A Semantics-Syntax Correlation Analysis of Exp-Subj Psych-verbs[*]

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Lee, Sang-Geun. 2007. **A Semantics-Syntax Correlation Analysis of Exp-Subj Psych-verbs.** *The Linguistic Association of Korea Journal,* *15*(4), 1-20. The main goal of this paper is to reveal that Experiencer-Subject psych-verbs in Korean, which were once assumed to be simple, are in fact complicated, and that two types of Exp-Subj psych-verbs, [+/-transitive], behave not uniformly in several syntactico-semantic properties including causativity, relativization, nominalization, intensionality, and specificity. To highlight the complexity of Exp-Subj psych-verbs in Korean, I pursue a semantics-syntax correlation analysis where the second DP of the [-transitive] type is newly interpreted as inducing an abstract affixal postposition, CAUS, indicating causativity, while the second DP of the [+transitive] type is as inducing a "concealed" clausal complement indicating intensionality.

Key Words: [+/-transitive] Exp-Subj psych-verbs, unaccusativity, causativity, intensionality, (non)specificity

1. Introduction

Though most of the research on psych-verbs have thus far focused on the mapping problem that the lower theta-role, Theme, is linked to the higher structural position, subject, in the Exp-Obj psych-verb construction (Akatsuka 1976, Belletti & Rizzi 1988, Grimshaw 1990, Pesetsky 1995, among others),[1] no serious attention has been paid to

the other group, Experiencer-Subject psych-verbs.[2] As we closely look at Exp-Subj psych-verbs in Korean, those verbs we once thought to be simple turn out to be complicated, and they are indeed classified into two types, [+/-transitive]. They show completely different patterns in some respects including relativization and nominalization (as well as causativization). Besides, no one has paid much attention to the semantic property, intensionality, that makes the two types distinctively interpreted though they all look alike on the surface.

In section 2, I start out with two types of Exp-Subj psych-verbs, [+/-transitive]. and then, in section 3, I explore another interesting field, affixation, in which the [-transitive] type is not comfortable with some affixal morphemes such as relativizer and nominalizer, even though the [+transitive] type is. For this contrast, I provide an account in section 4 by appealing to an abstract predicate analysis. And, in section 5, I examine more consequences of the analysis proposed here for two types of Korean Exp-Subj psych-verbs.

2. Two Types of Korean Exp-Subj Psych-verbs

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1) Assuming that linking patterns between thematic roles (e.g. Agent, Patient) and grammatical functions (e.g. Subject, Object) are predictable from the lexical properties of predicates, one can postulate a principle to that effect like Baker's (1988) UTAH (Uniformity of Theta Assignment Hypothesis), which states that identical thematic relationships between items are represented by identical structural relationships between those items at the level of D-structure.

2) Experiencer's emotional state can be expressed in two ways in Korean; bare-form psych-verbs and -*eha* form psych-verbs. The former describes the Experiencer's emotional state in the form of double subject construction, as in (ia). On the other hand, the latter, -*eha* form, describes the Experiencer's emotional state in the form of ordinary transitive construction, as in (ib). Focusing on the bare-form psych-verb construction, (ia), I claim that it should be classified into two subgroups, [+/-transitive], and hence analyzed as having two distinctive structures.

(i) a. nay-ka holangi-ka mwusepta. (Bare form psych-verb construction)
        I-Nom tiger-Nom   is afraid
        'I am afraid of tigers.'
    b. nay-ka holangi-lul mwusep-eha-n-ta. (-eha form psych-verb construction)
        I-Nom   tiger-Acc   afraid-do-Pres-Dec
        'I fear tigers.'

What is interesting with Korean psych-verbs is that they do not uniformly behave in what Pesetsky (1995) called Target/Subject Matter (T/SM) effect.[3] It seems that some psych-verbs in Korean do not give rise to the T/SM effect, as in (1b), where the Causer does not cause any trouble with the other two arguments (i.e., Experiencer and Target/Subject Matter). In contrast, others do seemingly show a similar pattern to the T/SM effect, as in (2b, c). where the Causer is compatible with the Experiencer alone, but not with the two arguments at the same time (Lee & Shin 2007).

(1) a. Sara-nun   kohyang-i   *kuliwuessta.* (simple sentence)
        Sara-Top   hometown-Nom   was sick for
        'Sara was sick for her hometown.'
   b. ku sosik-i   Sara-eykey   kohyang-ul
      the news-Nom   Sara-Dat   hometown-Acc
                                 kulip-keyhayssta. (causativized sentence)
                                 (home)sick-made
      'The news made Sara sick for her hometown.' (simple sentence)
(2) a. Sara-nun   ku yenghwa-ka *sulphuessta.*
        Sara-Top   the movie-Nom   was sad
        'Sara was sad about the movie.'

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3) To avoid the "flip" problem in linking theories (Lakoff 1970) and rescue the hypothesis that thematic roles map to grammatical functions in an orderly manner, Pesetsky (1995) proposes that the thematic roles for psych-verbs are in fact inaccurate and should be redefined as in (i):
   (i) a. Bill was angry at the article in the Times. <Exp <Target/Subject Matter>>
       b. The article in the Times angered Bill. <Causer <Exp>>
The finer-grained division of Θ-roles, i.e. Causer>Experiencer>Target/Subject Matter, proposed by Pesetsky (1995) solves the linking problem. However, this solution contains one mystery that Pesetsky (1995) himself dubbed T/SM restriction effect, which is described in (iia) and illustrated in (iib):
   (ii) a. T/SM restriction effect (Pesetsky 1995: 60): If Causer-role is distinct from either Subject Matter or Target of Emotion, why can't Causer and Target/Subject Matter co-occur with the same predicate?
       b. *The article in the Times angered *Bill* at the *government*. <Causer<Exp<Target>>>

    b. *ku sosik-i   Sara-eykey ku yenghwa-lul
       the news-Nom   Sara-Dat   the movie-Acc
                               sulphu-keyhayssta. (causativized sentence)
                               sad-made
       'The news made Sara sad about the movie.'
    c. ku sosik-i   Sara-lul   sulphu-keyhayssta. (causativized sentence)
       the news-Nom Sara-Acc   sad-made
       'The news made Sara sad.'

Besides, most importantly, some Exp-Subj psych-verbs like *sulphuta* 'be sad' and *koylopta* 'be distressed' are perfectly acceptable even without the second DP, while others like *kulipta* 'be (home)sick for' and *pwulepta* 'be envious of' are not acceptable without the second DP - or may be acceptable only as an ellipsis. This is shown in (3):

(3) a. Mia-nun   *suphuessta/koylowuessta.* [-trans]
       Mia-Top   was sad/was distressed
       'Mia was sad/distressed.'
    b. *Mia-nun   *kuliwuessta/pwulewuessta.* [+trans]
       Mia-Top   was sick for/was envious of
       'Mia was sick for/envious of (something or someone).'

Based on these distinctive properties, causativization and optionality, I have already suggested in some papers (Lee & Shin 2007) that Korean Exp-Subj psych-verbs should not be comprised into a single group, but be divided into two subgroups, [+/-transitive] type, though they both look alike on the surface (cf. Kim 1990, Nam 1993). That is, the [-transitive] type, but not the [+transitive] type, is actually intransitive. Below is the list I have proposed for two types of Korean Exp-Subj psych-verbs (cf. Chung 1998):[4]

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    4) The two types of Exp-Subj psych-verbs, [+/-transitive], can be defined in terms of two-way causal structures, proposed by Croft (1993). This is illustrated in (i) and (ii):
    (i) [-transitive] psych-verbs for object-motivated mental experiences
        ① Experiencer <---cause mental transition--- Stimulus/Cause

(4) Two types of Exp-Subj psych-verbs in Korean (Lee & Shin 2007)
    a. [+transitive] type: *kulipta* (be sick for), *pwulepta* (be envious of),
                    heymosulepta (be disgusted at), *silhta* (be
                    hateful for), *cohta* (be fond of), etc.
    b. [-transitive] type: *sulphuta* (be sad), *culkepta* (be happy),
                    koylopta (be distressed), *nollapta* (be
                    surprised), etc.

In this paper, I provide more asymmetric properties of two types of Korean Exp-Subj psych-verbs to propose that the [-transitive] type can be characterized by an abstract affixal postposition, CAUS, while the [+transitive] type is by an abstract predicate, PRED, which heads a "concealed" clausal complement indicating intensionality.

3. Further Asymmetries

Two types of Exp-Subj psych-verbs in Korean systematically differ with respect to relativization and nominalization, both of which are involved in distinctive morphemes, adjectival and nominalizing affix, respectively.

In the Korean pseudo-cleft construction, (5), where the DP 'Mia' was originally the first DP in the double nominative sentence, the [+transitive] psych-verb 'be sick for' legitimately allows the relativizing morpheme *-N* to be attached while the [-transitive] psych-verb 'be sad' does not. A similar observation holds in the typical relative clause construction, as in (6), where both the DP 'hometown' with the [+transitive] psych-verb and the DP 'the movie' with the [-transitive] verb were originally the second DP's in the double nominative

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    ② Experiencer ----------FEEL---------> Stimulus/Cause
  (ii) [+transitive] psych-verbs for self-motivated mental experiences
    Experiencer --------FEEL ---------> Target/Theme
If we extend this distinction to other languages like English, the [+transitive] type, but not the [-transitive] type, is predicted to express the subject's volition, agenthood, which is occasionally realized with the English *-Er* nominalizer, as pointed out by Chung (1998):
  (iii) *abhorrer, admirer, adorer, desirer, enjoyer envier hater, liker, lover, wisher.* ...

construction. The contrasts in (5-6) imply that the [-transitive] type is somehow uncomfortable with the affixal relativizing morpheme *-N*, while the [+transitive] type is comfortable with the same morpheme.

(5) a. [Mia-ka　*kuliwu-N*]-*kes*-un　　*kohyang*-ita. [+trans]
　　　Mia-Nom　sick for-Rel-thing-Top　hometown-is
　　　'What Mia is sick for is her hometown.' (Int.)
　 b. *[Mia-ka　*sulphu-N*]-*kes*-un　ku yenghwa-ita. [-trans]
　　　Mia-Nom　sad-Rel-thing-Top　the movie-is
　　　'What Mia is sad about is the movie.' (Int.)
(6) a. ... [kohyang-i　　　*kuliwu-N*]　Mia ... [+trans]
　　　　hometown-Nom　sick for-Rel　Mia
　　　'... Mia who is sick for her hometown ...' (Int.)
　 b. *... [ku yenghwa-ka　*sulphu-N*]　Mia ... [-trans]
　　　　the movie-Nom　sad-Rel　　Mia
　　　'... Mia who is sad about the movie ...' (Int.)

Furthermore, the two types behave differently in nominalization as well. The Korean nominalizing suffix *-(U)M* transforms a verb into a noun, and yet allows the verb head to maintain its capability of assigning sentential cases such as nominative and accusative, as in (7a):

(7) a. Mia-ka　　Nami-lul　　*ttayli-M* (ordinary transitive V)
　　　Mia-Nom　Nami-Acc　hit-NOM
　　　'... Mia hitting of Nami ...' (int.)
　 b. [DP Mia-ka　　kohyang-i　　　*kuliwu-M*] ([+trans] psych-V)
　　　　Mia-Nom　hometown-Nom　(home)sick-NOM
　　　'... Mia being sick for her hometown ...' (Int.)
　 c. [DP Mia-ka　　(*yenghwa-ka)　*sulphwu-M*] ([-trans] psych-V)
　　　　Mia-Nom　movie-Nom　　sad-NOM
　　　'... Mia being sad about the movie ...' (Int.)

When the [+transitive] psych-verb *kulipta* 'be sick for' is nominalized by the addition of *-(U)M*, both the first DP and the second DP remain

untouched, as in (7b), of which pattern is similar to the one of the ordinary transitive verb in (7a). In contrast, the [-transitive] psych-verb *sulphwuta* 'be sad' in (7c) cannot be nominalized by *-(U)M* without dropping its second DP. The data in (7), together with the data in (5-6), amount to suggesting that the [-transitive] type is somehow too sensitive to take another affixal morpheme (e.g. relativizer or nominalizer) while the [+transitive] type can go through another affixation without causing any trouble.

4. A Semantics-Syntax Correlation Analysis

4.1 The Unaccusativity of [-transitive] Psych-verbs

   Though there is no single criterion that universally verifies unaccusativity (Dowty 1979, 1981, Levin & Rappaport 1995), and hence unaccusativity is not clearly predictable, there are some ways in Korean to tease out unaccusativity.
   First, consider case alternation of the subject with dative, which indicates "passiveness". The Experiencer subject can alternate with the dative case particle *-eykey* only when a psych-verb is [-transitive], which is shown in (8):

(8) a. Sara-*nun/-*eykey*   kohyang-i   kuliwuessta. [+trans]
       Sara-Top/-Dat   hometown-Nom   was sick for
       'Sara was sick for her hometown.'
   b. Sara-*nun/-eykey*   ku sosik-i   sulphuessta. [-trans]
       Sara-Top/-Dat   the news-Nom   was sad
       'Sara was sad about the news.'

   When we recall the claim that the "passiveness" of mental experiences is expressed with a dative Experiencer (Croft 1993, Dabrowska 1994), the substitution of the dative Experiencer for the subject in (8b) tells that the [-transitive] type has passiveness or unaccusativity in its lexical properties, while the [+transitive] type does

not, as can be seen in (8a).

Second, another crucial pattern of case alternation for the unaccusativity comes from the semantics, i.e., volitionality, of causativization. Note that causativization leads the nominative case of the Experiencer subject to alternate with dative only for the [+transitive] type, but not for the [-transitive] type, as in (9b, 10b):5)

(9) a. Sara-nun   ku chinkwu-ka   *pwulewessta*. [+trans]
        Sara-Top   the friend-Nom   was envious of
        'Sara was envious of the friend.'
   b. kunye-uy   sengkong-i   *Sara*-lul/-eykey*   ku chinkwu-lul
        she-Gen   success-Nom   Sara-Acc/-Dat   the friend-Acc
                                        pwulep-keyhayssta. (causativization)
                                        be envious-made
        'Her success made Sara envious of the friend.'
(10) a. Sara-nun   ku sosik-i   *sulphessta*. [-trans]
        Sara-Top   the news-Nom   was sad
        'Sara was sad about the news.'
   b. ku sosik-i *Sara-lul/*-eykey*   *sulphu-keyhayssta*. (causativization)
        the news-Nom   Sara-Acc/-Dat   be sad-made
        'The news made Sara sad.'

Miyagawa (1989) claims that an accusative case-marked causee is somehow forced by the causer to carry out an act without his/her own volition while a dative case-marked causee still has his/her own volition

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5) In Korean, the accusative case-marked causee implies that it is not given any volition while the dative case-marked causee implies that it still has some volition of its own. This subtle contrast is captured in (ib) with two different English expressions force and let:
   (i) a. Mia-nun   wusessta. (intransitive)
        Mia-Top   laughed
        'Mia laughed.'
   b. Nami-ka   Mia-lul/-eykey   wus-keyhayssta. (causativization)
        Nami-Nom   Mia-Acc/-Dat   laugh-make
        'Nami forced Mia to laugh.' (accusative: no volition)
        'Nami let Mia laugh.' (dative: volition)

to carry out an act. Given this semantic property of causativization, the (in)admissibility of the dative-marked causee in (9b) and (10b) implies that the [+transitive] type has volitionality, a typical property of agentive transitives while the [-transitive] type has no volitionality, a typical property of unaccusatives (Dowty 1979, 1981, Levin & Rappaport 1995, Chung 1998).[6]

Furthermore, Levin & Rappaport (1995) claims that only core unaccusative verbs (of change of state) show such causative-unaccusative alternation as in (11), and that they are analyzed as underlyingly causatives in Lexical Semantic Representation, as in (12b), where existential quantification binds over the Causer, x, resulting in detransitivization (cf. Dowty 1979, 1981, Chierchia 1989):

(11) a. Pat $broke_1$ the window. (causative transitive)
    b. The window $broke_2$. (unaccusative)
(12) a. $break_1$: [x CAUSE [y BECOME BROKEN]]
    b. $break_2$: $\exists$x[x CAUSE [y BECOME BROKEN]]

The same holds of the [-transitive] type in Korean, as in (13):

(13) a. ku sosik-i   Sara-lul   *sulphu-keyhayssta*. (causative)
        the news-Nom   Sara-Acc   be sad-made
        'The news made Sara sad.'
    b. Sara-nun   *sulphuessta*. ([-trans] psych-V)
        Sara-Top   was sad
        'Sara was sad.'

This alternation in (13), according to Levin & Rappaport (1995), also confirms the unaccuativity of the [-transitive] type, which leads to an

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6) We can assume that the traditional sense of the thematic role, Experiencer, can be sub-classified into Agentive-Experiencer and Patient-Experiencer. The distinction is quite desirable, especially, for the distinction of two types of Exp-Subj psych-verbs, since the Experiencer subject associated with a [+transitive] verb is interpreted as having volitionality while the Experiencer subject associated with a [-transitive] verb is interpreted as having no volitionality.

underlying causative analysis of the [-transitive] type. It is illustrated in (14), where the abstract predicates, CAUSE and BECOME, indicate a complex event and the existential quantification is understood as a lexical binding.

(14) *sulphuta* 'be sad': $\exists$x[x CAUSE [y BECOME$\sqrt{sulphuta}$]]
(15) LSR: $\exists$x[x CAUSE [y BECOME$\sqrt{sulphuta}$]]
    L-Binding: Ø |
    Arg St: Ø   <y>
    Syntax: Ø   <y>

After the existential quantification binds over the Causer, *x*, and hence removes it in the lexicon, (15), it results in detransitivization, as already illustrated in (13b). And yet, following Levin & Rappaport (1995), I assume that the [-transitive] type still remains carrying its abstract causativity, like [CAUSE [y BECOME $\sqrt{sulphuta}$]], where no Causer is specified any longer.

Following some researchers like Chierchia (1989) and Levin & Rappaport (1995), who claim that causativity is occasionally signaled in a certain form of modifier or morpheme on the surface.[7] I suggest that the second DP of the [-transitive] type in Korean, if occurring, is understood to serve as a modifier (or adjunct) reflecting the underlying causativity. It leads to the analysis in (16b) for the [-transitive]
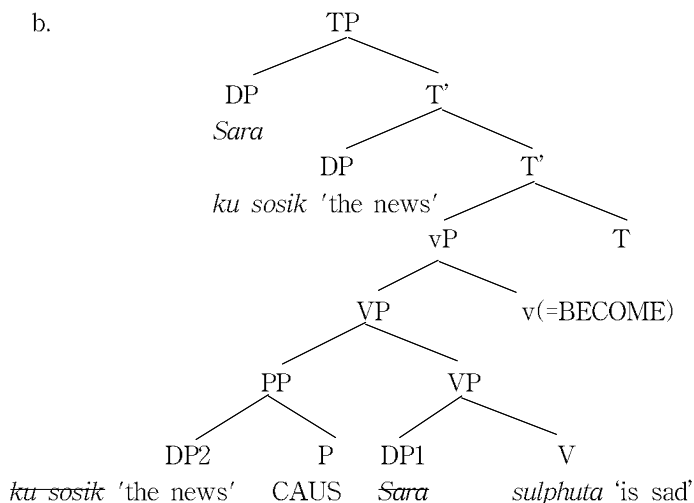
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7) For example, while analyzing core unaccusative verbs such as *open*, *sink*, and *break* as containing a cause argument at some abstract level (e.g. Lexical Semantic Representation), researchers like Chierchia (1989) and Levin & Rappaport (1995) indeed assume that some kind of special morpheme or modifier could be found in the syntax to reflect the presence of this underlying Causer. That is, in (i), Chierchia (1989) claims that the Italian phrase *dase* 'by itself', which implies 'without outside help', plays such role reflecting the underlying Causer.
  (i) a. La porta   si e aperta   *dase*.
      the door   opened   by itself
      'The door opened by itself.'
    b. La barca   e affondata   *dase*.
      the boat   sank   by itself
      'The boat sank by itself.'

psych-verb sentence in (16a):

(16) a. Sara-nun [ku sosik]-i   *sulphuessta.* ([-trans] with DP2)
      Sara-Top   the news-Nom   was sad
      'Sara was sad about the news.

    b.

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                              TP
                    ┌──────────┴──────────┐
                   DP                     T'
                  Sara          ┌──────────┴──────────┐
                               DP                     T'
                          ku sosik 'the news' ┌────────┴────────┐
                                             vP                 T
                                   ┌──────────┴──────────┐
                                  VP                v(=BECOME)
                          ┌────────┴────────┐
                         PP                 VP
                  ┌───────┴───────┐    ┌─────┴─────┐
                 DP2              P   DP1          V
           ku sosik 'the news'  CAUS  Sara    sulphuta 'is sad'
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Adopting Chomsky's (1995) proposal of small vP in a slightly different way, in (16b), I assume that the small v is the head indicating verb (or event) type, and that BECOME indicates unaccusativity (Harley 1995, Arad 1998). What is important with the analysis in (16b) is that the [-transitive] psych-verb *sulphuta* 'is sad' is eventually reanalyzed as a complex verb with CAUS in the course of derivation. Following Pesetsky's (1995) idea that causativity is captured by an abstract affixal preposition, in (16b), I posit the abstract affixal postposition, CAUS, which takes the DP2 reflecting the underlying Causer as a complement. It adjoins to the [-transitive] psych-verb to give rise to a complex predicate, [*sulphu+CAUS*]. If we assume that the small v(=BECOME) has no capability of licensing object case (cf. Harley 1995, Arad 1998), and that neither the abstract postposition, CAUS, nor the unaccusative

[-transitive] psych-verb *sulphuta* 'be sad' can license case, then, both the DP2 'the news' and the DP1 'Sara' should move to Spec, TP to get their case checked. It explains how the [-transitive] type ends up with the double nominative construction.

For the adjunct status of the second DP, note that Korean adjunct expressions like *-(u)lo* 'for' or *-ttaymwuney* 'because of' can easily replace the second DP in the [-transitive] type, as in (17a), while not in the [+transitive] type, as in (17b) (cf. Nam 1993):

(17) a. Mia-nun   *kusosik-i/-ulo/-ttaymwuney*   sulphuessta. [-trans]
        Mia-Top   the news-Nom/for/because of   was sad
        'Mia was sad because of the news.' (Int.)
     b. Mia-nun   *kohyang-i/*-ulo/*-ttaymwuney*   kuliwuessta. [+trans]
        Mia-Top   hometown-Nom/for/because of   was sick for
        'Mia was (home)sick because of her hometown.' (Int.)

Paraphrasing of the second DP with a cause supports the analysis that the second DP of the [-transitive] type is not a real object argument but an adjunct reflecting underlying causativity.

4.2 The Intensionality of [+transitive] Psych-verbs

Unlike the [-transitive] type, I pursue a clausal complement analysis for the [+transitive] type, which I claim is characterized by intensionality.[8]

Intensionality phenomena were discussed by Frege (1892) in the context of sentential complement constructions like (18, 19), where

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8) Intensionality effects do not arise from simple transitive verbs. With noun phrase objects, for example, substitution of co-referring object NPs typically preserves truth (ia, b), and a non-referring object leads to a false sentence (ic); furthermore, an indefinite object is understood specifically as such that Max meets him, her, or it, as in (id):
   (i) a. Max met [NP Superman].
      b. Max met [NP Clark Kent].
      c. Max met [NP a werewolf].
      d. Max met [NP a famous actor].

substitution of co-referring terms in clausal complements need not preserve truth, and the presence of a non-referring term need not yield a false sentence. Besides, an indefinite in such environments can be read non-specifically; thus in (19b), Max can believe a famous actor to be in the movie without there being any particular famous actor such that Max believes he or she was in the movie.

(18) a. Max believed [CP [DP Superman] was in the movie].
    b. Max believed [CP [DP Clark Kent] was in the movie].
(19) a. Max believed [CP [DP a werewolf] was in the movie].
    b. Max believed [CP [DP a famous actor] was in the movie].

The correlation between syntax (i.e., clausal complement) and semantics (i.e., intensinality) observed in (18, 19) seems to be violated by a small class of verbs that shows the surface grammar of simple transitives but the semantic behavior of clause-taking predicates. Intensional transitive verbs like *want*, *imagine*, *need*, and *look for* take a direct object, but substitution of this term may not preserve truth, and a non-referential term needs not yield a false sentence, as in (20):

(20) a. Max imagined/wanted/needed/looked for [DP Superman].
    b. Max imagined/wanted/needed/looked for [DP Clark Kent].
    c. Max imagined/wanted/needed/looked for [DP a unicorn].

Based on this observation, researchers like Larson et al (1996) maintain that constructions like (20) are not of simple transitives, but rather of clausal complement constructions including CPs, which is illustrated in (21):

(21) a. Max wanted/imagined/needed/looked for [DP Superman].
    b. Max wanted/imagined/needed/looked for [CP ... [DP Clark Kent]].

Keeping this approach in mind, note that the intensionality effects hold of the [+transitive] type in Korean, as in (22) and (23):

(22) a. Lane-un [Superman]-i   *kulip(wu)essta/pwulewuessta.*
     Lane-Top Superman-Nom   was sick for/was envious of
     'Lane was sick for/was envious of Superman.'
  b. Lane-un [Clark Kent]-ka   *kulip(wu)essta/pwulewuessta.*
     Lane-Top Clark Kent-Nom   was sick for/was envious of
     'Lane was sick for/was envious of Clark Kent.'
(23) a. Lane-un [chensa]-ka   *kulip(wu)essta/pwulewuessta.*
     Lane-Top angel-Nom   was sick for/was envious of
     'Lane was sick for/was envious of an angel.'
  b. Lane-un [nwukwunka]-ka *kulip(wu)essta/pwulewuessta.*
     Lane-Top whoever-Nom   was sick for/was envious of
     'Lane was sick for/was envious of someone.'

In (22), though the second DP's (i.e. *Superman* and *Clark Kent*) of the [+transitive] verb refer to the same person, substitution of Clark Kent for Superman does not necessarily preserve truth. Besides, the [+transitive] psych-verb can take a non-referential object, *angel*, in (23a), as well as a non-specific Wh-expression, *whoever*, as the second DP in (23b), without inducing falsity. The data in (22, 23) together suggest that the [+transitive] type is intensional.

Intensionality is also noticeable when we add the definite article *ku* 'the' to the second DP, which is illustrated in (25):

(24) a. Sara-nun *(ku) chinkwu-ka* kuliwuessta/pwulewessta. [+trans]
     Sara-Top   the friend-Nom   was sick for/was envious of
     'Sara was sick for/was envious of a (the) friend.'
  b. Sara-nun *(ku) sosik-i*   sulphuessta/koylowuessta. [-trans]
     Sara-Top   the news-Nom   was sad/was distressed
     'Sara was sad about/was distressed at the news.'

If we assume that the Korean article *ku* 'the' appearing on noun phrases is a counterpart of the English definite article 'the', we expect it to signal a definite or specific object indicating extensionality. Given this, the fact that the second DP in (24b) cannot occur without the definite article, suggests that the [-transitive] type is extensional. In

contrast, the definite article is optional on the second DP in the [+transitive] type, suggestive of intensionality.

Adopting the semantics-syntax correlation, where intensionality and clausal complementation are linked (cf. Larson et al 1996), I propose that the intensionality of the [+transitive] type is captured by a "concealed" clausal complement, as in (25), where FP indicates a functional projection for clause, and PRED is the covert predicate that is assumed to assign Target (or Theme):[9]

(25) [TP Lane-un [FP ... [DP Superman]-i   PRED] *kuliwuessta*].
        Lane-Top   Superman-Nom PRED was sick for
        'Lane was sick for Superman.'

We can then reduce the theoretical burden of licensing two nominative DPs, i.e., *Lane* and *Superman*, to two different clauses, matrix and complement clause: the matrix clause is responsible for the first nominative DP while the complement FP is for the second nominative DP (cf. Chomsky 1993, 1995).

5. Consequences

With the morphological complexity of [-transitive] psych-verbs, I attribute the ungrammaticality in (26) to the Myers's (1984) generalization in (27), which prohibits the complex verb, [√ *sulphu-CAUS*], from further combining with affixal morphemes:

(26) a. √*sulphu-CAUS* ([-trans] with adjunct DP2)
        sad-CAUS
    b. *... [ku yenghwa-ka   √*sulphu-CAUS-N*] Mia ... (relativization)
            the movie-Nom   sad-CAUS-Rel   Mia
            '... Mia who is sad about the movie ...' (Int.)

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9) I assume that the abstract complement predicate, PRED, is understood to assign Target of Emotion (or Theme) to its single argument, since the second DP of the [+transitive] type is generally of Target of Emotion.

c. *... [_{DP} Sara-uy   kusosik-uy   √*sulphu-CAUS-M*] ... (nominalization)
         Sara-Gen   the news-Gen   sad-CAUS-NOM
   '... Sara's sadness about the news ....' (Int.)

(27) Myers's (1984) Generalization:
   Zero-derived   words   do   not   permit   the   affixation   of   further
   derivational morphemes.

According to the generalization in (27), the abstract affixal morpheme
CAUS prohibits those expressions in (26b, c) from creating. The only
way to avoid the prohibition is then to take a genuinely simple
intransitive verb, √*sulphu* 'sad', with no underlying CAUSE, as in
(28a). It serves as an input to such syntactic operations as relativization
and nominalization without causing any trouble, as in (28b, c).

(28) a. √*sulphu*. ([-trans] without adjunct DP2)
         sad
   b. ... [√*sulphu-N*]   Mia ... (relativization)
            sad-Rel   Mia
      '... Mia who is sad ...' (Int.)
   c. ... [_{DP} Sara-uy   √*sulphu-M*] ... (nominalization)
            Sara-Gen   sad-NOM
      '... Sara's sadness ...' (Int.)

The biclausal analysis of the [+transitive] type turns out to be
attractive for the ambiguous interpretation, i.e. specific and non-specific,
of bare nouns (cf. Enc 1991, Diesing 1992),[10] to which no previous
work has been paid much attention. Note that the second DP with a
[+transitive] psych-verb in (29a) is interpreted ambiguously:

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   10) Enc (1991) distinguishes two instances of specificity: relational specifics and
partitive specifics. She concludes that specificity involves linking objects to the domain of
discourse in some manner or other. See Enc (1991) for more details about specificity.

(29) a. Mia-nun   [*chinkwu*]-ka   kulipta/pwulepta. (specific/nonspecific)
        Mia-Top   friend-Nom   is sick for/is envious of
        'Mia is sick for/is envious of a (or the) friend.'
    b. [Mia [$_{FP}$ *chinkwu* [$_{vP}$ [$_{VP}$ (*chinkwu*) PRED]] F]   kulipta].
        Mia   friend   (friend)   is sick for

   In the specific reading, the bare noun 'friend' is interpreted as such
that there is a certain friend the subject has already in mind, and the
subject is sick for or is envious of that friend. In the non-specific
reading, the bare noun 'friend' is not interpreted to presuppose such a
specific friend that the subject has already in mind, but rather refers to
any one of the subject's friends. The ambiguity of the bare noun
'friend' in (29a) can be configurationally captured if we analyse the
object 'friend' as being actually located inside a concealed clausal
complement, FP, as in (29b). According to Diesing's (1992) mapping
theory,[11] there are two subject positions (i.e., Spec,IP and Spec,VP)
available at LF, resulting in mapping the IP-subject to a restrictive
clause in the semantic representation while the VP-subject to a nuclear
scope. This type of mapping algorithm, where the higher subject
position is associated with a specific or generic reading while the lower
subject position is associated with a non-specific or existential reading,
allows the bare noun 'friend' in (29) to be interpreted as both specific in
Spec,FP and non-specific in Spec,vP, a desirable result.

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   11) It is observed cross-linguistically that there are two types of indefinite subject
interpretations; one is quantificational, including specific and generic readings, and the
other is non-quantificational, consisting of non-specific non-generic readings. For example,
the English indefinite subject, a man, in (i) is ambiguous, specific as paraphrased in (ia)
and non-specific as paraphrased in (ib):
   (i) A man arrived yesterday.
     a. A certain man arrived yesterday. (specific)
     b. One man (rather than two) arrived yesterday. (non-specific)
For this ambiguous interpretation of indefinite subjects, Diesing (1992) focuses on a novel
mapping algorithm that describes the relation between syntactic configurations and logical
representations. The mapping algorithm used is applied to derive the ambiguity, i.e.,
specific and non-specific interpretation, of indefinites from a syntactic partition, Spec,IP
and Spec,VP. The same strategy may apply to the complement clause of the [+transitive]
type for the ambiguity of bare nominal subjects.

6. Conclusion

I have captured two semantic properties, causativity and intensionality, of Korean Exp-Subj psych-verbs in the syntax, in which the second DP of the [-transitive] type is analyzed as inducing an adjunct, PP, reflecting causativity while the second DP of the [+transitive] type as inducing a "concealed" clausal complement reflecting intensionality. This analysis proposed here is suggestive of derivational divergence in the formation of double nominative constructions: the second nominative DP of the [-transitive] type is licensed in the matrix clause while that of the [+transitive] type is in the complement clause. This paper after all contributes to a better understanding on the complexity of Exp-Subj psych-verbs in Korean.

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