP_1' : John-nun ==> $\lambda PP\{j\}$
9. IP' ==> $\lambda PP\{j\}(\hat{} \lambda x_1 \exists t[past(t) \& trust'(x_1, m, t)])$
=> $\exists t[past(t) \& trust'(j, m, t)]$

15) In this paper, the intransitive verb is of type <e, <e, <i, t>>>, where i is a type for an interval.

The subject NP *John*, which is raised from [SPEC, VP] to [SPEC, IP], undergoes the type lifting, thus its type is that of a generalized quantifier with denotations of type <<s, <e, t>>, t> (cf. Partee and Rooth (1983)), and the resulting translation is the one in (42-8). On the other hand, the object NP *Mary*, which is not involved in movement, is of type e which denotes individuals. The resulting translation in (42-9) says that there is a past time interval such that John trusted Mary at that interval, showing that this translation refers to a simple past eventuality.

5. Semantic Interpretation of -essPrft

This section is devoted to providing the semantics of the marker *-ess*Prft to which the perfect reading is attributed. As we saw in section 3, the marker *-ess*Prft shows a parallelism to the English present perfect in the sense that like the latter, the former serves primarily to mark the present relevance of an event or state which took place in the past. One should recall that the perfect-only predicate can occur only with the marker *-ess*Prft, while the perfect-past predicate either with the marker *-ess*Prft or with the marker *-ess*Pst.

The marker *-ess*Prft occurs with the perfect-ess predicate to produce a perfect reading. Consider the following sentence:

(43) John-nun Bill-lul talm-ass-ta
TOP ACC resemble-ess-DEC
'John resembles Bill'

According to what I discussed in section 3, it can be predicted that the predicate *talm* 'resemble' in (43) should be combined with the marker *-ess*Prft at LF since it is a perfect-only predicate. In other words, if the LF representation of a sentence like (43) looked like (44), it would be ill-formed:

(44) *[$_{IP}$ John-nun$_i$ [$_{I'}$ [$_{VP}$ e$_i$ [$_{V'}$ [$_{NP}$ Bill-lul] [$_{V}$ talm]]]-essPst]]

As discussed in the previous section, the ungrammaticality of the LF in (44) can be accounted for in the same way as that of (31) in section 4 is. In other words, (44) violates the SICOL, given that the semantics of the

verb *talm* resemble is defined in the lexicon, as in (45). Notice that the predicate *talm* 'resemble' is a perfect-only predicate which is compatible with temporal adverbials like *cikum* 'now' overlapping the utterance time, hence it takes [+now] as a functor in the lexicon, as in [+now](talm).

(45) $\|[+now]\|^{M, w, g, c, u}$ ($\|talm\|^{M, w, g, c, u}$) is that function $f \in D_{<e, <e, <i, t>>>}$ such that for any α, $\beta \in D_e$, $f(\beta)(\alpha)$ is that function $h \in D_{<i, t>}$ such that for any $t \in D_i$, t is in the domain of h iff for some $t' \in D_i$, t' is an extended now and $t \subseteq t'$, $h(t) = 1$ iff α resembles β at t.

The interval defined in (45) is not compatible with that defined for *-ess*Pst in (38), thus the LF (44) is not uninterpretable.

The LF for the sentence in (43) should be like (46), where the marker *-ess*Prft occurs:

(46) [$_{IP}$ John-nun$_i$ [$_{I'}$ [$_{VP}$ e_i [$_{V'}$ [$_{NP}$ Bill-lul] [$_V$ talm]]]-essPrft]]

The meaning of the marker *-ess*Prft I assume here is something like that of the present perfect, for *-ess*Prft establishes a relation to the utterance time. Thus, following Bennet and Partee (1972), McCoard (1978), and Dowty (1979), I will incorporate into the IL translation of *-ess*Prft the extended now theory which asserts that the event being described by the perfect is located within the contextually supplied interval of time that began in the past and extends up to the present. The translation of *-ess*Prft I have in my mind would be like this:

(47) Translation of *-ess*Prft
$\lambda P \exists t[XN(t) \& \exists t_1[t_1 \subseteq t \& P\{t_1\} \& hold(s,u)]]$,[16] where XN, s, and u are a one-place predicate for "extended-now," a state and u the utterance time, respectively.

Notice that in (47), s and u are free variables whose values are anchored by the context of use. Given (47), the LF (46) can be translated as (22). The procedure for translation (46) is the same as that for (42).

16) The one-place predicate "XN" stands for the extended now.

(48) $\exists t[XN(t) \& \exists t_1[t_1 \subseteq t \& resemble'(j, b, t_1) \& hold'(s, u)]]$

(48) says that there is an extended now interval t and there is an interval t_1 such that John arrived at t_1 and the state of John's resembling Bill holds at the utterance time. Notice that u in (48) is a final subinterval of the given extended now interval. In the interpretation of (48), the notation "hold' (s, u)" which means the state of John's resembling Bill holds at the utterance time is intended to represent the present relevance of the proposition under the scope of -essPrft. This is a typical pattern of interpreting the present perfect.

6. Closing Remarks

This paper has explored the possibility of providing a proper semantic analysis of the tense marker *ess*. In the first part of this paper, I have argued that neither the traditional approach nor the aspectual approach provides a satisfactory treatment of *-ess*. As an alternative way, I propose that *-ess* has two distinctive underlying forms: *-ess*Pst and *-ess*Prft, which happen to be phonologically and morphologically identical. Both of them have *-ess* as their surface form, but are distinctive at LF.

I have also proposed a test which can systematically predict whether *-ess* is a past tense marker or a perfect maker, when it is combined with a certain type of predicate. Accroding to the test, predicates are divided into three categories: past-ess, perfect-only, and perfect-past predicates. The perfect-only and the perfect-past predicate have it in common that unlike the past-ess predicate, they are compatible with speech-time-oriented adverbs like *cikum* 'now.' The difference between the perfect-only predicates and the perfect-past predicates is that the former satisfies the following conditions. First, they place on its subject the kind-referring NP restriction in their occurrence with *-nun*, or the object-referring NP (or the non-generic NP) restriction in their occurrence with *-ess*. Second, their occurrence with *-ess* necessarily imposes the existence restriction on an individual they are predicated of at the utterance time.

In order to account for the three different patterns of *-ess*, I have claimed this: (1) the past-ess predicate combines with *-ess*Pst to yield a past tense reading, (2) the perfect-only predicate combines with *-ess*Prft to yield a perfect reading, and (3) the perfect-past predicate combines either

with *-ess*Pst or with *-ess*Prft, leading to the ambiguity between a past tense reading and a perfect reading.

If the account of *-ess* presented in this paper is on the right track, the next step is to find answers to the questions of why the predicates fall into the three gropus, and why the perfect-only predicates combined with *-ess* impose the existence retriction on their subject, while the perfect-past predicates do not. I will leave this an open question.

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