Event structures of Experiencer Predicates in Korean: their causal, temporal, and focal sub-structure

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Abstract

This paper inquires the event structures of experienced/psych predicates in Korean, which reveal the causal, temporal, and focal relations among the sub-events of the experienced event. We focus on two classes of intransitive psych predicates: (i) Agentive experiencer predicates [AEP], whose Experiencer plays a role of Agent in the experiential causing sub-event, and (ii) Patientive experiencer predicates [PEP], whose Experiencer does not play a role of Agent but plays a role of Patient or Theme in the causing sub-event. We propose two event templates: “Agentive Experienced Causation” for AEPs, and “Patientive Experienced Causation” for PEPs. The two classes of psych predicates share the same case-frames but show apparent asymmetry in their event structure and argument structure. Their semantic/syntactic asymmetry will be accounted for by the structural differences in their event structures and the argument structures. Our proposal explains away two argument alternation patterns of AEPs and PEPs.

1. Argument alternations

The previous studies on the English psych predicates have mainly focused on the transitive psych verbs, but they have hardly given a proper description of the intransitive psych verbs or adjectives – e.g., care type intransitives (care about/for, marvel at, suffer from, rejoice in, etc.), and appeal type intransitives (appeal to, niggle at, grate on, matter to, etc.). (See Levin 1993; Levin & Rappaport Hovav 2005; Jackendoff 1990; Pustejovsky 1995, DiDesidero 1999, among others.) Transitive psych verbs in Korean can be divided into two major classes: (i) verbs with Experiencer-subject like admire in English, and (ii) verbs with Stimulus-subject like amuse in English. The paper will focus on intransitive predicates, since most of the transitive psych verbs in Korean are derived from the intransitive base predicates; for example, nolla ‘to be surprised’ drives nolla-p ‘surprising’, nolla-i ‘surprise’ (tv.), and nolla-keyha ‘to make someone surprised’ (paraphrastic causative). Further, the event structures of intransitive psych predicates will be easily extended to those of transitive ones.

We focus on two classes of intransitive psych predicates:

(1) (i) Agentive experiencer predicates [AEP], whose Experiencer plays a role of Agent in the experiential causing sub-event, and
(ii) Patientive experiencer predicates [PEP], whose Experiencer does not play a role of Agent but can play a role of Patient or Theme in the causing sub-event.

The former is represented by cilwuha (“to be bored/boring”), and the latter by komap (“to be thankful”), both of which are lexically simple and share the same case-frames but show

1 The following illustrate the use of the predicates derived from nolla- ‘be surprised at.’
(a) nolla- ‘be surprised at’
Jini-nun ku-uy casal sosik-ey nolla-ess-ta
Jini was surprised at the news of his suicide.
(b) nolla-p- ‘surprising’
 Ku-uy casal sosik-i nolla-p-ta
his suicide-news-Nom surprising
‘The news of his suicide is surprising.’
(c) nolla-i- ‘surprise’
Ku-uy casal-sosik-i motwu-lul nolla-i-ess-ta
his suicide-news-Nom all-Acc surprise
‘The news of his suicide surprised everyone.’
(d) nolla-keyha- ‘make someone surprised’
Ku-uy casal-sosik-i motwu-lul nolla-keyha-ess-ta
his suicide-news-Nom all-Acc surprise-Causative
‘The news of his suicide made everyone surprised.’
apparent asymmetry in their event structure and argument structure. The AEPs and PEPs in Korean share the same case frame [Experiencer-nominative(subject) + Stimulus-nominative] as illustrated in (2), but they show case-alternations as shown in (3) which look quite similar to but clearly distinct from each other.

(2a) nay-ka ku yengwa-ka cilwuha-ess-ta
I-Nom that movie-Nom bored-Past-Decl
‘I was bored with that movie.’

(2b) nay-ka Koni-ka komap-ess-ta
I-Nom Koni-Nom be.thankful-Past-Decl
‘I was thankful to Koni.’

(3a) ku yengwa-ka na-hanthey cilwuha-ess-ta
that movie-Nom I-Dat bored-Past
‘That movie was boring to me.’

(3b) nay-ka Koni-hanthey komap-ess-ta
I-Nom Koni-Dat be.thankful-Past
‘I was thankful to Koni.’

In (2a) and (3a) with an AEP *cilwuha* ‘to be boring/bored’, the Stimulus argument (STM, henceforth) takes nominative case, whereas the Experiencer argument (EXP, henceforth) can take nominative case in (2a) or dative case in (3a).\(^2\) Thus, we call the alternation between (2a) and (3a) ‘EXP-alternation.’ Now, as illustrated in (2b) and (3b), the EXP argument of the PEP *komap* ‘to be thankful’ is always realized as a subject, but the Stimulus argument (STM, henceforth) *Koni* takes nominative case (-ka) or dative case (-hanthey). Thus, we will call the alternation between (2b) and (3b) ‘STM-alternation.’ We have a variety of causativity alternations in Korean, and this paper claims that the above alternations of intransitive psych verbs can be properly analyzed as a kind of causativity alternation.

We extend the previous event structure-based approaches of Jackendoff (1990), Pustejovsky (1995), and DiDesidero (1999), and propose a semantic typology of intransitive psych verbs in Korean. The typology to be proposed is crucially based on the Agentivity of Experiencer [EXP], i.e., the way EXP argument participates in the causing event of the psych predicates.

Pustejovsky (1995) proposes a causative analysis of psych predicates. He claims that “experiencer predicates” like *anger* select for an event function in subject position, and they can be properly interpreted as denoting a causative event, i.e., causation which involves a causing/stimulus sub-event and a caused/psych sub-events. Thus he analyses the following sentence as involving a metonymic reconstruction of the subject into an event, i.e., an experiential ‘reading’ event. So we can represent the whole event as in (4) below.

(4) The newspaper angered John.

\[
\text{read}_\mathcal{act}(\text{john, the_newspaper}) \rightarrow \text{angry}(\text{john})
\]

Pustejovsky dubbed the event template of experiencer predicates “Experienced Causation” illustrated as in (5a) below. This template shows that the Experiencer argument [x] of the caused/result state (FORMAL role in QUALIA) is identical with the first argument [x] of the causing sub-event (AGENTIVE role in QUALIA). “Experienced Causation” is different from “Direct Causation” of (5b) where the Theme argument [y] of the result state is not the first argument but the second argument of the causing sub-event. Thus we can see that the Experiencer argument, unlike the Theme argument in Direct Causation, behaves like an Agent in the Experienced Causation. The template of Experienced Causation is also different from “Indirect (Constitutive) Causation” of (5c) where a default argument [z] serves as a mediator in the causal chain between the true arguments [x] and [y].

(5a) Experienced Causation

\[
\text{EVENTSTR} = E_1 = e_1: \text{process} \\
E_2 = e_2: \text{state} \\
\text{QUALIA} = \text{FORMAL} = a_{\text{result}}(e_2,x) \\
\text{AGENTIVE} = a_{\text{act}}(e_1,x,\ldots)
\]

(5b) Direct Causation

\[
\text{EVENTSTR} = E_1 = e_1: \text{process} \\
E_2 = e_2: \text{state} \\
\text{QUALIA} = \text{FORMAL} = a_{\text{result}}(e_2,y) \\
\text{AGENTIVE} = a_{\text{act}}(e_1,x,y)
\]

(5c) Indirect (Constitutive) Causation

\[
\text{EVENTSTR} = E_1 = e_1: \text{process} \\
E_2 = e_2: \text{state} \\
\text{QUALIA} = \text{CONST} = \text{part_of}(z,y) \\
\text{FORMAL} = a_{\text{result}}(e_2,y) \\
\text{AGENTIVE} = a_{\text{act}}(e_1,x,z)
\]

For instance, Pustejovsky gives the following semantic structure for the experiencer predicate

\(^2\) In (3a), the EXP with a dative case (-hanthey) is not a subject anymore. Subject-hood of the experiencer argument in (2a, b) and (3b) can be shown by its behavior in relativization, scrambling, and honorifics-agreement in Korean.
2. Agentivity

2.1 Agentivity of Experiencer

There have been various proposals on the typology of psych verbs: e.g., Belletti & Rizzi (1988), Grimshaw (1990), Pesetsky (1995), Levin (1993), DiDesidero (1999), Levin & Rappaport Hovav (2005) among others. Most of them classify transitive psych verbs like *frighten* and *amuse* in terms of the syntactic and semantic properties of STM argument, particularly focusing on the agentivity of Stimulus. This paper will characterize two types of intransitive psych predicates in terms of agentivity of Experiencer argument: Thus we have,

(i) Agentive experiencer predicates [AEP], whose Experiencer plays a role of Agent in the experiential causing sub-event, and

(ii) Patiente experiencer predicates [PEP], whose Experiencer cannot play a role of Agent but can play a role of Patient or Theme in the causing sub-event.

We have the following exemplars of the two classes:

(7a) **AEP**: koylop- (be distressed; painful, distressing), kepukha- (feel awkward; uncomfortable), musep- (fear, be afraid/scared of; fearful, dreadful), taptapha- (be irritated by, be impatient at; be irritating), changphiha- (shameful), anlakha- (comfortable), culkep- (be pleased; pleasant), phyenanha- (feel comfortable; be comfortable), cilwuha- (be bored of; be boring), pulkhiyaha- (be displeased with; displeasing, unpleasant), etc.

(7b) **PEP**: kamsaha- (thank for), mosmattingha- (be displeased with), kokkap- (regrettable, spiteful), hwangsong.sulep- (be awed at, be afraid of), komap- (thankful to), sespepa- (be disappointed, disappointing), saymi-na- (feel envy of), swum-i-makhi- (be choked), sinkyeng.ssui- (be sensitive to, care about), etc.

We will see shortly that AEPs and PEPs employ different event templates but they share a default causing sub-event. Unlike PEPs, AEPs take the Experiencer as an Agent of the default sub-event. This section will show that the default sub-events may be realized on surface as a CP/VP complement, and the default-ness of the causing process induces the intransitive structure in syntax.

Now let us see the difference between AEP and PEP in more detail. In (8) below, the AEP *cilwuha*- ‘be bored/boring’ interprets its EXP ‘I’ as the Agent of an implicit/default ‘movie-watching event,’ and this causing event occurs concurrently with the caused event ‘my feeling bored.’ (8a) does not overtly express the experiential verb (to see/watch), but we can reconstruct the STM argument ‘the movie’ into an experiential event ‘I watch the movie,’ so to get the same event structure as (8b). (8a) cannot be reconstructed to an event where the EXP ‘I’ denotes a Patient or a Theme of the causing event.3

(8a) nay-ka ku yenghwa-ka cilwuha-ess-ta
I-Nom that movie-Nom bored-Past
‘I was bored with that movie.’

(8b) nay-ka ku yenghwa-lul pok]-ka cilwuha-ess-ta
I-Nom that movie-Acc watch-Nom bored-Past
‘I was bored with watching that movie.’

In (9), however, the PEP *komap*- ‘be thankful’ interprets the EXP ‘I’ as the Patient of the causing sub-event. (9b) reveals how the STM argument Koni in (9a) can be reconstructed into an event, i.e., ‘Koni helping me.’ Notice that the STM (but not the EXP) takes the Agent role, and the EXP the Patient role in the causing sub-event.

(9a) nay-ka Koni-ka komap-ess-ta
I-Nom Koni-Nom be.thankful-Past-Dec
‘I was thankful to Koni.’

(9b) nay-ka[Koni-ka na-lul towacwun.kes]-i
I-Nom Koni-Nom I-Acc helping-Nom
komap-ess-ta
thankful-Past
‘I was thankful to Koni that she helped me.’

Here, we note that the causing sub-event temporarily precedes the caused/result sub-event

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3 In the following sentence, the surface subject of the transitive psych verb *anger* is the logical object of the experiencing event, i.e., [*read_act(e1, john, the_newspaper)*].

(i) The newspaper angered John.
‘I am thankful to Koni.’ Thus, it is natural for the event structure of PEPs to require the temporal precedence restriction between the two sub-events, and the PEPs employ an event template which is similar to but distinct from ‘Indirect (Constitutive) Causation.’ We will propose an event template called ‘Patientive Experienced Causation,’ where the agentive process of Stimulus causes the Experiencer to have a psychological attitude towards the Stimulus.

2.2 CP types of Stimulus Events

Korean has two eventive complements headed by [V-ki] and [V-nun.kes]. The complementizer -ki is similar to English gerundive [V-ing] or to-infinitive, and the other complementizer -nun.kes heads a full clausal complement and denotes ‘the thing/fact that …’ As shown below, Agentive Experiencer Predicates [AEP] may take either of the complements.

(10a) na-nun [ku yenghwa-lul po-ki]-ka cilwuha-ta
    1-Top that movie-Acc watching-Nom bored
    ‘I am bored with watching that movie.’
(10b) na-nun [ku yenghwa-lul po-nun.kes]-i
    1-Top that movie-Acc watch-Comp-Nom
cilwuha-ta
    bored
    ‘I am bored with watching that movie.’

PEPs can take a full clausal complement with [V-nun.kes] denoting a causing event, but unlike AEPs, PEPs do not take a VP complement headed by the complementizer [-ki]:

(11a) Jini-nun [Koni-ka caki-lul towacwu-nun.kes]-i
    Jini-Top Koni-Nom self-Acc helping-Nom
komap-ess-ta
    thankful-Past-Decl
    ‘Jini was thankful that [Koni helped her].’
(11b) *Jini-nun [Koni-ka caki-lul towacwu-ki]-ka
    Jini-Top Koni-Nom self-Acc helping-Nom
komap-ess-ta
    thankful-Past-Decl
    ‘Jini was thankful to [Koni’s helping her].’

The Experiencer Jini in (11a) can bind the anaphor caki in the complement clause headed by -nun.kes, but it is not the case of (11b) where the VP complement is headed by -ki. The following contrast also shows that PEPs do not interpret the EXP as the agent of the causing/stimulus event. Thus, the Experiencer argument Jini in (12b) cannot bind the anaphor caki that it is not interpreted as the agent of the Stimulus event. In (12c), pro cannot be bound by the Experiencer Jini, which again confirms that the Experiencer cannot be the Agent of the causing event.

(12a) Jini-nun [Koni-uy mal]-i komap-ess-ta
    Jini-Top Koni-Gen words-Nom thankful-Past
    ‘Jini was thankful to Koni for his words.’
(12b) *Jini-nun [caki-uy mal]-i komap-ess-ta
    Jini-Top self-Gen words-Nom thankful-Past
    ‘*Jini, was thankful for her, words.’
(12c) *Jini-nun [pro Koni-lul towacu-nun.kes]-i
    Jini-Top Koni-Acc helping-Nom
komap-ess-ta
    thankful-Past-Decl
    ‘*Jini, was thankful for (her) helping Koni.’

To summarize, we see that AEPs but not PEPs interpret the Experiencer as the agent of the (overt or covert) causing/stimulus sub-event. Let us call the Experiencer of AEPs “Agentive Experiencer”, and that of PEPs “Patientive Experiencer.”

3. Event structures of AEPs and PEPs

Now let us see how the two experienced predicates can be represented in event template. For the AEP cilwuha (‘to be bored/boring’), we extend the internal structure of ‘Experienced Causation’ template to represent the default causing event of AEPs. Thus we have (13) for cilwuha. PEPs on the other hand, take a simpler event template illustrated in (14).

(13) Agentive Experienced Causation for AEPs: cilwuha ‘be bored/boring’

EVENTSTR = E1 = [e1:state]
    E2 = [e2:d-process & e3:state]4
    RESTR = [e2 <o e3]
    HEAD_{E0} = E1(E2)5
    HEAD_{E2} = e3
QUALIA = FORMAL1 = boring(e1,y)
    FORMAL2 = be_bored(e3,x)
AGENTIVE = watch_act(e2,x,y)

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4 [e2:d-process] indicates that the sub-event is a default process. The default process is not focused unless it is realized on surface as a clausal complement. Thus, E2 has its own HEAD value, i.e., HEAD_{E2} = e3.

5 The underspecified HEAD value of “E1(E2)” denotes that the event may be left-headed or double-headed, i.e., E2 can be either focused or not. The HEAD value of PEP is given as “(E1)E2”, which means e1 can be optionally focused.
(14) **Patientive Experienced Causation** for PEPs

\[ \text{komap} \text{ 'be thankful'} \]

\[ \text{EVENTSTR} = \text{E1} = [e1:d-process] \]
\[ \text{E2} = [e2:state] \]
\[ \text{RESTR} = < \]
\[ \text{HEAD} = (\text{E1} : \text{E2}) \]
\[ \text{QUALIA} = \text{FORMAL} = \text{be} \_ \text{thankful}(e2,y,x) \]
\[ \text{AGENTIVE} = \alpha \_ \text{act}(e1,x, \ldots) \]

AEPs like *cilwuha* (‘be bored/boring’) in (13) basically refer to an event template which is similar to the “Experienced Causation” of (5a), but the template takes the causing process as a default sub-event. Let us call the template “Agentive Experienced Causation.” PEPs like *komap* (‘be thankful’) in (14) refer to an event template which is similar to the “Indirect Constitutive Causation,” but there is no intervening mediator argument. The causing process \[e1\] is also treated as a default-process. Let us call this template “Patientive Experienced Causation,” where the Experiencer \([x]\) is not an Agent in the causing sub-event \([e1]\), and the agentive process of Stimulus \([y]\) causes the Experiencer \([x]\) to have a psychological attitude \([e2]\) towards the Stimulus.

(13) has three sub-events – that is, \([e1]: \text{state of the Stimulus}\), \([e2]: \text{experiential process of Experiencer and Stimulus}\), and \([e3]: \text{psychological result-state of the Experiencer}\). (14) has two sub-events – that is, \([e1]: \text{agentive event of Stimulus}\), and \([e2]: \text{psychological result-state of the Experiencer towards Stimulus}\). We note that \([e2]\) of (13) and \([e1]\) of (14) are semantically default, which means that they are logically implicated but need not be realized on surface. In section 4, we will see that the default events can be realized as a CP or VP complement on surface.

As noted in 2.1, the two event templates have different temporal restrictions: As for *cilwuha* (‘to be bored/boring’), the value of \(\text{RESTR} = [e2 \leq e3]\), allows \(e2\) (experiential causing event) and \(e3\) (psychological result state) to overlap with each other. As for *komap* (‘be thankful’), the value of \(\text{RESTR} = <\), requires a strict precedence relation.

The HEAD values of AEPs and PEPs will be used to account for the argument alternations (i.e., EXP-alternation & STM-alternation) in the next section.

4. **Argument alternations and under-specification of event head**

The two classes of psych predicates display different argument realization patterns: The AEPs allow ‘EXP-Alternation’ – Experiencer argument can be realized either as a subject or as a dative adjunct (compare (15a) and (15b)). In contrast, PEPs allow ‘STM-Alternation’ – Stimulus argument can take either nominative or dative/oblique case (compare (16a) and (16b)).

(15a) nay-ka ku yenghwa-ka cilwuha-ess-ta
    I-Nom that movie-Nom bored-Past-Decl
    ‘I was very bored with that movie.’
    \[E1^*+E2^*\]

(15b) ku yenghwa-ka na-hanthey cilwuha-ess-ta
    that movie-Nom 1-Dat bored-Past-Decl
    ‘That movie was boring to me.’
    \[E1^*+E2\]

(15c) na-nun [yenghwa-lul po-ki]-ka cilwuha-ta
    I-Top movie-Acc watching-Nom bored
    ‘I am bored with watching the movie.’

(16a) nay-ka Koni-ka komap-ess-ta
    I-Nom Koni-Nom be_thankful-Past-Decl
    ‘I was thankful to Koni.’
    \[E1^*+E2^*\]

(16b) nay-ka Koni-hanthey komap-ess-ta
    I-Nom Koni-Dat be_thankful-Past-Decl
    ‘I was thankful to Koni.’
    \[E1^*+E2^*\]

(16c) Jini-nun [Koni-ka caki-lul towacwu-nun.kes]-i
    Jini-Top Koni-Nom self-Acc helping-Nom komap-ess-ta
    thankful-Past-Decl
    ‘Jini, was thankful that [Koni helped her].’

We account for the argument realization patterns in terms of event structure and its focal sub-structure (Pustejovský 1995). As proposed in the previous section, the event structures are represented as a composition of sub-events and their temporal and focal relations. The temporal restrictions between sub-events can be either precedence relation or overlap relation. The focused sub-event is represented as the HEAD of the whole event. As we mentioned in section 1, we extend Pustejovsky’s causative approach to the event structure of experiencer predicates, i.e., the experiencer predicates select for an (overt or covert) event function in subject position, and

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6 The head-values given in (15-16) tell us how the arguments are realized on surface in accordance with the patterns summarized in (17) and (18).
they can be properly interpreted as denoting a causative event, i.e., causation which involves a causing/stimulus and a caused/psych sub-events. Thus the semantics of a psych predicate involves at least two sub-events – the causing sub-event (Event1:E1) and the caused psychological state (Event2:E2) – and we claim that the EXP/STM-alternations are due to the underspecified event structure. So we have,

\[ (17) \]

(i) AEPs (like cilwuha ‘be bored/boring’) may allow either left-headed event structure [E1*+E2] or double-headed event structure [E1*+E2*] \(^7\)

(ii) PEPs (like komap ‘be thankful’) may allow either right-headed event structure [E1+E2*] or double-headed event structure [E1*+E2*].

Here we adopt the account of argument realization in GL (Pustejovsky 1995): Only the arguments of focused/headed sub-event can be realized syntactically. Then we have the following propositions for EXP/STM-alternation of AEP and PEP:

\[ (18) \]

Argument Realization of Psych Predicates:
(i) If the event is right-headed or double-headed (i.e., [E1*+E2*] or [E1*+E2*]), the EXP surfaces as a subject: E.g., (15a) and (16a) are double-headed, and (16b) is right-headed.
(ii) If the event is left-headed [E1*+E2], then the STM surfaces as the subject: E.g., (15b) is left-headed.

Now we can see how AEPs and PEPs allows similar but different alternation patterns. For example, if we have the HEAD value [E1*+E2] for cilwuha (AEP) then the only argument involved in E1, i.e., the Stimulus argument in (13), realizes as the subject to give the sentence in (15b).

The temporal restrictions on the events reveal that the EXP in (15b) and STM in (16b) may get different degrees of argumenthood. The EXP in (15b) is down-stepped since E2 is not headed, while the STM in (16b) is down-stepped since E1 is not headed. But the result state [E2] in (14) involves both EXP and STM, whereas the causing state [E1] in (13) only involves the STM. Due to this difference, the STM in (16b) realized from (14) gets more argumenthood than the EXP in (15b) realized from (13).

Let me finally note that there is an intriguing constraint on STM-alternation of PEP. Consider the following:

\[ (19a) \]

Jini-ka Koni-ka-hanthey komap-ess-ta
Jini-Nom Koni-Nom/Dat thankful-Past-Decl
‘Jini was thankful to Koni.’

\[ (19b) \]

Jini-nun [Koni-ka caki-lul towacwu-nun.ksen]
Jini-Top Koni-Nom self-Acc help-Comp
-i*/ey komap-ess-ta
-Nom/Dat thankful-Past-Decl
‘Jini, was thankful that [Koni helped her].’

The PEP komap in (19a) allows STM-alternation, but (19b) does not. That is, in (19b) with a clausal STM, the STM only takes nominative case. The clausal complement denotes a causing sub-event [E1] of ‘Patientive Experienced Causation.’ As we saw before in (16b), a PEP assigns dative case to STM when the event is right-headed, i.e., the causing sub-event is not focused. Thus, if we assume that the full clausal STM denoting causing event [E1] indicates its left-headedness, it naturally follows that the clausal STM cannot be interpreted as an adjunct with dative case. We do not find this constraint for the EXP-alternation, which can be accounted for by our proposal that the causing sub-event [E2] of AEPs should be focused in any case whether the whole event is left-headed or double-headed.

References


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\(^7\) This paper follows Lee et al.’s (1990) proposal that a complex event can assign HEAD to both sub-events, so to be double-headed [e1*+e2*].