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VARIATION IN FORM-MEANING MAPPING BETWEEN KOREAN AND ENGLISH COUNTERFACTUALS

This paper extends and applies to Korean, Iatridou's analysis of past tense morphology in counterfactuals. The paper shows that just as in English, past tense morphology can be used to convey counterfactuality in Korean. While this fact accounts for many similarities between English and Korean counterfactuals, some differences between the two languages are also attested. The variation in form-meaning mapping between English and Korean counterfactuals is accounted for with the proposal that once the past tense is mapped onto the meaning component that conveys counterfactuality, the range of possible temporal interpretations for a counterfactual is literally determined by the LF of the relevant clause minus the past tense morpheme. If this LF has a present (or past) interpretation, the counterfactual will have a present (or past) interpretation. But if this LF is not interpretable, the counterfactual will not be interpretable either, resulting in ungrammaticality.

1. INTRODUCTION

Across languages, there are various grammatical means to convey counterfactual inference. Iatridou (2000) discusses two main grammatical forms in English (and other languages) that convey counterfactuality: counterfactual conditionals of the form '*if p, q*', where *p* and *q* are clauses, and counterfactual *wish* constructions in the form of 'Subject *wish p*', where *p* is the complement clause of the main predicate *wish*.

Counterfactual conditionals imply that the proposition contributed by the antecedent is believed by the speaker to be false. They can have a present or a past counterfactual interpretation. A present counterfactual conveys that the antecedent doesn't hold at utterance time, and a past counterfactual conveys that it didn't hold at some time in the past. For instance, the conditional in (1a) is a present counterfactual, indicating that the speaker believes that Pete does not know the answer at utterance time. That (1a) is a present counterfactual is supported by the fact that the antecedent is compatible with the time adverbial *now*. The conditional in (1b) is a past counterfactual, indicating that the speaker believes that Pete didn't know the answer at some time in the past. That (1b) is a past counterfactual is supported by the fact that the antecedent is compatible with the time adverbial *yesterday*.

(1)a.   If Pete knew the answer (now), he would tell you.
  b.   If Pete had known the answer (yesterday), he would have told you.

Wish constructions imply that the wisher believes that the proposition contributed by the complement clause is false. They also allow a present counterfactual interpretation and a past counterfactual interpretation. For instance, the construction in (2a) conveys that the wisher believes that Pete does not know the answer at utterance time. The construction in (2b) conveys that the wisher believes that Pete didn't know the answer at some time in the past.

(2)a.   I wish Pete knew the answer (now).
  b.   I wish Pete had known the answer (then).

Iatridou (2000) identifies that in counterfactual conditionals and *wish*-constructions across languages, past tense morphology is responsible for conveying the counterfactual meaning, and lexical aspect (such as stativity and telicity) is responsible for the range of temporal interpretations available in the two types of constructions. She also discusses that in languages like Modern Greek that have distinctive grammatical aspect such as perfective and imperfective, counterfactuals require imperfective aspect as well as past tense morphology. Iatridou, however, shows that even in these languages, the counterfactual meaning is coming from the past tense and not the imperfective morphology. Subsequent work by Legate (2003) shows that in languages like Warlpiri that use irrealis morphology in counterfactuals, past tense is still implicated, further supporting Iatridou's generalization.[1] In this paper, I extend and apply Iatridou's analysis to Korean, another language that can make use of past tense morphology for conveying counterfactuality. It will be shown that while there are many similarities between English and Korean counterfactuals, differences are also attested. In particular, in English conditionals, a future-oriented interpretation is available if the antecedent has past tense morphology and an eventive predicate, whereas the same type of Korean conditional only allows an epistemic interpretation. Further, while the English *wish* construction with a past-tensed eventive predicate in the complement clause only allows a scheduled future reading, the corresponding construction in Korean allows a non-counterfactual or a past counterfactual reading. I will propose an analysis for this form-meaning mapping variation between Korean and English that naturally follows from the viewpoint that syntax manipulates bundles of features and outputs an LF representation on which

compositional semantics is done. I adopt the view in Distributed Morphology (Halle and Marantz 1993, 1994) that feature bundles are spelled out in Morphology through Vocabulary Insertion.

The rest of the article is organized as follows: In section 2, I summarize the main arguments in Iatridou (2000), discussing the role of past tense morphology and lexical aspect in the interpretation of counterfactuals in English. In section 3, I present Korean counterfactuals and point out the similarities as well as differences in the possible range of interpretations between English and Korean counterfactuals. In section 4, I propose an analysis of the form-meaning mapping in counterfactuals that accounts for the variation between Korean and English. I recast Iatridou's definition of past tense morphology as an exclusion feature that either ranges over times or worlds into two logical translations: one of them conveys temporal interpretation and the other counterfactuality. Using these logical translations, I argue that in a counterfactual, once the past tense is mapped onto the meaning component that conveys counterfactuality, the range of possible temporal interpretations for the counterfactual is literally determined by the LF of the relevant clause minus the past tense morpheme. If this LF has a present (or past) interpretation, the counterfactual will have a present (or past) interpretation. But if this LF is not interpretable, the counterfactual will not be interpretable either, resulting in ungrammaticality.

2. Tense and Lexical Aspect in Counterfactuals in English

Iatridou (2000) observes that the conditional form in English that gives rise to a counterfactual inference requires past tense morphology in the antecedent. Notably, this past tense morphology does not contribute a temporal interpretation. For instance, as illustrated in (1a), the conditional form that gives rise to the present counterfactual inference has past tense morphology in the antecedent and *would* in the consequent. The conditional form that gives rise to the past counterfactual inference has pluperfect morphology in the antecedent and *would have* in the consequent, as in (1b). (3a) schematizes present counterfactual conditionals, and (3b) schematizes past counterfactual conditionals.

(3) *if p, q*
    a.   If $[_p$... V-Past ... $]$ $[_q$... would V ... $]$
    b.   If $[_p$... have-Past V-Participle ... $]$ $[_q$... would have V ... $]$

Wish counterfactuals also require past tense morphology. Present *wish* counterfactuals require past tense on the embedded verb as exemplified in

(2a) and schematized in (4a), and past *wish* counterfactuals require pluperfect on the embedded verb as exemplified in (2b) and schematized in (4b).

(4) *wish p*
    a.   wish [$_p$... V-Past ...]
    b.   wish [$_p$... have-Past V-Participle ...]

Iatridou proposes that the past tense morpheme is not restricted to conveying a temporal interpretation but should rather be thought of as contributing an underspecified exclusion feature that can range over times or worlds. When it ranges over times, it has the function of excluding the utterance time interval (speaker's time) from the time interval we are talking about (similar to Klein's 1994 Topic Time), resulting in a past interpretation. And when it ranges over worlds, it excludes the actual world (speaker's world) from the set of worlds we are talking about (Topic Worlds), resulting in a counterfactual interpretation. Applying this idea to the above schemas, in (3a) and (4a), the exclusion feature associated with the past tense morpheme in *p* ranges over worlds to exclude the actual world from Topic Worlds, and *p* is interpreted with the remaining morphology, ending up with a present interpretation. This is why (3a) and (4a) have the present counterfactual interpretation. In accounting for examples with schemas as in (3b) and (4b), Iatridou counts pluperfect as two layers of past tenses, and argues that one layer of past tense in *p* ranges over worlds, hence contributing the counterfactual interpretation, and the other layer of past tense in *p* ranges over times, hence contributing a past interpretation. This is why (3b) and (4b) have the past counterfactual interpretation.

In addition, Iatridou shows that lexical aspect of the predicate in the antecedent of the counterfactual conditionals plays an important role in determining whether the conditional has a present counterfactual interpretation or not. In English, when the antecedent has past tense morphology and a stative predicate, the present counterfactual interpretation is available. Examples are given with an individual-level predicate in (5ab), and a generic predicate in (5c).

(5)a.   If Pete knew the answer, he would tell you.
    b.   If Pete had a car, he would drive every day.
    c.   If Pete smoked, his teeth would be yellow. (= If Pete was a smoker, his teeth would be yellow.)

Note that the conditionals with the same type of antecedent can have an epistemic interpretation, depending on the consequent. In this case, the antecedent has a past interpretation, as in (6).[2]

(6)a.   If Pete knew the answer (yesterday), he must have told Sue.
   b.   If Pete smoked (in those days), his clothes must have been smelly all the time.

If, however, the antecedent has an eventive predicate and a past tense, the conditional has either the future or the epistemic interpretation, depending on the consequent. For example, the conditional in (7a) has past tense morphology and a telic predicate in the antecedent. The antecedent has a past interpretation as can be seen by the fact that it is compatible with a past-oriented adverbial, and the whole conditional has an epistemic interpretation. The conditional in (7b) with the same predicate and past tense morphology in the antecedent has a future interpretation as can be seen by the fact that a future-oriented adverbial is compatible with the antecedent. The future-oriented conditionals express the speaker's belief that the actual world is not likely to become a world in which the proposition expressed by the antecedent is true. Iatridou calls these conditionals "future less vivid" (FLV) conditionals, and contrasts them with "future neutral vivid" (FNV) conditionals that convey that the speaker is neutral as to the likelihood of the actual world becoming a world in which the proposition in the antecedent is true. Note that FNVs do not have a past tense in the antecedent, as in (8).

(7)a.   If Pete took this syrup (yesterday), he must be better now.
   b.   If Pete took this syrup (soon), he would get better.

(8)   If Pete takes this syrup, he will get better.

According to Iatridou, whether a conditional with a past tense in the antecedent has a present counterfactual or future-oriented interpretation depends on the "point of earliest possible evaluation for truth" of the situation described in the antecedent. When the antecedent contains a stative predicate, the situation described must already hold at the time of utterance, as in (9a)–(9c), but when the antecedent contains an eventive predicate, then the situation described can only come about in future, as in (9d).

(9)a.   If Pete knows the answer, …
   b.   If Pete has a car, …
   c.   If Pete smokes, …
   d.   If Pete takes this syrup, …

In *wish* constructions, the lexical aspect of the predicate in the complement clause makes a similar interpretive contribution. The *wish* constructions are

permitted to be present counterfactuals if the complement clause has a past-tensed stative predicate, such as an individual-level predicate in (10a), (10b) and a generic predicate in (10c).

(10)a.   I wish Mary knew the answer.
     b.   I wish I had a car.
     c.   I wish Mary ate meat. (= I wish Mary was a meat-eater.)

Wish constructions, however, are different from conditionals: while conditionals allow a future or epistemic interpretation with a past-tensed eventive predicate in the antecedent, *wish* constructions are grammatical with the same type of predicate in the complement clause only under a scheduled future interpretation.

(11)a.   I wish Mary took the syrup (tomorrow).
     b.   I wish Mary left (tonight).

Iatridou points out that *would* is required in the complement clause, in order to form a grammatical *wish* construction with a past tensed telic predicate that conveys a regular (non-scheduled) future reading, as in (12).

(12)a.   I wish Mary would take the syrup (soon).
     b.   I wish Mary would write the letter (later).

With the pluperfect, both counterfactual conditionals and *wish* constructions can give rise to a past counterfactual interpretation regardless of the predicate type in the antecedent or the complement clause.

(13)a.   If Pete had known the answer, he would have told you.
     b.   If Pete had taken the syrup, he would have become better.
     c.   If Pete had smoked in those days, his teeth would have turned yellow.

(14)a.   I wish Mary had known the answer.
     b.   I wish Mary had taken the syrup.
     c.   I wish Mary had eaten meat in those days.

Table I summarizes the correlations among tense morphology, lexical aspect and available interpretations in English conditionals with the schemas in (3) and *wish* constructions with the schemas in (4).

Table I. Tense and Lexical Aspect in English Counterfactuals

Tense	Lexical Aspect	Conditionals	*Wish*-constructions
Past	Stative	present counterfactual	present counterfactual
Past	Eventive	future	scheduled future
Pluperfect	Stative	past counterfactual	past counterfactual
Pluperfect	Eventive	past counterfactual	past counterfactual

3. TENSE AND LEXICAL ASPECT IN COUNTERFACTUALS IN KOREAN

3.1. *Counterfactual Conditionals*

Past tense morphology also plays an important role in conveying counter-factuality in Korean. The conditional form in Korean that can give rise to a present counterfactual inference has past tense morphology in the antecedent and future tense in the consequent. And the conditional form that can give rise to a past counterfactual inference has pluperfect in the antecedent and past and future tense morphemes in the consequent.[3] The schemas and examples of present and past counterfactual conditionals are given in (15) and (16) respectively.[4]

(15)a. $[_p$... V-Past ... if] $[_q$... V-Fut ...]

   b. Kim-i   tap-ul   alkoiss-ess-tamyen, ne-eykey
      Kim-Nom answer-Acc know-Past-if   you-to
      malhaycwu-ul kesi-ta.
      tell   Fut-Decl
      'If Kim knew the answer, he would tell you.'

(16)a. $[_p$... V-Past-(Past) ... if] $[_q$... V-Past-Fut ...]

   b. Kim-i   tap-ul   alkoiss-ess-(ess)-tamyen, ne-eykey
      Kim-Nom answer-Acc know-Past-Past-if   you-to
      malhaycwu-ess-ul kesi-ta.
      tell-Past   Fut-Decl
      'If Kim had known the answer, he would have told you.'

Korean lexicalizes pluperfect with two occurrences of the past tense morpheme and they may be phonologically contracted yielding effectively one past tense morpheme, regardless of the linguistic environment in which it occurs.

If the antecedent has a stative predicate and a past tense, the present counterfactual interpretation is available, just as in English. This is illustrated with an individual-level predicate in (15b) and a generic predicate in (17).

(17)   Kim-i   yocum   tampae-lul   piw-ess-tamyen, os-eyse
        Kim-Nom these days cigarette-Acc smoke-Past-if   clothes-from
        naymsay-ka   na-ul   kesi-ta.
        smell-Nom   eminate   Fut-Decl
        'If Kim smoked these days, his clothes would smell.'

Moreover, just as in English, the conditionals with the same type of antecedent can have an epistemic reading, depending on the consequent, as in (18).[5]

(18)a.   Kim-i   ecey   tap-ul   alkoiss-ess-tamyen, Lee-eykey
         Kim-Nom yesterday answer-Acc know-Past-if   Lee-to
         malhaycwu-ess-keyss-ta.
         tell-Past-must-Decl
         'If Kim knew the answer yesterday, he must have told Lee.'

    b.   Kim-i   ku   tangsi tampae-lul   piw-ess-tamyen,
         Kim-Nom those days   cigarette-Acc smoke-Past-if
         os-eyse   hangsang naymsay-ka na-ass-keyss-ta.
         clothes-from   always   smell-Nom   eminate-Past-must-Decl
         'If Kim smoked in those days, his clothes must have smelled
         all the time.'

Further, just as in English, if the antecedent has an eventive predicate and a past tense morpheme, a present counterfactual reading is not available. However, unlike in English, a future interpretation is not available with such a conditional; instead the antecedent has a past interpretation, and the whole conditional has an epistemic interpretation. This is illustrated in (19).

(19)   Kim-i   (ecey)   yak-ul   mek-ess-tamyen, pyeng-i
        Kim-Nom (yesterday) medicine-Acc eat-Past-if   illness-Nom
        kos   nah-ul   kesi-ta.
        soon   recover   Fut-Decl
        'If Kim took the medicine (yesterday), he will soon recover.'

If the antecedent has pluperfect, a past counterfactual reading is available regardless of the predicate type, as illustrated in (20).

(20)a. Kim-i   ku tangsi tampae-lul   piw-ess-ess-tamyen,
        Kim-Nom that time   cigarette-Acc smoke-Past-if
        os-eyse   naymsay-ka na-ass-ul   kesi-ta.
        clothes-from   smell-Nom   eminate-Past   Fut-Decl
        'If Kim had smoked in those days, his clothes would have
        smelled.'

   b.   Kim-i   party-ey o-ass-ess-tamyen party-ka   culkewu-ess-ul
        Kim-Nom party-to come-Past-Past-if party-Nom fun-Past
        kesi-ta.
        Fut-Decl
        'If Kim had come to the party, the party would have been fun.'

3.2. *Wish Counterfactuals*

Korean does not have a lexical item that corresponds to English verb *wish*. But the verb *want* in the past tense (*pala-ass-ta* 'want-Past-Decl') with a nominalized complement clause can be used to convey counterfactual desires. Under the counterfactual reading, the past tense on the verb does not receive a temporal interpretation. This is not something unique to Korean. Iatridou (2000) has shown that the Modern Greek verb for *want* with past tense morphology (and an imperfective morphology preceded by the modal particle *tha*) expresses counterfactual desires. Moreover, just as the complement clause of English *wish* requires a past tense, the nominalized complement clause of the Korean *want-Past* must contain a past tense in order to give rise to a counterfactual interpretation. A present counterfactual interpretation is available if the complement clause has past tense morphology, as in (21), and a past counterfactual interpretation is available if the complement clause has pluperfect morphology, as in (22).[6]

(21)a. [$_p$ … V-Past …] want-Past

   b.   Na-nun Lee-ka   tap-ul   alkoiss-ess-ki-lul
        I-Top   Lee-Nom answer-Acc know-Past-Nmz-Acc
        pala-ass-ta.
        want-Past-Decl
        'I wish that Lee knew the answer.'

(22)a. [$_p$ … V-Past-Past …] want-Past

    b.   Na-nun Lee-ka   party-ey o-ass-ess-ki-lul
         I-Top   Lee-Nom party-to come-Past-Past-Nmz-Acc
         pala-ass-ta.
         want-Past-Decl
         'I wish that Lee had come to the party.'

If *want* is not marked with past tense or the complement clause of *want-Past* does not have past tense morphology, the counterfactual inference is no longer available. In the former case, the complement clause has a past interpretation and the interpretation of the whole construction corresponds to that of the English *hope* construction, as in (23). In the latter, the past tense on *want-Past* receives a temporal interpretation, as in (24).

(23)a. Na-nun Lee-ka   tap-ul   alkoiss-ess-ki-lul pala-n-ta.
        I-Top   Lee-Nom answer-Acc know-Past-Acc   want-Pres-Decl
        'I hope Lee knew the answer.'

    b.   Na-nun Lee-ka   party-ey o-ass-ess-ki-lul   pala-n-ta.
         I-Top   Lee-Nom party-at come-Past-Past-Acc want-Pres-Decl
         'I hope Lee had come to the party.'

(24)a. Na-nun Lee-ka   tap-ul   alkoiss-ki-lul pala-ass-ta.
        I-Top   Lee-Nom answer-Acc know-Acc   want-Past-Decl
        'I wanted Lee to know the answer.'

    b.   Na-nun Lee-ka   party-ey o-ki-lul   pala-ass-ta.
         I-Top   Lee-Nom party-at come-Acc want-Past-Decl
         'I wanted Lee to come to the party.'

As in English *wish*-constructions, the interpretation of Korean *want-Past* constructions is sensitive to the lexical aspect of the predicate in the complement clause. If the complement clause has a stative predicate, a present counterfactual reading is available, as in (25).

(25)a. Na-nun Lee-ka   nalssinha-ass-ki-lul pala-ass-ta.
        I-Top   Lee-Nom thin-Past-Acc   want-Past-Decl
        'I wish that Lee was thin.'

    b.   Na-nun Lee-ka   koki-lul   mek-ess-ki-lul   pala-ass-ta.
         I-Top   Lee-Nom meat-Acc eat-Past-Nmz-Acc want-Past-Decl
         'I wish Lee ate meat.' (= 'I wish Lee was a meat eater.')

If, however, the complement clause has an eventive predicate, a present counterfactual reading is not available. Such a construction is ambiguous between a past counterfactual interpretation and a non-counterfactual interpretation, as exemplified in (26). On the non-counterfactual interpretation of (26), the past tense on the verb *want* and the past tense on the verb in the complement clause receive a temporal interpretation.

(26) Na-nun Kim-i   yak-ul   mek-ess-ki-lul pala-ass-ta.
      I-Top   Kim-Nom medicine-Acc take-Past-Acc want-Past-Decl
      (i) 'I wanted Kim to have taken the medicine.' (non-counterfactual)
      (ii) 'I wish Kim had taken the medicine.' (past counterfactual)

If the complement clause has pluperfect, then the past counterfactual reading is available regardless of the predicate type, as in (27).

(27)a. Na-nun Kim-i   tap-ul   alkoiss-ess-ess-ki-lul
        I-Top   Kim-Nom answer-Acc know-Past-Past-Nmz-Acc
        pala-ass-ta.
        want-Past-Decl
        'I wish Kim had known the answer.'

   b. Na-nun Kim-i   ilccik tochakha-ass-ess-ki-lul
       I-Top   Kim-Nom early arrive-Past-Past-Nmz-Acc
       pala-ass-ta.
       want-Past-Decl
       'I wish Kim had arrived early.'

Table II summarizes the correlations among tense morphology, lexical aspect and available interpretations in Korean conditionals of the type schematized in (15a) and (16a) and *want-Past* constructions of the type schematized in (21a) and (22a).

Table II.   Tense and Lexical Aspect in Korean Counterfactuals

Tense	Lexical Aspect	Conditionals	*Want-Past* Constructions
Past	Stative	present counterfactual	present counterfactual
Past	Eventive	epistemic	non- or past counterfactual
Pluperfect	Stative	past counterfactual	past counterfactual
Pluperfect	Eventive	past counterfactual	past counterfactual

3.3. *Variation Between English and Korean*

In both English and Korean, conditionals and *wish* constructions give rise to a present counterfactual inference if the antecedent of conditionals and the

complement clause of *wish* constructions have past tense morphology and a stative predicate. Further, English and Korean are similar in that both types of constructions give rise to a past counterfactual inference with pluperfect morphology regardless of the predicate type. However, the two languages behave differently when it comes to the past tense and eventive predicate combination. In English, conditionals can have a future interpretation while *wish* constructions can only have the scheduled future reading. In Korean, conditionals have an epistemic interpretation, and *want-Past* constructions result in a non-counterfactual or past counterfactual interpretation. These differences are summarized in Table III.

Table III. Comparison between Eventive-Past in English and Korean

	English	Korean
Conditionals	future	epistemic
Wish constructions	scheduled future	non- or past counterfactual

While Iatridou's analysis which is based on the notion of "the earliest possible evaluation point for truth" accounts for the temporality of English counterfactual conditionals, it does not account for the variation attested between Korean and English. As discussed in section 2, according to Iatridou, the reason that English conditionals with a past-tensed eventive predicate in the antecedent have a future interpretation is because once the past tense is spent on excluding the actual world from the Topic Worlds (i.e., the set of worlds we are talking about), the earliest possible evaluation point for the antecedent with the remaining morphology is the future. This is so because the situation described with an eventive predicate in an *if*-clause can only come about after the time of utterance. But the same kind of reasoning should apply to Korean, incorrectly predicting that Korean conditionals with a past-tensed eventive predicate in the antecedent allow a future interpretation. It is also not precisely stated in Iatridou (2000) how the notion of "the earliest possible evaluation point for truth" can be applied to *wish* constructions. This notion alone does not explain why the English *wish* construction with an eventive predicate only allows the scheduled future reading, while the Korean counterpart allows a non- or past counterfactual interpretation.

4. A Proposal on Form-Meaning Mapping in Counterfactuals

I follow Iatridou and take past tense morphology to contribute an exclusion feature that either ranges over times or worlds. When past tense as exclusion

feature ranges over worlds, it excludes the actual world from the Topic Worlds, giving rise to a counterfactual inference, and when it ranges over times, it excludes the time of utterance from the Topic Time interval, giving rise to a past tense interpretation.

I recast Iatridou's definition of the two exclusion functions of the past tense morphology into two logical translations in (28). I use $past_t$ for the exclusion feature ranging over times, and $past_w$ for the one ranging over worlds. Note that p is a propositional variable, t is a time interval variable, w is a world variable, t_0 and w_0 are special symbols designating the time of utterance and the actual world respectively, and T is a predicate corresponding to Topic Time intervals, a set of time intervals we are talking about, or Topic Worlds, a set of worlds that we are talking about. The formula in (28a) represents $past_t$ as a function that takes a proposition and returns a set of worlds in which the proposition is true at a time interval that we are talking about, and the utterance time interval is not the time interval we are talking about. The formula in (28b) represents $past_w$ as a function that takes a proposition and returns a set of worlds that we are talking about in which the proposition is true and the actual world is not a world that we are talking about.[7]

(28) a. $[\![past_t]\!] = \lambda p\ \lambda w. \exists t[p(t)(w) \wedge \mathrm{T}(t) \wedge \neg \mathrm{T}(t_\mathrm{o})]$
    b. $[\![past_w]\!] = \lambda p\ \lambda w. p(w) \wedge \mathrm{T}(w) \wedge \neg \mathrm{T}(w_\mathrm{o})$

I, however, depart from Iatridou in the exact procedure of interpreting counterfactuals. The analysis that I propose is based on the assumption that syntax manipulates bundles of features and produces an LF representation which is then presented as an input to compositional semantics. This means that given a past-tensed verb morpho-phonologically spelled out as *knew*, for example, its LF form is a bundle of features corresponding to the root *know* and the exclusion feature (either ranging over times or worlds) corresponding to the past tense. The verb is spelt out as *knew* in Morphology through Vocabulary Insertion and further morphological operations. I propose that the interpretation of counterfactuals of the form *if p, q* and *wish p* depends on the interpretation of p', where p' is literally p minus the exclusion feature corresponding to the past tense morphology at the level of interpretation. If p has a past-tensed verb, p' ends up with a tenseless verb. If a language grammaticizes present tense with a null morphology, the interpretational system will yield a present interpretation for p', and a present counterfactual interpretation will be available to *if p, q* and *wish p*. Crucially, if a language grammaticizes present tense with an overt morphology, then p' will be uninterpretable, and so the counterfactual inference will not be

available to the two constructions. In addition, if p has pluperfect
morphology, p' ends up with a past-tensed verb (assuming that pluperfect
counts as having two occurrences of the past tense, as in Iatridou (2000) and
references therein). The interpretational system will then yield a past tense
interpretation for p' and a past counterfactual interpretation will be avail-
able to the two constructions. In what follows, I will apply the proposed
analysis to conditionals and *wish* constructions in Korean and English.

4.1. *Korean*

The conditional in (29a) has a past tensed stative predicate in the anteced-
ent. As a counterfactual, the LF of the antecedent looks as in (29b), with -*ess*
corresponding to $past_w$, an exclusion feature ranging over worlds, and the
proposition minus -*ess* corresponding to p'. This exclusion feature excludes
the actual world from the Topic Worlds, where the Topic Worlds form a
subset of the worlds in which p' is true, giving rise to the counterfactual
inference.

(29)a.   Kim-i   cha-lul kacko iss-ess-tamyen mayil   wuncenha-ul
         Kim-Nom car-Acc have   be-Past-if   everyday drive
         kesi-ta.
         Fut-Decl
         'If Kim had a car, he would drive everyday.'

   b. $past_w$ [$_{p'}$ Kim-i   cha-lul   kacko iss-ta].
              Kim-Nom car-Acc have   be-Decl
         'Kim has a car.'

Note that p' in (29b) is tenseless. The interpretational system yields present
interpretation for (29b) because Korean grammaticizes present tense on
stative verbs with null morphology. And so, the whole conditional in (29a)
has present counterfactual interpretation.

   Using the translation of $past_w$ in (28b), a compositional semantics for
(29a) can be provided. The LF of this conditional can be represented as
(30a), where p is the proposition in the antecedent, p' is p minus the past
tense, and q is the proposition in the consequent. I adopt the semantics of
conditionals in Kratzer (1986), in which the conditional forms a quantifi-
cational structure with a modal operator, a domain of quantification
restricted by the antecedent, and a nuclear scope expressed by the conse-
quent. The future morphology in the consequent in (29a) does not neces-
sarily have a future interpretation, and so I will treat it as contributing the
modal operator. This then yields the semantic representation in (30b).

Plugging (28b) into (30b), (30b) can be rewritten as (30c). After two λ-conversions applied to the restrictor in (30c) and (30d), we get the final logical translation in (30e), which can be paraphrased as in (30f).

(30)a. if [$_p$ $past_w$ [$_{p'}$ have_a_car(k)]] [$_q$ drive_every_day(k)]

b. $\Box$ [$past_w$ [$\lambda w'$.have_a_car(k)(w')]] [$\lambda w'$.drive_every_day(k)(w')]

c. $\Box$ [$\lambda p \lambda w.p(w) \wedge T(w) \wedge \neg T(w_o)$ [$\lambda w'$.have_a_car(k)(w')]]
[$\lambda w'$.drive_every_day(k)(w')]

d. $\Box$ [$\lambda w.[\lambda w'$.have_a_car(k)(w')](w) $\wedge T(w) \wedge \neg T(w_o)$]
[$\lambda w'$.drive_every_day(k)(w')]

e. $\Box$ [λw.have_a_car(k)(w) $\wedge T(w) \wedge \neg T(w_o)$]
[$\lambda w'$.drive_every_day(k)(w')]

f. "In all the worlds w that we are talking about in which Kim has a car and the actual world is not a world that we are talking about, Kim drives everyday in w."

The conditional in (31a) has a past tense and an eventive predicate in the antecedent. If interpreted as a counterfactual, the LF of the antecedent would look as in (31b): -ess corresponds to $past_w$, and the proposition minus -ess corresponds to p'.

(31)a. Kim-i   yak-ul   mek-ess-tamyen, pyeng-i   kos
        Kim-Nom medicine-Acc eat-Past-if   illness-Nom soon
        nah-ul   kesi-ta.
        recover   Fut-Decl
        'If Kim took the medicine, he will recover soon.'

b. *$past_w$ [$_{p'}$ Kim-i   yak-ul   mek-ta].
                  Kim-Nom medicine-Acc eat-Decl
        'Kim takes medicine.'

But p' in (31b) is not an interpretable proposition in Korean. Korean grammaticizes present tense on eventive verbs with an overt present tense morphology -(n)un/-n.[8] With -nun on the verb mek-ta to yield mek-nun-ta, (31b) can have a present imperfective reading, as in (32).

(32)   Kim-i   cikum yak-ul   mek-nun-ta.
        Kim-Nom now   medicine-Acc eat-Decl
        'Kim is taking the medicine now.'

Further, examples like (31b) in Korean cannot yield a future interpretation either. This is different from how English behaves. In English, sentences with an eventive predicate and a null tense morphology can have a scheduled future interpretation (Dowty 1979 and others), as in (33).[9] Note that the third person singular marker -s on the verb (e.g., *rises* in (33b)) is an agreement marker, and not a present tense marker, following Enç (1990).

(33)a. The Red Sox play the Yankees tomorrow.
   b. The Sun rises at 6 a.m. tomorrow.

In contrast, corresponding examples in Korean are not well-formed, as shown in (34).

(34)a. *Red Sox-nun nayil   Yankees-wa   sihapha-ta.
      Red Sox-Top tomorrow Yankees-with play-Decl
      'The Red Sox play the Yankees tomorrow.'

   b. *Thayyang-un nayil   6 si-ey   ttu-ta.
      sun-Top   tomorrow 6 hour-at rise-Decl
      'The Sun rises at 6 a.m. tomorrow.'

If, however, present tense morpheme -(n)un/-n is added to the verb, examples such as (34) as well as (31b) can come to have a scheduled future interpretation, as in (35).

(35)a. Kim-i   nayil   yak-ul   mek-nun-ta.
      Kim-Nom tomorrow medicine-Acc eat-Pres-Decl
      'Kim is scheduled to take the medicine tomorrow.'

   b. Red Sox-nun   nayil   Yankees-wa   sihapha-n-ta.
      Red Sox-Top tomorrow Yankees-with play-Pres-Decl
      'The Red Sox is scheduled to play the Yankees tomorrow.'

   c. Thayyang-un nayil   6 si-ey   ttu-n-ta.
      sun-Top   tomorrow 6 hour-at rise-Pres-Decl
      'The Sun is scheduled to rise at 6 a.m. tomorrow.'

As (31b) is uninterpretable, not having the required morphology, the past tense in the antecedent of the conditional in (31a) cannot be spent on excluding the actual world. Instead, it receives the usual temporal interpretation, and the whole conditional ends up with an epistemic interpretation.

A compositional semantics for the epistemic reading of the conditional in (31a) can be given, using the logical translation of *past$_t$* in (28a). The LF of (31a) and the corresponding semantic representation, following Kratzer's semantics of conditionals, are given in (36a) and (36b). Plugging (28a) into (36b) yields (36c). After two applications of λ-conversion to the restrictor, we arrive at the final translation in (36d), which can be paraphrased as in (36e).

(36)a. if [*past$_t$* [take_the_medicine(k)]] [recover_soon(k)]

    b. $\Box$[*past$_t$* [$\lambda w'$.take_the_medicine(k)(w')]] [$\lambda w'$.recover_soon(k)(w')]

    c. $\Box$ [$\lambda p \lambda w.\exists t[p(t)(w) \wedge T(t) \wedge \neg T(t_o)]$] [$\lambda w'$.take_the_medicine(k)($w'$)]] [$\lambda w'$.recover_soon(k)($w'$)]

    d. $\Box$ [$\lambda w.\exists t[\text{take\_the\_medicine}(k)(w)(t) \wedge T(t) \wedge \neg T(t_o)]$] [$\lambda w'$.recover_soon(k)($w'$)]

    e. "In all the worlds w in which Kim takes the medicine at a time interval we are talking about and the utterance time interval is not the time interval we are talking about, Kim will recover soon in w."

The discussion on the interpretive (im)possibility of examples with a tenseless eventive predicate such as (31b) revealed that if -*(n)un*/-*n* is added to the verb, then the resulting sentence has either present imperfective reading, as in (32), or a future reading, as in (35a). As an antecedent of a conditional, it also has either present or future interpretation, as in (37).

(37)a. Kim-i   cikum yak-ul   mek-nun-tamyen, pyeng-i
       Kim-Nom now   medicine-Acc eat-Pres-if   illness-Nom
       kos   nah-ul   kesi-ta.
       soon   recover   Fut-Decl
       'If Kim is taking the medicine now, he will soon recover.'

    b. Kim-i   nayil   yak-ul   mek-nun-tamyen,
        Kim-Nom tomorrow medicine-Acc eat-Pres-if
        pyeng-i   kos   nah-ul   kesi-ta.
        illness-Nom soon   recover   Fut-Decl
        'If Kim takes the medicine tomorrow, he will soon recover.'

Another reading that is available for sentences with -*(n)un*/-*n*-marked verbs is a present generic interpretation, as in (38). Notably, examples like (31b) without -*(n)un*/-*n* cannot have a generic interpretation.

(38) Kim-i yocum yak-ul mek-nun-ta.
Kim-Nom these days medicine-Acc take-Pres-Decl
'Kim takes medicine these days.'

This fact and the analysis given so far seem to predict that conditionals like (31a) should not have a present generic counterfactual interpretation. This is because at the level of interpretation, what is being interpreted in the antecedent will look like (31b), which I said was uninterpretable. But (31a) does allow the present generic counterfactual interpretation, as in (39).

(39) Kim-i yocum yak-ul mek-ess-tamyen,
Kim-Nom these days medicine-Acc eat-Past-if
pyeng-i kos nah-ul kesi-ta.
illness-Nom soon recover Fut-Decl
'If Kim took the medicine these days, he will soon recover.'

This can be explained under the view that generic predicates are semantically statives. That is, just as present statives do not require tense morphology at LF as was illustrated with (29b), present generics do not either. That is why the LF in (31b) can receive a present generic interpretation.

The conditional in (40a) has pluperfect in the antecedent. Note that in Korean, a combination of two occurrences of the past tense morpheme yields pluperfect, as in *o-ass-ess* ('come-Past-Past'). Under the present system, as a counterfactual, the LF of the antecedent of (40a) will look as in (40b), with one *-ess* corresponding to $past_w$, the other corresponding to $past_t$, and the proposition minus $past_w$ corresponding to p'.

(40)a. Kim-i party-ey o-ass-ess-tamyen, party-ka culkewu-ess-ul
Kim-Nom party-at come-Past-Past-if party-Nom fun-Past
kesi-ta.
Fut-Decl
'If Kim had come to the party, the party would have been fun.'

b. $past_w$ [$_{p'}$ Kim-i party-ey o-ass-ta].
Kim-Nom party-at come-Past-Decl
$past_w$ [$_{p'}$ $past_t$ Kim-i party-ey o-ta].
'Kim came to the party.'

(40b) thus has a past temporal interpretation, and the entire conditional in (40a) has a past counterfactual interpretation. Moreover, in Korean *-ess/-ass* is the morpheme for expressing the past temporal meaning for all

types of predicates. This fact explains why a past counterfactual reading is available in conditionals with pluperfect in the antecedent, regardless of the predicate type, as was illustrated in (20).

Using the logical translations of $past_t$ and $past_w$ given in (28), a compositional semantics for (40a) can be provided. The LF of (40a) and the corresponding semantic representation are given in (41a) and (41b). (41b) can be rewritten as (41c), once $past_w$ and $past_t$ are replaced with appropriate translations in (28). After a series of λ-conversions applied to both the restrictor and the nuclear scope, we arrive at the final translation in (41d), with the paraphrase in (41e).

(41)a. if $[past_w [past_t [\text{come\_to\_party}(k)]]] [past_t [\text{fun(the\_party)}]]$

   b. $\Box [past_w [past_t [\lambda w'.\text{come\_to\_party}(k) (w')]]]$
      $[past_t [\lambda w'.\text{fun(the\_party)} (w')]]$

   c. $\Box [\lambda p\ \lambda w.p(w) \wedge T(w) \wedge \neg T(w_o) [\lambda p\ \lambda w.\exists t[p(t) (w) \wedge T(t) \wedge \neg T(t_o)]$
      $[\lambda w'.\text{come\_to\_party}(k) (w')]]]$
      $[\lambda p\ \lambda w.\exists t[p(t) (w) \wedge T(t) \wedge \neg T(t_o)] [\lambda w'.\text{fun(the\_party)} (w')]]$

   d. $\Box [\lambda w.\exists t [\text{come\_to\_party}(k)(w)(t) \wedge T(t) \wedge \neg T(t_o)] \wedge T(w) \wedge \neg T(w_o)]$
      $[\lambda w.\exists t[\text{fun(the\_party)} (w) (t) \wedge T(t) \wedge \neg T(t_o)]]$

   e. "[In all the worlds w that we are talking about in which Kim comes to the party at a time interval we are talking about, and the actual world and the utterance time interval are not a world and the time interval we are talking about], [the party is fun in w at a time interval we are talking about, and the utterance time interval is not the time interval we are talking about]."

We now turn to *wish* constructions. The construction in (25a) (repeated below as (42a)) has a stative predicate and a past tense in the complement clause.

(42)a. Na-nun Lee-ka   nalssinha-ass-ki-lul pala-ass-ta.
       I-Top   Lee-Nom thin-Past-Acc   want-Past-Decl
       'I wish that Lee was thin.'

   b. $past_w$ [$_{p'}$ Lee-ka   nalssinha-ta].
                 Lee-Nom thin-Decl
       'Lee is thin.'

As in the analysis given for conditionals, the LF for the complement clause is as in (42b). The past tense morphology in the complement clause

corresponds to $past_w$ which is spent on excluding the actual world from the Topic Worlds, and the rest of the proposition corresponds to p'. As was stated earlier, present tense on statives is null, and so (42b) yields a present interpretation and the whole construction in (42a) has a present counter-factual interpretation.[10]

The construction in (26) (repeated below as (43a)) has an eventive predicate and a past tense in the complement clause.

(43)a. Na-nun   Kim-i   yak-ul   mek-ess-ki-lul
         I-Top   Kim-Nom   medicine-Acc   take-Past-Acc
         pala-ass-ta.
         want-Past-Decl
         (i) 'I wanted Kim to have taken the medicine.' (non-counterfactual)
         (ii) 'I wish Kim had taken the medicine.' (past counterfactual)

     b. $*past_w$ [$_{p'}$ Kim-i   yak-ul   mek-ta].
              Kim-Nom medicine-Acc eat-Decl
       'Kim takes medicine.'

     c. $past_w$ [$_{p'}$ $past_t$ Kim-i   yak-ul   mek-ta].
                    Kim-Nom medicine-Acc eat-Decl
       'Kim takes medicine.'

Under the counterfactual reading, the LF for the complement clause of (43a) would look as in (43b). But as was stated earlier, eventive predicates require -*nun* for a present or a future reading, and thus (43b), not having the required morphology, ends up being uninterpretable. Hence, a present counterfactual or a future-oriented reading is not available in (43a). How-ever, a non-counterfactual interpretation (reading (i)) or a past counter-factual interpretation (reading (ii)) is available. Reading (i) is possible because the past tense on both the *want* and the complement clause can have a temporal interpretation. Reading (ii) is possible because the past tense morpheme in the complement clause can be understood as a pluperfect. As was pointed out in section 3.1, the pluperfect in Korean can be lexicalized with one occurrence of the past tense morpheme through a phonological contraction. But at the level of interpretation, the pluperfect will have two occurrences of the past tense: one corresponding to $past_w$ yielding the counterfactual inference, and the other corresponding to $past_t$ yielding the past interpretation, as in (43c).

As for *wish* counterfactuals with a present generic interpretation, as in (44a), what is being interpreted is a tenseless proposition corresponding to p'

in (44b). But as we saw earlier with conditionals, given that simple present generic sentences require *-nun*, as shown in (44c), (44a) is wrongly predicted to be ungrammatical.

(44)a. Na-nun Kim-i   koki-lul mek-ess-ki-lul   pala-ass-ta.
      I-Top   Kim-Nom meat-Acc eat-Past-Nmz-Acc want-Past-Decl
      'I wish Kim ate meat.' (= 'I wish Kim was a meat eater.')

  b. $past_w$ [$_{p'}$ Kim-i   koki-lul   mek-ta].
          Kim-Nom meat-Acc eat-Decl
      'Kim eats meat.'

  c. Kim-i   koki-lul   mek-nun-ta.
      Kim-Nom meat-Acc eat-Pres-Decl
      'Kim eats meat.'

I apply the same reasoning as proposed for conditionals and argue that present generic interpretation is available in (44a) because generics are statives and so at the level of interpretation, the tenseless proposition contributed by the complement clause can receive a present interpretation.

4.2. *English*

A similar analysis accounts for English counterfactuals. The LF for the antecedent and the complement clause in (45a) and (45b) is (45c), with the past tense corresponding to $past_w$.

(45)a. If Pete knew the answer, he would tell you.
  b. I wish Pete knew the answer.
  c. $past_w$ [$_{p'}$ Pete knows the answer].

Assuming that the third-person singular marker on the verb is an agreement marker, and not a present tense marker, following Enç (1990), the presence of *-s* on *know* in (45c) doesn't make any difference on the interpretation in the semantics. Here, I include the agreement morphology to be explicit. What this means is that just as in Korean, a sentence that has a stative predicate with null tense morphology in English has a present interpretation. Hence, the interpretational system yields the present interpretation for p' in (45c), giving rise to a present counterfactual interpretation for the whole conditional in (45a) and the *wish* construction in (45b).[11]

I now address one of the main differences between English and Korean counterfactuals: the fact that English conditionals may have future orien-

tation if the antecedent has a past tense and an eventive predicate, but
Korean conditionals give rise to an epistemic interpretation. In English, a
simple sentence that has an eventive predicate with no tense morphology
cannot have a present interpretation. It can, however, have a scheduled
future reading, as in (46b), and as we already saw in (33). If the same
sentence is embedded in the antecedent of a conditional, as in (46c), a future
interpretation is also possible. In this case, however, the future interpreta-
tion is not necessarily limited to the scheduled future reading. This may
follow from the semantics of conditionals as an (implicitly) modalized
structure. The consequent clause in (46c) contains *will*, which is standardly
assumed to be a modal. This modal verb can map onto the modal operator
in the semantic representation of conditionals, contributing the regular
(non-scheduled) future reading.

(46)a. If Pete took this syrup (tomorrow), he would get better.
   b. Pete takes this syrup (tomorrow).
   c. If Pete takes this syrup (tomorrow), he will get better.

We can now explain why conditionals like (46a) can have a future inter-
pretation. The LF of (46a) is as in (47). Once the past tense in the antecedent
is spent on excluding the actual world from the Topic Worlds, the remaining
proposition being interpreted in the restrictor is tenseless. Such a proposi-
tion can have a future interpretation, just as (46b) can in the antecedent of
conditionals as in (46c).

(47)   if $[past_w$ [take_this_syrup(pete)]] [get_better(pete)]

Note that sentences like (46b) can also have a present generic reading, as in
(48a). This predicts that a conditional like (46a) can be interpreted as a
present generic counterfactual. This prediction is borne out, as in (48b).

(48)a. Pete takes this syrup everyday.
   b. If Pete took this syrup everyday, he would feel better.

On the other hand, we saw in section 4.1 that in Korean, sentences with
tenseless eventive predicates are uninterpretable (as in (49)).

(49)   *Kim-i   yak-ul   mek-ta.
          Kim-Nom medicine-Acc eat-Decl
          'Kim takes medicine.'

There, I argued that this is correlated with the fact that conditionals with a
past-tensed eventive predicate in the antecedent cannot have a present

counterfactual reading or a future-oriented reading. Instead, the past tense must be interpreted temporally, yielding an epistemic reading for the conditional.[12]

Another difference between English and Korean was attested in *wish* constructions with a past-tensed eventive predicate in the complement clause. While Korean allows a non- or past counterfactual interpretation, English allows a scheduled future reading. In the case of Korean, I have argued that the available readings are explained by the fact that a simple sentence with a tenseless eventive predicate in Korean is ungrammatical. Thus, the past tense in the complement of *wish* must be either interpreted as a real past tense resulting in the non-counterfactual reading, or as a pluperfect resulting in the past counterfactual reading.

In English, we saw already that a simple sentence with a tenseless eventive predicate such as (50b) has a scheduled future reading. From this, the proposed analysis correctly predicts that *wish* constructions like (50a) have a scheduled future reading as well. Unlike the conditionals with a past-tensed eventive predicate though, the corresponding *wish* constructions do not have a regular (non-scheduled) future reading, and for the regular future reading to obtain, *would* must be present in the complement clause, as in (50c). This may be because, unlike conditionals, *wish* constructions are not (implicitly) modalized, so in order to express futurity, an overt future modal, in this case *would*, is necessary.

(50) a. I wish Mary took the syrup tomorrow.
     b. Mary takes the syrup tomorrow.
     c. I wish Mary would take the syrup tomorrow.

Further, *wish* constructions with a past-tensed generic predicate also allow a present generic counterfactual interpretation, as in (51a). This follows from the fact that simple sentences with a tenseless generic predicate allow present generic reading, as in (51b).

(51) a. I wish Mary took the syrup everyday.
     b. Mary takes the syrup everyday.

The analysis for conditionals and *wish* constructions with a pluperfect applies in the same way as in Korean. English grammaticizes past tense with overt past tense morphology (whether regular or irregular) regardless of the predicate type. Assuming that the pluperfect is a combination of two past tenses, one of them maps onto $past_w$, and the remaining proposition is interpreted with the other past tense mapping onto $past_t$, yielding the past counterfactual interpretation.

5. CONCLUSION

Building upon Iatridou's (2000) analysis of counterfactuals and past tense morphology as an exclusion feature, I have argued that the interpretation and the grammaticality of counterfactuals of the form *if p, q* and *wish p* depend on the interpretation and the grammaticality of p', where p' is literally p minus the past tense morphology.

Korean and English grammaticize present tense with null tense morphology in statives, and so the interpretational system yields the present counterfactual interpretation when p has a stative predicate. They both grammaticize past tense with overt past tense morphology. Therefore, p with pluperfect yields the past counterfactual interpretation. When it comes to tenseless eventive predicates, neither Korean nor English allows a present interpretation. Thus, neither Korean nor English allows the present counterfactual interpretation with a past-tensed eventive predicate in p. They, however, differ in that while English allows a future interpretation with a past-tensed eventive predicate in p, Korean does not. I argued that this difference follows from the fact that English simple sentences with tenseless eventive predicates allow the future interpretation, whereas the corresponding Korean sentences are uninterpretable.

Two predictions for a larger cross-linguistic study emerge from the proposed analysis. First, if a language grammaticizes present tense with overt present tense morphology distinct from agreement marker in sentences with stative predicates, then it should not allow a present counterfactual interpretation in *if p, q* and *wish p*, where p has past tense morphology and a stative predicate. Second, if a language grammaticizes present tense with null tense morphology in sentences with eventive predicates as well, then it should allow a present counterfactual reading in *if p, q* and *wish p*, where p has past tense morphology and an eventive predicate. These predictions remain to be tested.

NOTES

[1] For how counterfactuality is realized in languages that lack tense, see Nevins (2002).

[2] I thank an anonymous reviewer for pointing this out.

³ In some cases, counterfactuality can be conveyed in conditionals without using past tense morphology. For instance, in (i), even though there is no past tense morphology, the conditional clearly conveys counterfactual inference because our world knowledge tells us that Toli is not a lion and Suni is not a tiger. Conditionals like (i) can be used in a context where speakers are talking about Toli and Suni's personalities and are trying to identify animals that best characterize them. The English translation without past tense is felicitous in the same context. What is important for the purposes of this paper is that when conditionals have past tense morphology in the antecedent clause in Korean, this morphology can be used to convey counterfactual interpretation, not temporal interpretation.

 (i) Toli-ka saca-lamyen, Suni-nun holangii-ta.
    Toli-Nom lion-if   Suni-Top tiger-Decl
    'If Toli is a lion, Suni is a tiger.'

Another way of forming counterfactual conditionals is to use the conditional morphology -telamyen on the verb in the antecedent clause, as in (ii), and these conditionals have slightly different interpretational effects from the ones formed with -tamyen. See Lee (1996) for a discussion on the pragmatic difference between conditionals with -tamyen and -telamyen.

 (ii) Toli-ka ilccik tochakha-ass-ess-telamyen, Suni-lul
    Toli-Nom early arrive-Past-Past-if   Suni-Acc
    mana-ass-ul kesi-ta.
    meet-Past Fut-Decl
    'If Toli had arrived early, he would have met Suni.'

⁴ In Korean, -ess/-ass is used typically to convey past temporal interpretation. The literature, however, does not agree on the analysis of this morpheme. Some take it to be a marker of past tense (Choi 1983, Gim 1985, An 1980, Lee 1985), or a marker of perfectivity (Na 1971, Nam 1978), while others claim that it has a dual function of past tense and perfect (Sohn 1994, Sohn 1995), or that it is a marker of anteriority (Chung 1999). For the purposes of this article, what is important is that in constructions that convey counterfactuality, this morpheme at a minimum makes the same interpretive contribution as the English past tense morpheme. Therefore, I will continue to refer to -ess/-ass as past tense morphology.

⁵ Conditionals with past-tensed stative predicates in Korean cannot have a future-oriented interpretation. See footnote 12 for more discussion on this issue.

⁶ Nmz in the gloss of (21b) and (22b) stands for 'nominalizer'.

⁷ Iatridou (2000) constrains Topic Worlds to be a subset of the worlds in which the proposition under consideration is true. This subset condition is meant to capture the intuition that the counterfactual inference is an implicature and not an entailment, as argued by Anderson (1951), Stalnaker (1975), and Karttunen and Peters (1979). According to Iatridou's analysis, the semantics of exclusion feature itself is underspecified as to whether the proposition is true in the actual world, but the exclusion of the actual world from the Topic Worlds evokes a cancellable implicature that the proposition is not true in the actual world. It has been shown that the counterfactual inference of conditionals in Korean is also an implicature in Han (1996a).

⁸ There is a disagreement in the literature as to whether -(n)un/-n should be analyzed as a present tense morpheme (Choi 1994, Han 1996, Chung 1999), or as something else, such as a present progressive morpheme (Choi 1983), or an imperfective morpheme (Lee 1991). What is important for the purposes of this article is that its presence is required for present temporal interpretation in simple sentences with an eventive predicate. I will therefore continue to refer to -(n)un/-n as present tense morphology.

⁹ I thank a reviewer for pointing me to these examples.

¹⁰ The past tense morpheme on the main verb pala ('want') of wish counterfactuals is not itself an exclusion feature. Its main function seems to be to license or subcategorize for an exclusion feature that ranges over worlds in the complement clause. I leave as an open question the exact

formalization of the relationship between the past tense on the main verb and the one on the subordinate verb.

[11] In the analysis so far, the past tense in *would* in the consequent of a counterfactual conditional does not make any semantic contribution. As suggested by Iatridou (2000), we can think of this past tense as some sort of an agreement marker. This idea receives some support from the fact that Korean counterfactual conditionals do not require a past tense in the consequent.

[12] An anonymous reviewer notes that a stative verb in the past tense in English conditionals can produce a future-oriented reading as well as a present counterfactual reading. The future-oriented reading seems to be possible if the stative verb can be coerced into having an inchoative reading. For example, in (i), *knew* seems to be interpreted as something like *came to know*. My analysis then predicts that a conditional with the corresponding tenseless proposition in its antecedent should have future reading with inchoative flavor as well. This prediction is borne out, as in (ii).

> (i)   If Pete knew the answer (tomorrow), he would tell you.
> (ii)   If Pete knows the answer (tomorrow), he will tell you.

In contrast to English, as was noted in footnote 5, in Korean, past-tensed stative verbs cannot produce a future interpretation in conditionals. In order to express a future reading similar to (i) and (ii), an overt inchoative verb in the present tense must be added, as in (iii).

> (iii)   Kim-i   nayil   tap-ul   alkey toy-n-tamyen, ne-eykey
>   Kim-Nom tomorrow answer-Acc know become-Pres-if you-to
>   malhaycwu-ul   kesi-ta.
>   tell   Fut-Decl
>   'If Kim comes to know the answer tomorrow, he will tell you.'

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