Syntax-Semantics Interface in Psych-verb Constructions: A Role and Reference Grammar's Approach

Byong-seon Yang
(Jeonju University)
E-mail: BYANG@chonbuknms.chonbuk.ac.kr

<목차>

0. Introduction
1. The Development of Role and Reference Grammar
2. Aspectual Verb Classification, Lexical Representation, and the Interface in RRG
3. Syntax-Semantics Interface in Korean Psych-Verb Constructions
4. Conclusion

0. Introduction

The main purpose of this paper is to account for the case-marking patterns of the two Korean psych verb constructions as in (1) without reference to grammatical relations in Role and Reference Grammar (RRG)1 labelled "structural-functionalist theory of grammar"2 (Van Valin 1993a).

(1) a. Nay-ka kay-lul mwusewe-ha-n-ta
   I-NOM dog-ACC be.afraid-do-PRES-DEC
   "I fear the dog."
b. Na-eykey/ka kay-ka mwusep-ta
   I-DAT/NOM dog-NOM be. afraid-DEC
   "I am afraid of the dog."

Other theories have tried to account for the syntactic phenomena and
case-marking patterns of these psych verb constructions with the notion
of grammatical relations. Even though grammatical relations have been
regarded as universal (cf. Dixon 1979; Chomsky 1981; Bresnan 1982;
Perlmutter and Postal 1983, among others), there have been several
recent attempts to explain all grammatical constructions without reference
to grammatical relations (cf. Durie 1987; LaPolla 1990; Bhat 1991,
among others). RRG is a framework conducive to such exploration.

RRG's assumptions regarding grammatical relations are different
from other theories on three points: (i) RRG does not consider the
grammatical relations to be basic, as RelG and LFG do, nor does it derive
them from structural configurations, as GB does: (ii) RRG recognizes only
one syntactic function (i.e. subject: pivot in RRG terminology), rather
than the standard three: there is nothing in RRG corresponding to
notions like direct object (2) and indirect object (3): (iii) RRG assumes
semantic roles to be universal, rather than grammatical relations3(Van
Valin 1993a:50). Also RRG differs from other theories of syntax in that
it posits only one level of syntactic representation and no syntactic rules
akin to the traditional transformations. Move a of GB, or the relation-
changing rules of RelG. The posited syntactic level corresponds to the
actual structural form of the utterance, and it is linked directly to a
semantic representation. Unlike LFG, which does not posit any kind of
abstract syntactic underlying form and Generalized Phrase Structure
Grammar (GPSG) which is also a unilevel theory, RRG has its own linking
algorithm for syntactic and semantic representation and does not assume
Since notions like 'subject' and 'direct object' do not play a role in RRG, neither agreement nor case marking in psych-verb constructions can be handled in terms of grammatical relations (cf. Van Valin 1993a). Thus, in this paper, I will handle the case-marking of (1) within the RRG framework by referring to lexical representation, macroroles, direct core arguments, and the syntax-semantics interface.

1. The Development of Role and Reference Grammar

To see the development of RRG, we should go back to the late 60's or early 70's, a great turning point for current syntactic theories. In 1968, Fillmore's Case Grammar, from which RRG is most directly descended, was introduced. Case Grammar is purely semantically-oriented, as opposed to the purely syntactically-oriented grammar proposed by Chomsky's generative grammar. Fillmore argued that 'subject of a sentence' is not a major constituent of the sentence, but is rather taken from the modifier of one of the major constituents (Fillmore 1968:23). He proposes that the basic structure of sentence (2c) consists of the 'proposition', which he defines as "a tenseless set of relationships involving verbs and nouns", (ibid.:23) and the 'modality', including "such modalities on the sentence-as-a whole as negation, tense, mood, and aspect" (ibid.:23). Fillmore used semantic elements such as 'Agent', 'Patient', 'Instrument', 'Locative', and 'Benefective' instead of 'S', 'NP', 'VP', and 'PP'. The example used by Fillmore is shown below:

(2) a. \[ S \rightarrow \text{Modality} + \text{Proposition} \]

\[ \text{Prop} \rightarrow \text{V} (\text{Agentive}) + (\text{Instrument}) + (\text{Objective}) + \ldots \]

b. open: [\_O(bjective) (I)nstrumental (A)gentive]

c. John opened the door with a chisel.
In the Aspects Model, the sentence is defined in completely structural terms (e.g. $S \rightarrow NP\ AUX\ VP$). In Case Grammar Model, the sentence is represented as in (2a). In this framework, the components of the structure are unordered, and "there is a semantic representation employing semantic case roles which is mapped into the syntactic surface structure, without any intervening level of syntactic representation." (Van Valin 1993c:66)

Syntactic studies on Universal Grammar were developed on the basis of the study of Indo-European languages, especially English. However, 1972 brought the publication of Dixon’s grammar of Dyirbal (a syntactically ergative language) and Schachter and Otares’ Tagalog grammar (a language with both nominal case marking and verbal cross-referencing). These two languages are radically different from English, and they raised fundamental questions from which RRG grew:

i) What would linguistic theory look like if it were based on the analysis of Lakhota, Tagalog and Dyirbal, rather than on the analysis of English?

ii) How can the interaction of syntax, semantics and pragmatics in different grammatical systems best be captured and explained?

To explain these non-Indo-European languages, Foley and Van Valin started developing a non-derivational, functionally-based theory of grammar. They did not "regard the structure of one language type as prototypical and other types as deviations from this prototype" (Foley and Van Valin 1984:viii), the position adopted by the main syntactic theorists. Furthermore, Prague School and Hallidayan ideas regarding the role of discourse-pragmatics in grammar were being explored from a number of different perspectives (Van Valin 1993c:66). A preliminary study of the research appeared in Van Valin and Foley (1980), and aspects of RRG are discussed in a number of other works (Foley and Van Valin 1977, 1985; Foley 1976; Foley and Olson 1985; Olson 1978, 1981; Walton 1983, revised in 1986; Van Valin 1977a,b, 1980a,b,c, 1983, 1985) (cf. Foley and Van Valin 1984:2). The first fully developed treatment of RRG is Foley and Van Valin (1984). Contrary to other theories depended too heavily on English and familiar European languages, this work used a wide range of typologically distinct languages, such as Austronesian, Papuan, Australian, and American Indian languages (Foley and Van Valin 1984:viii).

In the 1980s, several studies on information structure which is a formal expression of the pragmatic structure of a proposition in a discourse were done by Lambrecht (1986, 1987, 1988a, 1988b, 1994). At the same period, Van Valin expanded the applications of RRG to a wider range of phenomena, many of which were not discussed in Foley and Van Valin (1984): an account of the constraint on extraction constructions known as subjacency, structure of complex sentences, linking syntactic and semantic representations, information structures. The elaborated and revised version of RRG (Van Valin 1993a) and papers on specific subjects analyzed with RRG were published in Advances in Role and Reference Grammar (Van Valin 1993b). Van Valin (1993a) "presents a revised version of the theory of clause structure and introduces a formal notation to represent it: this
is integrated with a theory of information structure" (Van Valin 1993b: ix). In this revised version of RRG, the theories of grammatical relations and complex sentence formation are reprised and expanded, and the algorithm linking semantic and syntactic representations is presented explicitly and applied to simple and complex sentences (ibid.: ix). The development of RRG can be summarized as in (3).

(3) The Development of Current Linguistic Theories
2. Aspectual Verb Classification, Lexical Representation, and the Syntax-Semantics Interface in RRG.

2.1. Verb Classification and Lexical Representation in RRG.

2.1.1. The Development of the Verb Classification in RRG.

Compared with other contemporary syntactic theories, RRG employs a richer system of lexical representations. Thus, RRG shows that the assignment of thematic relations to a verb is independently motivated in terms of its logical structure, which is derived from the verb classification system. RRG starts from the Vendler (1967) classification of verbs into states, achievements, accomplishments and activities, and utilizes a modified version of the representational scheme proposed in Dowty (1979) to capture these distinctions. Even though Vendler’s taxonomy and Dowty’s distinctions are based solely on the analysis of English verbs, investigations of many unrelated languages have shown that these contrasts are central to the organization of their verb systems and support RRG’s assumption that these distinctions are the universal basis of the organization of verbal systems in human language. Examples of English verbs from each of the verb classes are given in (4) (Van Valin 1993a:34).

(4) English Verb Classes (Van Valin 1993a:34)

<table>
<thead>
<tr>
<th>States</th>
<th>Achievements</th>
<th>Accomplishments</th>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>be shattered</td>
<td>shatter (intr)</td>
<td>shatter (tr)</td>
<td>swim</td>
</tr>
<tr>
<td>have</td>
<td>receive give</td>
<td></td>
<td>walk</td>
</tr>
<tr>
<td>know</td>
<td>learn</td>
<td>teach</td>
<td>talk</td>
</tr>
<tr>
<td>believe realize</td>
<td>convince</td>
<td></td>
<td>think (about)</td>
</tr>
<tr>
<td>be dead</td>
<td>die</td>
<td>kill</td>
<td>watch</td>
</tr>
<tr>
<td>be cool cool (intr)</td>
<td>cool (tr)</td>
<td></td>
<td>sparkle</td>
</tr>
</tbody>
</table>
In RRG, achievement verbs are divided into punctual (P) and durative (D) subclasses (Van Valin 1993a: footnote 19). A list of possible tests for verb classes adopted in RRG are given in (5)

(5) Syntactic and Semantic Tests for English Verb Classification in RRG
(Van Valin 1993a:35, Table 2)

<table>
<thead>
<tr>
<th>Criterion</th>
<th>States</th>
<th>Achievements</th>
<th>Accom. Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Occurs with progressive</td>
<td>No</td>
<td>D: Yes</td>
<td>P: No</td>
</tr>
<tr>
<td>2. Occurs with adverbs like vigorously, actively, etc.</td>
<td>No</td>
<td></td>
<td>No</td>
</tr>
<tr>
<td>3. Occurs with Ø for an hour, spend an hour Ø ing</td>
<td>Yes</td>
<td></td>
<td>D: Yes</td>
</tr>
<tr>
<td>4. Occurs with Ø in an hour, take an hour to Ø</td>
<td>No</td>
<td></td>
<td>D: Yes</td>
</tr>
<tr>
<td>5. Ø for an hour entails Ø at all times in the hour</td>
<td>Yes</td>
<td></td>
<td>D: No</td>
</tr>
<tr>
<td>6. x is Ø ing entails x has Ø ed</td>
<td>d.n.a</td>
<td></td>
<td>D: No</td>
</tr>
<tr>
<td>7. Has inherent causative semantics</td>
<td>No</td>
<td></td>
<td>No</td>
</tr>
</tbody>
</table>

2.1.2. Verb Classes, Logical Structure, and Semantic Roles in RRG

2.1.2.1. Logical Structure and Lexical Representations

Following Dowty's(1979) lexical decomposition system in which states are basic and the other classes are derived from them, RRG adopts the following decomposition representations which are termed Logical Structures (LS) and which treat both activities and states as primitives.

(6) Verb Classes and Their Logical Structures (Van Valin 1993d)

<table>
<thead>
<tr>
<th>Verb Class</th>
<th>Logical Structure</th>
</tr>
</thead>
<tbody>
<tr>
<td>STATE</td>
<td>predicate' (x) or (x,y)</td>
</tr>
</tbody>
</table>
ACHIEVEMENT

BECOME predicate' (x) or (x,y)

ACTIVITY (± Agentive) (DO(x)) do' (x, [predicate' (x) or (x,y)])

ACCOMPLISHMENT

Ø CAUSE ψ, where Ø is normally an activity predicate and ψ an achievement predicate.

In (6), states are primitive, achievements are represented as states plus a BECOME operator, accomplishments have a complex structure of an activity predicate linked to an achievement predicate by an operator CAUSE. Some English verbs with their LS are presented in (7), which is borrowed from Van Valin(1993d).

(7) a. States

Bob is a lawyer. be' (Bob, [lawyer'])
The watch is broken. broken' (the watch)
The magazine is on the desk. be-on' (the desk, the magazine)
Max is at the office. be-at' (office, Max)
Sam saw the painting. see' (Sam, the painting)

b. Achievements

Bob became a lawyer. BECOME be'(Bob, [lawyer'])
The watch broke. BECOME broken'(the watch)
The magazine fell on the floor. BECOME be-on'(the floor, the magazine)
Max arrived at the office. BECOME be-at'(Office, Max)
Sam noticed the painting. BECOME see' (Sam, the painting)

c. Activities

The children cried. do' (the children, [cry' (the children)])
The ball rolled. do' (the ball, [roll' (the ball)])
The door squeaks.  
do' (the door, [squeak' (the door)])

Mary did something.

\[do' (Mary, \varnothing)\]

Larry ate fish.

\[do' (Larry, (eat' (Larry, fish)))\]

d. Accomplishments

Joan tossed the journal on the desk.

\[do' (Joan, (toss' (Joan, the journal)))\] \textsc{cause} [become be-on'
(the desk, the journal)]

The baby broke the watch (accidentally).

\[do' (the baby, \varnothing)\] \textsc{cause} [become broken' (the watch)]

Max ran to the office.

\[do' (Max, (run' (Max)))\] \textsc{cause} [become be-at' (the office, Max)]

Louise showed the painting to Sam.

\[do' (Louise, \varnothing)\] \textsc{cause} [become see' (Sam, the painting)]

2.1.2.2. Semantic Roles

RRG uses the semantic roles, roughly equivalent to 'thematic relations', 'θ-roles', or 'semantic roles'. However, RRG’s approach is different from other theories in that it posits two tiers of semantic roles: one is \textit{thematic relations}, which are also used in LFG and other theories, and the other is \textit{macroroles}, which is a concept specific to RRG.

2.1.2.2.1. Thematic Relations

Rather than a fixed universal inventory, RRG sets up a semantic continuum of thematic relations, whose anchor points are 'agent' at one end and 'patient' at the other (cf. Foley and Van Valin 1984, Van Valin 1993a:41) as in (8).
(8) Semantic Continuum of Thematic Relations in RRG (Van Valin 1993a:41)

In RRG, thematic relations are derived from the verb's LS. The assignment of thematic relations to verbs are defined in terms of the argument positions in the decomposed LS as in (9), following the ideas of Gruber (1965) and Jackendoff(1976). Thus, it is not arbitrary. Role labels like "agent", and "patient" are mnemonics for the argument positions in LS (cf. Van Valin 1993a:39).

(9) Thematic Relations Assignment with Argument Positions
   (Van Valin 1993d: Table 3)

I. STATE VERBS

A. Locational
   be-at' (x,y)  x=locative, y=theme

B. Non-Locational
   1. State or condition  broken' (x)  x=patient
   2. Perception  see' (x,y)  x=experciencer, y=theme
   3. Cognition  believe' (x,y)  x=experciencer  y=theme
   4. Possession  have' (x,y)  x=locative, y=theme
   5. Equational  be' (x,y)  x=locative, y=theme

II. ACTIVITY VERBS

A. Uncontrolled
   do' (x, [cry' (x)])  x=effector

B. Controlled
   DO (x, [do' x, [...])]  x=agent
The thematic relations assignment of Achievements are the same as the corresponding states, as the addition of the operator BECOME does not affect the argument structure of the LSs. Accomplishments have a LS composed of an activity LS plus an achievement (or less commonly, an activity) LS linked by the connective CAUSE. Accordingly, the role assignments of the Accomplishments are those of the constituent activity and achievements LSs: no new roles are added in (9) (Van Valin 1993a: 40).

Semantic roles such as 'agent', 'patient', 'locatives', etc. are determined by verb classes and argument position. That is, 'agents' are the argument of DO, 'patients' are the argument of state predicate'(x), 'locatives' and 'experiencers' are the first argument of predicate'(x,y), and 'themes' are the second argument of predicate'(x,y). RRG does not need to mark the thematic relations of the verbs in lexical representation since they are determined by these general principles. With these strategy for thematic relations assignment, the Thematic Relations Continuum can be revised as follows:

(10) Semantic Continuum of Thematic Relations in RRG (Van Valin 1993d: figure 2)

\[
\begin{array}{cccccc}
\text{ARG of} & \text{ARG of} & \text{1st ARG of} & \text{2nd ARG of} & \text{ARG of state} \\
\text{DO} & \text{do'} & \text{pred'}(x,y) & \text{pred'}(x,y) & \text{pred'}(x) \\
\end{array}
\]

2.1.2.2.2. Macroroles

Macroroles, the second type of semantic role, play a crucial role in RRG. Macroroles act as the primary interface between the LS and syntactic representations. There are two macroroles, \text{ACTOR} and \text{UNDERGOER}, corresponding to the two primary arguments in prototypical transitive
constructions. RRG claims that grammatical relations such as 'subject', 'object', etc. are not universal, and it uses macroroles instead. The prototypical actor, which is a subject in an active clause and a peripheral PP in a passive clause, is an agent. The prototypical undergoer, which is a direct object in an active clause and a subject in a passive clause, is a patient. Macroroles are not equivalent to grammatical relations. That is, actor is not equivalent to syntactic subject and undergoer is not equivalent to syntactic direct object. The difference between macroroles and grammatical relations can be illustrated in (11), borrowed from Van Valin (1993a:49).

(11) a. The bagel [SUBJ, UNDERGOER] was eaten by Fred [ACTOR].
   b. Fred [SUBJ, ACTOR] ate lox [D.O].
   c. The teacher [SUBJ, UNDERGOER] got sick.

In (11a), a passive sentence, the undergoer bagel is subject and the actor Fred is an oblique. In (11b), an active sentence with an activity verb eat, direct object lox is not undergoer, but argument. In (11c), an unaccusative sentence, the subject teacher is undergoer. In the default case, the most agent-like argument is the actor and the most patient-like is the undergoer (Van Valin 1993a:43-46). The relationship between thematic relations and macroroles can be captured in the following Actor-Undergoer Hierarchy.

(12) Actor-Undergoer Hierarchy

```
<table>
<thead>
<tr>
<th>ACTOR</th>
<th>UNDERGOER</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARG of DO</td>
<td>ARG of do'</td>
</tr>
<tr>
<td>1st ARG of pred'(x,y)</td>
<td>2nd ARG of pred'(x,y)</td>
</tr>
<tr>
<td>ARG of state pred'(x)</td>
<td></td>
</tr>
</tbody>
</table>
```
["\rightarrow" = increasing markedness of realisation of themantic relations as macrorole]

The number of macroroles that a verb takes is most predictable from its LS together with the Default Macrorole Assignment Principles in (13): there are only three possibilities: 0, 1, 2. With intransitive verbs like *lie*, which has two arguments, there is one macrorole, an undergoer. Similarly, with motion accomplishment verbs like *run*, there is also only one macrorole, an actor. Verbs like *seem* have no macrorole. In these verbs the number of macroroles is not predictable. It has to be specified in the lexical entry of the verb with a feature like *+MR*, which overrides the default macrorole assignment principles (13). With this feature, the lexical representation for the exceptional verbs can be expressed: *lie*'(x,y)[+MR]; *do*'(x, [run' (x)]); *seem*'(x,y)[-MR]. Thus, in RRG, transitive verbs have two macroroles, intransitive verbs have one macrorole with the feature [+MR], and attransitive verbs have no macrorole with [-MR] in the lexical representation.

(13) Default Macrorole Assignment Principles (Van Valin 1993a:47)

a. Number: the number of macroroles a verb takes is less than or equal to the number of arguments in its LS
1. If a verb has two or more arguments in its LS, it will take two macroroles.
2. If a verb has one argument in its LS, it will take one macrorole.

b. Nature: for verbs which take one macrorole.
1. If the verb has an activity predicate in its LS, the macrorole is actor.
2. If the verb has no activity predicate in its LS, the macrorole is undergoer.
2.2. Syntax-semantics Interface in RRG.

RRG's assumptions regarding grammatical relations are different from other theories. The central concept in RRG used for grammatical relations is 'pivot of a syntactic construction' (ibid.: 56). The notion of pivot is different from syntactic subject on two points: i) pivots are construction-specific, while grammatical relations like subject are not, ii) there are many languages like Jacaltec (Van Valin 1981) and Icelandic (Van Valin 1991b) in which the syntactic pivot is not the same as subject as defined by case-marking and verb agreement, even though the syntactic pivot is the same with syntactic subject in English. The choice of pivot for transitive verbs, which have both actor and undergoer, depends on whether the language is syntactically accusative (i.e. English) or ergative (i.e. Dyirbal, Sama) as follows:

(14) a. Hierarchy of markedness for pivot choice: syntactically accusative languages
    Actor > Undergoer > other

b. Hierarchy of markedness for pivot choice: syntactically ergative languages
    Undergoer > Actor > other

In addition RRG selection of the argument to function as pivot in a syntactic construction can vary depending upon whether discourse-pragmatic considerations influence this selection (Van Valin 1993a:64-65)9.

(15) is a representation of linking syntactic and semantic representation in RRG (cf. Van Valin 1993a:75, Figure 16).
(15) SYNTACTICFUNCTIONS: Pivot Direct Core Arguments Oblipue Core Arguments

Pivot Hierarchy: (Language-Specific)
Actor > Undergoer (e.g. English, Korean)
Undergoer > Actor (e.g. Dyirbal)

SEMANOMICMACROROLES: Actor Undergoer

Transitivity = NO. of Macroroles
Transitivity = No. of Macroroles
Transitive = 2
Intransitive = 1(+(MR))
Atransitive = 0(−MR))

A-U Hierarchy (universal)
Actor
Undergoer
Ag Eff Exp Loc Th Pat

THEMATICCREATIONS: Agent Effector Experiencer Locative Theme patient

I. State Verbs
A. Locational x = loc, y = theme
B. Non-Locational
1. State or condition x = patient
2. Perception x = exp, y = theme
3. Cognition x = exp, y = theme
4. Possession x = loc, y = theme

II. Activity Verbs
A. Uncontrolled x = eff, (y = loc)
B. Controlled x = agent

Argument Positions in LOGICAL STRUCTURE

VERB CLASS(from tests in § 2.1.1.1) LOGICAL STRUCTURE

STATE predicate'(x) or (x,y)
ACHIEVEMENT
ACTIVITY(±Agentive)
ACCOMPLISHMENT

BECOME predicate'(x) or (X,Y)
(DO(x))(do'(x, [predicate'(x) or (x,y)]))
π CAUSE β, where π is normally an activity predicate and β an achievement predicate

In (15), there are two discrete levels: Logical Structure and Syntactic Function. The levels are linked through a linking algorithm. Such an algorithm "is central to a theory like RRG that posits only one level of syntactic representation, for it must be able to deal not only with canonical clause patterns, i.e. those in which the default correlations between syntactic and semantic structure exist, but also with the non-canonical patterns that motivated the use of syntactic transformations and multiple levels of syntactic representation in the first place." (Van Valin 1993a:74) There are discrete steps to arrive from the lexical representation to syntactic structure set up to insure there is no circularity. Determination is unidirectional, from semantics to syntax. This differs from other theories where syntax is presumably derived from semantics, but the semantics is inferred from the surface syntax. (Abdoulaye 1992:21)

The Syntax-Semantics Interface can be illustrated by examining the possible realizations of the LS for present in English, which is borrowed from Van Valin (1993a:76-77)

(16) a. present: [do'(x)] CAUSE [BECOME have'(y,z)]
    b. present with NPs: [do'(Maria)] CAUSE [BECOME have'(Larry, a spatula)]

In (16) there are two possibilities with respect to undergoer: unmarked as in (17a&b) and marked as in (17c&d) and there are two possibilities
with respect to the selection of the primary syntactic pivot for each of the possible results. There are, therefore, four possibilities with respect to the LS for present as in (17) and (18) respectively.

(17) a. [Maria [presented] the spatula to Larry]
    b. [The spatula [was presented] to Larry] [by Maria]
    c. [Maria [presented] Larry with the spatula]
    d. [Larry [was presented] with the spatula] [by Maria]

(18) a. Pivot: actor-Maria; other core: undergoer-a spatula, locative-Larry
    b. Pivot: undergoer-a spatula; other core: locative-Larry; Periphery:
       actor-Maria
    c. Pivot: actor-Maria; other core: undergoer-Larry, theme-a spatula
    d. Pivot: undergoer-Larry; other core: theme-a spatula; periphery:
       actor-Maria

The linking procedure from semantics (LS) to syntax can be presented in (17)'.

(17)' a. [Maria [presented] the spatula to Larry]

Pivot: actor-Maria; other core: undergoer-a spatula, locative-Larry

Syntactic Representation: Maria presented the spatula to Larry.

Syntactic Pivot:

Actor

cf. (14)

Semantic Macroroles:

Actor

cf. (12)

Thematic Relations: ch.(10) Effector

Loc.

Undergoer

Theme

LS: ch(16) present: (do'(Maria)) CAUSE [BECOME have' (Larry, a spatula)]
(17) b. [The spatula (was presented) to Larry] (by Maria)

Pivot: **undergoer-a spatula**: **Marked case**

other core: locative-Larry; Periphery: actor-Maria

Syntactic Representation: The spatula was presented to Larry by Maria

Syntactic Pivot:
cf. (14)

Semantic Macroroles:
Actor

Undergoer
cf. (12)

Thematic Relations: cf. (10) Effector

Loc. Theme

LS: cf(16) present: [do’ (Maria)] CAUSE(BECOME have’(Larry, a spatula)

(17) c. [Maria [presented] Larry with the spatula]

Pivot: actor-Maria:

other core: **undergoer-Larry**, theme-a spatula: **Marked case**

Syntactic Representation: Maria presented Larry with the spatula.

Syntactic Pivot:
cf. (14)

Semantic Macroroles:
Actor

Undergoer
cf. (12)

Thematic Relations: cf. (10) Effector

Loc. Theme

LS: cf(16) present: [do’ (Maria)] CAUSE(BECOME have’(Larry, a spatula)

(17) d. [Larry (was presented) with the spatula] (by Maria)

Pivot: **undergoer-Larry**: **Marked case**
other core: theme-a spatula: periphery: actor-Maria Marked case

Syntactic Representation: Larry was presented with the spatula by Maria

Syntactic Pivot: cf. (14)

Semantic Macroroles:
Acter

Undergoer

Undergoer

Thematic Relations: cf. (10) Effector Loc. Theme

LS: cf(16) present: [do’ (Maria)] CAUSE(BECOME have’ (Larry, a spatula)

As shown in (17)’, RRG handles the syntatic phenomena with macroroles and direct core argument status, without mentioning the grammatical relations.

3. Syntax-Semantics Interface in Korean Psych-verb Constructions

In Korean, psych-verbs are used in two parallel syntactic constructions which are illustrated by the examples (19) and (20).

-NOM mother-ACC miss-do-PST-DEC
"Soonhi missed mother."
b. Nay-ka kay-lul mwusewe-ha-n-ta
I-NOM dog-ACC be.afraid-do-PRES-DEC
"I fear the dog."

(20) a. Swunhi-eykey/ka emeni-ka kuliwe-ss-ta
Syntax-Semantics Interface in Psych-verb Constructions (양범선) 191

-DAT/NOM  mother-NOM miss-PST-DEC
"Soonhi missed mother."

b. Na-eykey/ka kay-ka mwusep-ta
I-DAT/NOM  dog-NOM be.afraid-DEC
"I am afraid of the dog."

Other theories such as Government and Binding theory (GB), Relational Grammar (RelG), and Categorial Grammar (CG: O'Grady 1991) have tried to account for the grammatical phenomena and case-marking patterns of these psych verb constructions with the notion of grammatical relations such as ‘subject’, ‘object’, etc (cf. B.S Yang 1994: §2.3.1). Since these notions do not play a role in RRG, neither the grammatical phenomena nor case marking of the psych-verb constructions can be handled in those terms. Rather, the analysis of these phenomena will make with reference to semantic roles, lexical representation, and the syntax-semantics interface in RRG (cf. Van Valin 1990b, c. 1993a for handling the agreement and case-marking rules in Icelandic, Dyirbal, Georgian, among others). Thus, in this section, I will handle the grammatical processes and case-marking of two types of Korean psych-verb constructions within RRG’s syntax-semantics interface framework without invoking any grammatical relations.

3.1. Verb Classes and Lexical Representation of Two Psych-Verbs.

Following generally RRG’s verb classification system, I (B.S. Yang 1994: § 2.1.2) propose nine syntactic and semantic criteria to distinguish Korean verbs into four classes and show that bare-form psych-verbs (i.e. 19b & 20b) are States and e-ha form psych-verbs (i.e. 19a&20a) are Activities, as shown in (21).
(21) Verb Classification of Korean Psych Verbs

Criterion States
(bare-form psych verbs) Activities
(e-ha form psych verbs)
1. Occurs with progressive form -(u)ncwungi-ta NO YES
2. The present tense -(n)un- entails action in progress/ d.n.a. YES
   change of state
3. Occurs with adverbs like paklyekisskey 'vigorously' NO YES
   and swutasulepkey 'actively'
4. Occurs with hansikan-tongan 'for an hour' YES YES
5. Occurs with hansikan-maney 'in an hour' and NO NO
   implies that an event have completed in the hour.
6. Selection of perfective form e-iss NO d.n.a.
7. 'for an hour' entails 'at all times in the hour' YES YES
8. Progressive form entails 'x has Øed' d.n.a. YES
9. has inherent causative semantics NO NO

With these different aspectual verb classes, we can represent the LS of the two types of psych verb constructions as follows:

(22) Activity Psych-verb Constructions

   -NOM mother-ACC miss-do-PST-DEC
   "Soonhi missed mother."

   LS: (do' (Soonhi, [miss' (Soonhi, mother)])]
   Soonhi = effector + experiencer, mother = theme

b. Nay-ka kay-lul mwusewe-ha-n-ta
I-NOM  dog-ACC be.afraid-do-PRES-DEC  
"I fear the dog."

LS:  (do' (I, [be.afraid' (I, the dog)]))  
I=effector+experiencer, the dog=theme

(23) Stative Psych-verb Constructions

a. Swunhi-eykey/ka  emeni-ka  kuliwe-ss-ta  
   -DAT/NOM  mother-NOM  miss-PST-DEC  
   "Soonhi missed mother."

   LS:  miss' (Soonhi, mother)[+MR]  
   Soonhi=experiencer, mother=theme

b. Na-eykey/ka  kay-ka  mwusep-ta  
   I-DAT/NOM  dog-NOM  be.afraid-DEC  
   "I am afraid of the dog."

   LS:  be.afraid' (I, the dog) [+MR]  
   I=experiencer, the dog=theme

In (23) we see that stative psych-verbs are intransitive states (i.e. 
\textit{predicate}' (x,y) [+MR]) and that \textit{e-ha} psych-verbs are transitive activities 
derived from states (i.e. \textit{do}'(x, [\textit{predicate}' (x,y)])). That stative psych-verbs 
are intransitives (i.e. unaccusatives) and activity psych-verbs are transitives 
is generally accepted. O'Grady (1991) shows that stative psych-verbs are 
syntactically intransitives even though the lexical semantics of the verbs 
determines two thematic roles. C. Youn (1989), Y.J. Kim (1990) and 
B.S. Yang (1991) propose that the stative psych-verbs are unaccusative 
verbs because of their case marking alternation between DAT/NOM.
Now we can handle the case marking of two types of psych-verb constructions with the semantic case marking rules (24)\textsuperscript{10}.

(24) Case marking rules for Korean (semantic case)

a. Highest ranking macrorole takes NOMINATIVE case.
b. The other macrorole argument takes ACCUSATIVE case.
c. Non-macrorole direct core arguments take DATIVE as their default case.
d. Non-macrorole direct core arguments take NOMINATIVE case as their marked case.

With (24), the Actor takes NOM case (cf. 24a), and the Undergoer takes ACC case (cf. 24b). The syntax-semantics interface that determines case-marking for activity psych verbs are schematized in the following.

(25) Case marking for activity psych verb constructions

\begin{center}
\begin{tabular}{ccc}
\textbf{LS:} & \\
\textbf{Syntactic Representation:} & Swunhi-ka & Kay-lul mwusewe-hay-ss-ta \\
 & \text{NOM} & \text{dog-ACC ear-do-PAST-DEC} \\
\textbf{Syntactic Case marking:} & NOM & ACC \\
\textbf{Semantic Macroroles:} & Actor & Undergoer \\
\textbf{Thematic Realtions:} & Effector & Experiencer & Theme \\
 & \text{do'(x, mwusep-ta'(x, y))} & \\
\end{tabular}
\end{center}

The case-marking rule for stative psych verb's is a little complex because of the case alternation between in the DAT form and NOM form.
Since the stative psych-verb is an unaccusative intransitive and its LS is \textit{predicate}' (x,y)(+MR), it can take only one macrorole, the Undergoer according to the Default Macrorole Assignment Principle. The Undergoer should be the theme because the theme outranks the experiencer in the Actor-Undergoer Hierarchy. Thus, the Undergoer takes NOM case (cf. 24a), and the experiencer, which is a non-macrorole argument, takes DAT case as its default case (cf. 24c). This can be illustrated as follows:

(26) Case Marking of DAT-NOM stative psych-verb constructions
(Encoder)

Syntactic Representation: Swunhi-eykey kay-ka mwuse-wess-ta
\hspace{1cm} -DAT dog-NOM fear-PAST-DEC

Syntactic Case:
\hspace{1cm} DAT NOM

Semantic Macroroles:
\hspace{1cm} Undergoer

Thematic Relations:
\hspace{1cm} Experiencer Theme

LS:
\hspace{1cm} mwusep-ta' (x, y)(+MR)

In NOM-NOM case-marking of stative psych-verb constructions, which is the marked case, however, the undergoerhood of \textit{kay} 'the dog' (i.e. theme) is outranked by \textit{Swunhi} (i.e. experiencer). This marked case does not follow the Actor-Undergoer Hierarchy like English \textit{present}-construction (cf. 17) and the dative-shift case (cf. 27b).

(27) Dative-shift case

a. John gave a book to Mary. (John=Actor, book=Undergoer, Mary= locative)
b. John gave Mary a book. (John=Actor, Mary=Undergoer, book=theme)
   LS: (do' (John)) CAUSE (BECOME have' (Mary, book))

In (27a), which is the unmarked case, the Actor is John (effector), the
Undergoer is a book (theme), and Mary (locative) is non-macrorole
according to the Actor-Undergoer Hierarchy. In (27b), which is the marked
case, however, the undergoerhood of a book (theme) is outranked by Mary
(locative). This marked case does not follow the Actor-Undergoer
Hierarchy. By the same token, we can explain the NOM-NOM case in
stative psych-verb constructions. That is, the DAT-NOM case is the
unmarked case (i.e. kay 'the dog'=Undergoer: theme, Swunhi=experi-
encer), and the NOM-NOM case is the marked case (i.e. Swunhi=
Undergoer: experiencer, kay 'the dog'=theme) due to their Undergoer
assignment. In the marked case, non-macrorole direct core argument (i.e.
kay 'the dog') takes NOMINATIVE case according to the case-marking rule
(24)(cf. 24d). The marked case of NOM-NOM can be illustrated as in (28).

(28) Case Marking of NOM-NOM stative psych-verb constructions
   (Marked)
Syntactic Representation: Swunhi-ka kay-ka mwuse-wess-ta
                  -NOM     dog-NOM fear-PAST-DEC

Syntactic Case: NOM NOM

Semantic Macroroles: Undergoer

Thematic Relations: Experiencer Theme

LS: mwusep-ta' (x, y) [+MR]
Thus, the two constructions can be explained with semantic macroroles and marked/unmarked linking\textsuperscript{11} without mentioning transformations and grammatical relations. This fact supports RRG's assumption that semantic roles are universal in that the controller is determined on semantic ground without concern for grammatical relations or case-marking.

4. Conclusion

In this paper, I studied two types of Korean psych-verb constructions: case-marking rules in RRG's syntax-semantics interface. I showed that, according to Korean aspectual verb classification, bare-form psych-verbs are states, and e-ha form psych-verbs are activities derived from stative psych-verbs+hata 'do'. The LS of state psych-verbs is \textit{predicate}' (x,y) [+MR], and that of activity psych-verbs are do' (x,( \textit{predicate}' (x,y)))). where is x=effector/experiencer and y=theme. Also, I handled the case-marking of activity psych-verb constructions and the case alternation of DAT-NOM and NOM-NOM case-marking in stative psych-verb constructions not by referring to transformation and grammatical relations, but by referring to lexical representation, macroroles, direct core argument, and the syntax-semantics interface. This supports RRG in that the explanation of Korean case marking crucially involves the interaction of syntactic structures, semantics, and pragmatics: they cannot be explained in terms of either structure alone, semantics alone, or pragmatics alone (Van Valin 1993e). RRG can explain and accommodate the two types of psych-verb constructions in Korean that must be stipulated or treated in an ad hoc way in other theories.
References


mins.


_______. 1988a. When Subject Behave like Objects: A Markedness Analysis of Sentence Focus Constructions across Languages. ms., University of Texas at Austin.


Syntax-Semantics Interface in Psych-verb Constructions (양범선) 201

*Linguistics* 100:63-76.


1987c. The Unaccusative Hypothesis vs. Lexical Semantics: Syntactic vs. Semantic Approaches to Verb Classification. NELS 17:641-61.


1993e. The Interaction of Pragmatics and Syntax: A Case Study in Restrictions on Question Formation, Topicalization and Relativization. Paper for 'Descriptive and Theoretical Modes in the Alternative Linguistics', the Fifth Biennial Symposium of the Department of Linguistics and Semiotics at Rice University.

draft. Draft Chapters of Syntax Textbook. for LIN 434/535, SUNY at Buffalo.


The theory of Role and Reference Grammar (RRG) was introduced into American linguistic theory in the early 1980s, and many languages have been studied in this grammatical framework (Sama verbal semantics, Walton 1986; Tepehua verbal semantics, Watters 1986; Turkish clause linkage, Watters 1987, revised in Watters 1993: Head-marking languages, Van Valin 1987a; Georgian and Italian intransitivity, Van Valin 1987c, 1990a; Icelandic case marking and grammatical relations, Van Valin 1991b; Japanese te-construction and clause linkage, Hasegawa 1992, Ohori 1992; Hausa morphosyntax, Abdoulaye 1992; Korean morpho-syntax, B.S. Yang 1994; Korean pragmatic case, K.S. Park 1995, among others).

Since the early 1970's there has been growing interest in approaches in linguistics theory and analysis which attribute primary importance to the communicative functions of language (Van Valin 1991c:1). The interest has developed into two different theories: one takes a structuralist view and is represented by theories like GB (e.g. Chomsky 1975, 1980) that deny the relevance of communicative functions to the study of language. The other side takes an extreme functionalist view, represented by scholars like Hopper (1987), among others. This approach rejects any other notion of grammatical structure other than that of discourse (cf. Van Valin 1991c:1). RRG falls between these two extremes and therefore, could be labelled "structural-functional theory of grammar" (Van Valin 1993a) or "moderate functionalism" (Van Valin 1991c).

RRG (Van Valin 1993a:50) does not assume that grammatical relations are universal, in two senses: (i) it does not claim that all languages must have grammatical relations in addition to semantic roles; (ii) in those languages in which a non-semantic grammatical relations can be motivated, the syntactic function posited need not have the same properties in each language.

This idea was rejected by Chomskyan syntacticians when it was first proposed. However, Chomskyan grammarians adopt Fillmore's main idea in their theory of \( \theta \)-roles.

Van Valin (1993a:34) mentions the following languages that have investigated and followed these distinction: Lakhota, Tagalog, Sama (Philippines), Yatye (Kwa, Nigeria), Tepehua (Tootonacan, Mexico), Italian, Georgian, Icelandic, Mparntwe Arrernte, and Bribri (Chibchan, Costa Rica).

Van Valin (draft) formulates four classes of verb in terms of three features:
(±dynamic), (±telic) and (±causative) as in (i).

(i) Four Classes of Verbs in Terms of Features

<table>
<thead>
<tr>
<th></th>
<th>State</th>
<th>Achievement</th>
<th>Accomplishment</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>dynamic</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>telic</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>causative</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>-</td>
</tr>
</tbody>
</table>

With activity verbs, agency is indicated by an abstract operator DO only when it is a necessary part of the meaning of the verb, following Holisky (1987) in Van Valin (1993a) (cf. Van Valin 1993a: 37). Thus, activities are represented as (DO (x)) (predicate′ (x) or (x,y)) in Van Valin (1993a). In Van Valin (1993d), which is a revised version of Van Valin (1993a), the LS of activities is represented as (DO (x)) do′ (x, [predicate′ (x) or (x,y)]). In this representation, the DO can stand for [+Agentive] of activities and the do represents the activities.

If the discourse-pragmatics plays a role in the selection, it is a pragmatic pivot. If pragmatics play no role, it is a semantic pivot. The difference is described in terms [±pragmatic influence]. In the majority of languages, discourse pragmatics cannot play a role: [+pragmatic influence] is marked case, while [-pragmatic influence] is unmarked case. Thus, Van Valin (1993a:65) proposes the definition of two types of syntactic pivots as follows:

(i) a. Syntactic pivot [+pragmatic influence]: the selection of the argument to function as pivot of a transitive verb is not predictable from its semantic role and may be influenced by discourse-pragmatic considerations, in particular its topicality. Such a pivot will be called a PRAGMATIC PIVOT [PrP].

(i) b. Syntactic pivot [-pragmatic influence]: the selection of the argument to function as pivot of a transitive verb is predictable from its semantic role, which is determined by the lexical semantic properties of the verb. Such a pivot will be called a SEMANTIC PIVOT [SmP].


As I (B.S. Yang 1994) and K.S. Park (1995) mentioned (also cf. C. Youn 1989, O'Grady 1991, B.S. Yang 1991, among others), non-core arguments, so-called 'adverbial nominals' such as goal/destination, location, duration/frequency, or distance, can get either NOM or ACC. For example, the following double nominative constructions are the marked case that should be explained with the pragmatic case (PCM), not with the semantic case.

(i) a. oywukuin-tul-i seys-i hakkyoey o-ass-ta
   foreigner-PL-NOM three-PCM school-to come-PST-DEC
   "Three foreigners came to school." (C. Youn 1989:3)

b. TV-ka Zenith-ka thunthunha-ta
   -PCM -NOM strong-DEC
   "As for TV, Zenith is durable." (I.S. Yang 1972)

c. ku chayk-i twu pen-i ilk-hi-ess-ta
   the book-NOM two.times-PCM read-PAS-PST-DEC
   "The book was read twice." (Maling 1989)

d. Semywukongcang-i pwul-i na-ss-ta.
   textile.factory-PCM fire-NOM break.out-PST-DEC
   "Fire broke out in the textile factory." (C. Youn 1989)


For verbs that are marked for Undergoer, Van Valin (1993a:77) mentions two factors for the choice between marked and unmarked case: inherent lexical content such as (±animate); and information structure such as (±focal). The markedness of the NOM-NOM case marking pattern should be explained in terms of pragmatic notion (i.e. (±focal)) as B.S. Yang(1994) and K.S. Park (1995) propose.