

# The Causal Structure of Non-causative Psych-predicates and Its Reflections in Morphology and Semantics

Sang-Geun Lee\*

## 1. Two types of non-causative psych-predicates

I have already demonstrated in some other papers (Lee 2001, Lee & Shin 2007) that Korean psych-predicates do not uniformly behave in several respects including causativization. It seems that some psych-predicates in Korean undergo the typical process of causativization where Causer does get along with the other two theta-roles (i.e., Experiencer and Target/Subject Matter in Pesetsky (1995)), while others do not show the same pattern of causativization. This is illustrated in (1) and (2):

---

\* 고려대학교 교수, [slee16@korea.ac.kr](mailto:slee16@korea.ac.kr). I owe a personal debt of gratitude to the audiences that attended at a meeting organized by the Research Institute of Language and Information. And I am also grateful to the three reviewers who read the whole text of the paper and offered valuable comments and suggestions. In particular, I am afraid that I could not satisfy an anonymous reviewer with this paper, who suggested me to further clarify the nominative case marker on two noun phrases of two types of psych-predicates. It will be my next topic to be handled thoroughly.

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

In (1b), causativization increases the number of arguments associated with the psych-predicate *kulipta* 'be sick (for)', resulting in a three-place causative predicate, *kulip-keyhata* 'make sick (for)', with Causer, Experiencer, and Target (of Emotion). Augmentation in the number of arguments is a typical pattern of causativization in Korean. However, this is not the case with the psych-predicate *sulphuta* 'be sad', as in (2b, c). The contrast in causativization thus leads to a suggestion that some non-causative psych-predicates are

dyadic while others are monodic (cf. Akatsuka 1976).

"Optionality" supports the suggestion clear and loud: psych-predicates like *sulphuta* 'be sad' and *koylopta* 'be distressed' sound quite natural without the second DP while psych-predicates like *kulipta* 'be (home)sick for' and *pwulepta* 'be envious of' sound awkward without the second DP, that is, acceptable only as an ellipsis. This is exemplified in (3):

- (3) a. *Mia-nun suphuessta/koylowuessta.*  
 Mia-Top was sad/was distressed  
 'Mia was sad/distressed.'
- b. \**Mia-nun kuliwuessta/pwulewuessta.*  
 Mia-Top was sick for/was envious of  
 '\*Mia was sick for/envious of.'

A similar pattern of contrast has been reported for English counterparts by Pustejovsky (1995). For example, in English some psych-predicates such as *sad*, *pleased*, and *bored* are perfectly fine without the object, as in (4b, c, d), while others such as *afraid*, *envious*, and *jealous* seem to be inherently relational and dyadic, so that the examples in (5b, c, d) sound odd due to the absence of the object.

- (4) a. The movie saddened me. (causative)  
 b. I was sad.  
 c. the sad woman  
 d. It was sad for me to let her leave.
- (5) a. The mask frightened the child. (causative)

- b. ??The child was afraid.
- c. \*the afraid child
- d. \*It was envious for me to see his success.

It is thus proper that we classify non-causative psych-predicates into two subgroups, [+/-transitive], though they both occasionally look alike on the surface and misleading (Lee 2001, Lee & Shin 2007).

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

In this study, I continue to propose that the distinction of [+transitive] and [-transitive] non-causative psych-predicates arises from the interaction of Experiencer and Stimulus in Causal Structure (Croft 1993), where the Experiencer directs her/his attention to the Stimulus but the Stimulus also can cause a change in mental state of the Experiencer: [+transitive] is a reflection of the former direction while [-transitive] is of the latter direction.

## 2. Causal Structure and the non-causative psych-predicates

Researchers like Croft (1993) and Dabrowska (1994) define prototypical mental experiences as involving at least one of the two participants, i.e., Experiencer (Perceiver) and Stimulus (Perceived). Two major ways of expressing a given mental experience are to make either Experiencer or Stimulus the focus of attention. Adopting this viewpoint, I suggest that two types of mental experiences can be summarized as in (7):

- (7) a. Experiencer-initiative mental experiences: Experience originates from the self which functions as an active Experiencer to initiate a mental transition.
- b. Stimulus-initiative mental experiences: Experience originates from outside interference, not from the self, which functions as a passive Experiencer to undergo a mental transition.

Language-specific conceptualization of mental experiences can be described in terms of these two types of mental experiences. In Korean, they are encoded in two types of non-causative psych-predicates: [+transitive] is a reflection of the Experiencer-initiative experience while [-transitive] is of the Stimulus-initiative experience. In this view, the two types of non-causative psych-predicates, [+/-transitive], are defined in a more elegant way as in (8).

- (8) a. [+transitive] psych-predicates: expressing Experiencer  
 -initiative mental experiences  
 b. [-transitive:] psych-predicates: expressing Stimulus-initiative  
 mental experiences

When we appeal to Croft's (1993) Causal Structure, the two types are represented distinctively as in (9) and (10):

- (9) a. na-nun ku chinkwu-ka kulipta. [+trans]  
 I-Top the friend-Nom be sick for  
 'I am sick for the friend.'  
 b. Unidirectional structure for [+trans]  
 ① Exp FEEL (Sick For) Target  
 (I) -----> (friend)
- (10) a. na-nun (ku yenghwa-ka) sulpuhta. [-trans]  
 I-Nom the movie-Nom be sad  
 'I am sad about the movie.'  
 b. Bidirectional structure for [-trans]  
 ① Exp CAUSE to Feel (Sad) Stimulus  
 (I) <----- (sad movie)  
 ② Exp FEEL (Sad About) Stimulus  
 (I) -----> (sad movie)

The bidirectional Causal Structure in (10b), where Stimulus acts on or causes Experiencer to undergo a mental transition in psychological experience, is responsible for the [-transitive] type showing a pattern of unaccusatives with causativity, which I will discuss in the next section.

According to Croft (1993), Experiencer-cause or active

experiences (i.e., (7a)) originating from the rational part of the mind are products of the self, and hence they are expressed by a nominative noun phrase, while Stimulus-cause or passive experiences (i.e., (7b)) originating from outside the self and merely being observed by the rational ego are associated with a dative noun phrase. Then, the (im)possibility of substitution of the dative Experiencer for the topic-marked subject DP in (11) below indicates that the [-trans] type includes "passiveness" in its lexical properties and expresses the Stimulus-initiative experience while the [+trans] type has "activeness" and expresses the Experiencer-initiative experience.

- (11) a. na-nun/-eykey ku yenghwa-ka  
 I-Top/-Dat the movie-Nom  
 sulphuessta/cikyewuessta. [-trans]  
 was sad/was boring  
 'To me, the movie was sad/was boring.'
- b. na-nun/\*?-eykey ku chinkwu-ka  
 I-Top/-Dat the friend-Nom  
 kuliwuessta/pwulewuessta. [+trans]  
 was sick for/was envious of  
 '\*To me, the friend was sick for/was envious of.'

In addition, the (im)possibility of paraphrasing the second DP with a cause-indicating adjunct like -(u)lo/-ttaymwuney 'for/because' is also relevant to the claim that the [-trans] type reflects the Stimulus-initiative mental experience while the

[+trans] type reflects the Experiencer-initiative mental experience. This is exemplified in (12):

- (12) a. Sara-nun ku sosik-i/-ulo/-ttaymwuney  
 Sara-Top the news-Nom/-for/-because of  
 sulphwuessta/koylowuessta. [-trans]  
 was sad/was distressed  
 'Sara was sad/distressed because of the news.'
- b. Sara-nun ku chinkwu-ka/\*-lo/\*-ttaymwuney  
 Sara-Top the friend-Nom/-for/-because of  
 kuliwuessta/pwulewuessta. [+trans]  
 was sick (for)/was envious  
 '\*Sara was sick (for)/envious because of the friend.'

### 3. The causativity of [-transitive] non-causative psych-predicates

It turns out that such [-transitive] non-causative psych-predicates as sulphuta 'be sad' are unaccusative. Levin & Rappaport (1995) propose that only core unaccusative verbs (of change of state) show causative-unaccusative alternation, as in (13), and that the unaccusative intransitive verb break<sub>2</sub> in (13b) is underlyingly analyzed as having causativity in the lexicon, as in (14b):

- (13) a. Pat broke<sub>1</sub> the window. (causative break)  
 b. The window broke<sub>2</sub>. (unaccusative break with causativity)

- (14) a. break1: [x CAUSE [y BECOME Broken]]  
 b. break2:  $\exists x$ [x CAUSE [y BECOME Broken]]

In (14b), which is a lexical representation for the unaccusative verb *break*, existential quantification binds over the Causer, *x*, resulting in detransitivization (Dowty 1981, Chierchia 1989, Levin & Rappaport 1995). Putting aside the details of the lexical representation, it seems that the same pattern of alternation holds of the [-transitive] type, as shown in (15):

- (15) a. *ku sosik-i Sara-lul sulphu-keyhayssta.* (causative)  
 the news-Nom Sara-Acc sad-made  
 'The news made Sara sad.'  
 b. *Sara-nun sulphuessta.* (unaccusative)  
 Sara-Top was sad  
 'Sara was sad.'

This alternation in (15) further confirms the causativity of the [-transitive] type, which leads me to an underlying causative analysis of the [-transitive] type. The lexical representation of the [-transitive] psych-predicate *sulphuta* 'be sad' is illustrated in (16), and its derivation from lexicon to syntax is in (17), where the abstract predicates, CAUSE and BECOME, indicate a complex event and the existential quantification is understood as a lexical binding:

(16) *sulphuta* 'be sad':

$\exists x[x \text{ CAUSE } [y \text{ BECOME}\sqrt{\text{sulphuta}}]]$

(17) LSR:  $\exists x[x \text{ CAUSE } [y \text{ BECOME}\sqrt{\text{sulphuta}}]]$

L-Binding:	$\emptyset$	
Arg St:	$\emptyset$	<y>
Syntax:	$\emptyset$	<y>

Though existential quantification in (17) binds over the Causer,  $x$ , and removes it in the course of derivation, I further assume with Dabrowska (1994) and Levin & Rappaport (1995) that the [-transitive] type is introduced in the syntax as carrying its abstract causativity. The paraphrasing test with the [-transitive] type in (12) clearly supports the analysis that the second DP of the [-transitive] type is not a real object argument but an adjunct reflecting underlying causativity.

With the morphological complexity of [-transitive] psych-predicates, I can attribute the ungrammaticality in (18) to the Myers's (1984) generalization in (19), which prohibits the complex predicate, [ $\sqrt{\text{sulphu-CAUS}}$ ], from combining with additional affixal morpheme:

(18) a. \*... [ku yenghwa-ka  $\sqrt{\text{sulphu-CAUS-n}}$  Sara... (relativization)

the movie-Nom sad-CAUS-Rel Sara

'... Sara who is sad about the movie ...' (Int.)

b. \*... [<sub>DP</sub> Sara-uy kususik-uy

Sara-Gen the news-Gen

√sulphu-CAUS-m] ... (nominalization)

sad-CAUS-NOM

'... Sara's sadness about the news ...' (Int.)

(19) Myers's (1984) Generalization:

Zero-derived words do not permit the affixation of further derivational morphemes.

The generalization in (19) disallows neither the relativizing affix -n nor the nominalizing affix -m to be attached to the root predicate, √sulphu 'sad', due to the interference of the abstract morpheme CAUS, which comes in with the presence of the adjunct (i.e., the second DP). One way to escape from this difficulty of affixation is then to introduce the root predicate, √sulphu 'sad', without causativity. This is shown in (20), where the adjunct (i.e., the second DP) does not occur:

(20) a. ... [√sulphu-n] Sara ... (relativization)

sad-Rel Sara

'... Sara who is sad ...' (Int.)

b. ... [DP Sara-uy √sulphu-m] ... (nominalization)

Sara-Gen sad-NOM

'... Sara's sadness ...' (Int.)

#### 4. The intensionality of [+transitive] non-causative psych-predicates

I have shown that two types of non-causative psych-predicates actually reflect two distinctive types of mental experiences: Experiencer- and Stimulus-initiative mental experiences. The distinction turns out to have modal qualification, intensionality or (ir)realis. It indicates the speaker's greater/lesser degree of certainty regarding the truthfulness of the existence of an entity/object expressed by the second DP. Experiencer-initiative mental experiences expressed by the [+transitive] type seems to be less characteristic of direct perception verbs, while Stimulus-initiative mental experiences expressed by the [-transitive] type is naturally characteristic of direct perception verbs.

When we characterize realis as denoting actualized situations and irrealis as denoting situations within the realm of thought, the [-transitive] type is construed as realis while the [+transitive] type as irrealis in modality. This is illustrated in (21):

- (21) a. \*na-nun ku yenghwa-ka sulphuess-una,  
I-Top the movie-Nom was sad-but,  
ku yenghwa-lul pol-swuepsessta. [-trans]  
the movie-Acc see-could not  
'\*I was sad about the movie, but (I) could not see the movie.'
- b. na-nun ku chinkwu-ka kuliwuess-una,  
I-Top the friend-Nom was sick for-but,

ku chinkwu-lul pol-swuepsessta. [+trans]  
 the friend-Acc see-could not  
 'I was sick for the friend, but (I) could not see the friend.'

In (21a), the [-trans] psych-predicate *sulphuta* 'be sad' leads to contradiction when the presence of the Stimulus (i.e., the movie) is cancelled by the Neg modal verb 'cannot'. By contrast, in (21b), the [+trans] psych-predicate *kulipta* 'be sick for' does not create such contradiction when the presence of the Target (i.e., the friend) is cancelled in the same manner.

The correlation between [+trans] psych-predicates and irrealis in (21b) is also consistent with Jacobsen's (1992) generalization that in transitive adjective constructions, the situation expressed in the predicate does not arise in real time but is interpreted as existing apart from time, showing irreal modality. Then, the exceptional modality, i.e., realis, of the [-trans] type in (21a) appears to be the case where the irrealis mode is neutralized by the presupposed existence of the Stimulus.

When we interpret realis as referring to the real world while irrealis as referring to possible worlds, the intensionality of [+transitive] non-causative psych-predicates is confirmed to be real by the data in (22).

(22) a. Lane-un Superman-i/Clark Kent-ka  
 Lane-Top Superman-Nom/Clark Kent-Nom  
 kuliwuessta/pwulewuessta. [+trans]  
 was sick for/was envious of

'Lane was sick for/was envious of Superman/Clark Kent.'

b. Lane-un chensa-ka kuliwuessta/pwulewuessta.

Lane-Top angel-Nom was sick(for)/was envious

'Lane was sick for/was envious of the angel.'

Note the traditional properties (i.e., opacity and non-referentiality) of intensionality hold of the [+trans] type in (22). In fact, the second DP's (i.e., Superman and Clark Kent) in (22) refer to the same person, and yet substitution of Clark Kent for Superman does not necessarily preserve truth. And, the [+trans] psych-verb can take a non-referential object 'angel' as its object without inducing falsity. The data in (22) thus show that the [+trans] type is characterized by intensionality (Frege 1892, Larson, den Dikken, & Ludlow 1996).

In contrast, considering that the Korean article *ku* 'the' signaling the existence of definite or specific objects directly indicates extensionality, the fact that Stimulus (i.e., the second DP) of the [-transitive] type must come in with the definite article, as in (23), indicates that the [-transitive] type should be semantically characterized by extensionality, not by intensionality.

(23) Lane-nun \*(ku) sosik-i sulphuessta/koylowuessta. [-trans]

Lane-Top the news-Nom was sad/was distressed

'Lane was sad about/was distressed at the news.'

## 5. Conclusion

I have shown that the distinctive distribution of two types of non-causative psych-predicates reflects a language-specific conceptualization of mental experiences. Stimulus-initiative mental experience, which is represented as bidirectional in Causal Structure, is construed as [-transitive] while Experiencer-initiative mental experience, which is represented as unidirectional in Causal Structure, is construed as [+transitive]. This study contributes to the claim that the meanings of psych-words encode the deeper mental experience(s) in the cognitive system (e.g., Causal Structure), which is reflected in semantics as well as in syntax.

## References

- Akatsuka McCawley, Noriko. 1976. Reflexivization: A transformational approach. *Syntax and Semantics* 5, 51-116. New York: Academic Press.
- Baker, Mark. 1988. *Incorporation: A theory of grammatical function changing*. Chicago: Univ. of Chicago Press.
- Belletti, Adriana & Luigi Rizzi. 1988. Psych-verbs and theta-theory. *Natural Language & Linguistics Theory* 6, 291-352.
- Chierchia, Gennaro. 1989. A semantics for unaccusatives and its syntactic consequences. Unpublished manuscript. Ithaca, NY: Cornell University.
- Croft, William. 1993. Case marking and the semantics of mental verbs. In J. Pustejovsky (ed.), *Semantics and the Lexicon*, 55-72. Netherlands. Kluwer Academic Publishers.
- Dabrowska, Ewa. 1994. Dative and nominative Experiencers: Two Folk Theories of the Mind. *Linguistics* 32, 1029-1054.
- Dowty, D. 1981. Quantification and the lexicon: A reply to Foder and Foder. In M. Moortgat, H. Hulst, and T. Hoekstra (Eds.), *The scope of lexical rules*. Dordrecht: Foris Publications.
- Frege, Gottlob. 1892. *Über sinn and bedeutung*. *Seitschrift für Philosophie und Philosophische Kritik* 100, 25-50. Translated as *On sense and reference* by M. Black, 1980. In P. Geach and M. Black (Eds), *Translations from the philosophical writings of Gottlob Frege*. Oxford: Blackwell.
- Jacobsen, Wesley. 1992. *The transitive structure of events in Japanese*. Tokyo: Kurocio Publishers.
- Lakoff, George. 1970. *Irregularity in syntax*. NY: Holt, Rinehart & Winston.
- Larson, R., M. den Dikken, & P. Ludlow. 1996. Intensional transitive verbs and concealed complement clauses. *Rivista di Linguistica* 8, 29-46.

- Levin, Beth & Malka Rappaport. 1995. *Unaccusativity*. Cambridge, Mass.: MIT Press.
- Lee, Sang-Geun. 2001. Causativity and two types of noncausative psych-verbs in Korean, *Japanese/Korean Linguistics* 9, 325-338, CSLI, Stanford university, USA.
- Lee, Sang-Geun & Kyung-Sik Shin. 2007. On Exp-Subj psych-verbs: A lexicalist approach, *The Linguistic Association of Korean Journal* 15(2), 39-58.
- Myers, Scott. 1984. Zero-derivation and inflection. In *MIT Working Papers in Linguistics* 7, 53-69.
- Pesetsky, David. 1995. *Zero syntax: experiencers and cascades*. Mass.: MIT Press.
- Pustejovsky, James. 1995. *The generative Lexicon*. Mass.: MIT Press.
- Usoniene, Aurelia. 1999. Perception verbs revisited. *Linguistics Working Papers* 47, 211-222. Lund University.

*Language Information* 9, 2008, pp. 69-86

**The Causal Structure of Non-causative Psych-predicates and Its  
Reflections in Morphology and Semantics**

Sang-Geun Lee

**Keywords** non-causative psych-predicates, unaccusativity, causativity, intensionality, Causal Structure, mental experiences.

**Abstract**

The main goal of this paper is to reveal that non-causative psych-predicates in Korean (as well as English), which were once assumed to be simple, are in fact complicated, and that two types of non-causative psych-predicates, [+/-transitive], behave not uniformly in several properties including causativity, relativization, nominalization, and intensionality. I have proposed that the second DP of the [-transitive] type should be interpreted as inducing an abstract affixal postposition, CAUS, indicating causativity, while the second DP of the [+transitive] type be interpreted as indicating intensionality. I suggest this distinction reflects the language-specific conceptualizations of Causal Structure which represents mental experiences.

논문투고일 : 2008년 1월 29일

심사완료일 : 2008년 2월 28일

게재확정일 : 2008년 3월 7일