

ARGUMENT STRUCTURE AND PSYCH-PREDICATES

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1.1. Decomposition and Aspect

Generative semantics (by G. Lakoff, J. McCawley, J. Ross et al) initiated causative analysis, by which we can analyze the word *cuk-i* in Korean (in (1a)) corresponding to 'kill' as follows (1b):

- (1) a. *x-ka y-rɪl cuk -i -os' -ta*
 Nom Acc die Caus Past Dec
 'x killed y.'
- b. *x-ka y-rɪl/ka sar-a -is'-ci ani ha-ke toe -ke ha-yos'ta*
 alive not become cause P Dec
 'x CAUSED y to BECOME NOT ALIVE.'

Here we can notice the alternation between Acc and Nom for the argument *y* in the decomposed structure (1b)¹. Generative semantics did not pay attention to the thematic role involved (though Fillmore's case grammar did): the Agentive Causer and the Causee (Agent and Theme). The Causee simply undergoes change of state as Theme. Because of decomposition, there occur embedded predications and the relation between causation and the Causee becomes loose and indirect. That is the case with the surface realization of a complex predicate causative *cuk-ke ha-* 'cause to die.'

We, therefore, argue that if the Causee is predicated downward, then the causation involved is viewed as loose as in a slow motion film and if it surfaces as the object of a transitive verb via lexicalization then the causation becomes tight. The lexicalization of such transitivity process is language-particular in the sense that the intransitive verb *cuk-* + the Causative morpheme *i-* makes the transparent transitive verb in Korean, whereas *NOT ALIVE* becomes 'dead' and *BECOME DEAD* is lexicalized as 'die' and *CAUSE to DIE* is lexicalized as the opaque transitive verb 'kill.' In Korean, an adjective corresponding to 'dead' is not available except in the prenominal past form of the intransitive verb. And the process seems to be also verb-particular. We believe that the same conceptual structure either undergoes lexicalization to form a transitive verb construction or surfaces as a complex predicate.

Therefore, in example (1b) the Acc marker for *y* in the decomposed structure is the result of transitivity in Korean. Observe further:

- (2) *x-ka y-rɪl cuk -ke ha -yos' -ta*
 Nom Acc die Comp cause Past Dec
 'x caused y to die.'

In a complex S like (2), the causation involved is rather loose and

indirect, but in Korean, transitivization occurs with such a Vi + -ke ha- 'cause to' construction. The causation reaches y and if we use the dative marker as in Japanese there seems to occur a slight sense of Goal with y, as we can see in an intransitive action verb like kot 'walk.' Observe:

- (3) x-ka y-rɪl (-ni in Japanese) kot -ke ha -yos' -ta
 Nom Acc Dat walk Comp cause Past Dec
 'x had y walk.'

Whether or not the underlying subject undergoes transitization here it retains the sense of agency. So the main clause subject is the primary Agent and the Acc NP the secondary Agent with volition.² However, we can have a morphological causative even with the same verb 'walk' as in koɭ-ɭi-, but then the agency of the object NP is ignored. The same thing happens in English. Look at:

- (4) Mommy walked the baby.

And you can walk a bike but you can't have it walk. The baby and the bike in this case are Themes.

In (2) above, y is a Theme any way ('die' is change of state), and still in certain languages like Japanese it is realized as Dative and in languages like Spanish if Theme is human/animate it is realized as Dative (e.g., ama a Juan; llamo a Juan). It seems that human beings are not easy to conceptualize as Theme initially, and they may be conceptualized as Goal first and naturally we witness an acquisition stage in which a Goal expression (-hanthe) appears in the object position of such verbs as 'hit' in Korean. In English, 'kiss' takes obj., but its corresponding verb (p'op'o-ha- or khisɬ-ha-) takes a Goal expression (or a commitative). A human being is not like a thing in controllability. In Korean, Dative with y in (3) is more tolerable than in (2); y in (3) is less subject to x's control. Likewise, the realization of Dative or Locative case is possible in different languages and/or different verbs before we get to transitivization. If y happens to take the Nom marker in (2), which is possible in Korean, the causation is directed to the event of y's dying as a whole and the sense of y's being affected becomes far more indirect as a consequence.

Let us consider a case in which a transitive verb is embedded in the causative construction. Observe (4).

- (5) a. x-ka y-eke aki -rɪl an -ki -os' -ta
 Nom Dat baby Acc embrace Caus Past Dec
 b. an -ke ha -os' -ta
 embrace Comp cause Past Dec
 c. y-rɪl aki-rɪl an -ki -os' -ta
 Acc Acc embrace Caus Past Dec

If the Causative morpheme -ki is used as in (5a), then y simply functions as a Goal with no sense of agency, and if the complex predicate construction is employed as in (5b), then y functions as a secondary Agent. This is a very regular phenomenon. (Even if the object of the Vt an-ki- in (5a) becomes a subject by -ci

passivization, *y-eke* still functions as Goal rather than as Agent.) Therefore, the Goal NP can be transitivized to create a ditransitive construction as done in the Dative verb construction, as can be seen in (5c). The newly accusativized element is sharply focused, even though the focused Acc is tougher to get when followed by another human Acc than when followed by an inanimate Acc (e.g., *Mary-ril pap-il mok-i-os'-ta* 'fed Mary a meal'). By this kind of marked transitivization the Goal NP gains the impression or effect of 'affected Theme.' Similarly, a non-human Goal or Source is transitivized in (6).

- (6) a. John-in hakkyo -e / -ril ka -as' -ta
 Top school Goal Acc go Past Dec
 'John went to the school.'
 b. John-in hakkyo -eso / -ril t'wicho-na-o-as' -ta
 Top school Source Acc run out of Past Dec
 'John hurriedly came out of the school.'

With the oblique case markers, the movements involved are viewed locally, whereas the transitivized versions are viewed globally under complete control and therefore are aspectually complete. So, the expression *taehak-il na-o-as'-ta* 'came out of college,' with the Acc marker, comes to have the extended meaning of 'graduated from college,' whereas the same expression with the Source marker fails to.

Some language-particular nature of transitivization can be observed in the well-known verbs such as 'load' and 'clear.' Observe:

- (7) a. John loaded hay onto the truck.
 b. John loaded the truck with hay.
 (8) a. John-in truck-e capcho-ril sil -os' -ta
 Top Loc hay Acc load Past Dec
 'John loaded hay to the truck.'
 b.*John-in capcho-ro truck -il sil -os' -ta
 Top with Acc load Past Dec
 'John loaded the truck with hay.' (Intended)
 c. John-in capcho-ro truck-il chae-wu -os' -ta
 Top hay with Acc load Past Dec
 'John filled the truck with hay.'
 d. John-in truck-e chapcho-ril chae-wu -os' -ta
 Top Loc hay Acc fill Past Dec
 'John filled hay to the truck.' (Intended)

In the case of the verb 'load,' the completed STATE with regard to the truck in (7b) is caused via the local movement expressed by (7a) by means of the transitivization (it can be Thematization) of the original Goal. But transitivization of the corresponding verb in Korean is blocked as shown in (8b). (The topicalization of the Locative NP without the Loc marker is allowed, with *capcho* 'hay' as the Acc-marked Theme.) The verb corresponding to 'load' in Korean cannot express the Agent's full control of the 'truck.' Instead, a state-changing verb *chae-wu* ('full'+Caus) 'fill' can be used as in (8c). Thus, (7b) and (8c) can be modified by the

expression 'in an hour' because the verbs function as achievement verbs due to aspectual completion or delimitation of state change rather than as activity verbs. (8d) is natural in Korean, whereas its literal counterpart in English is impossible, demonstrating the language-specificity of transitivization (or Thematization). However, (8d) does not necessarily imply that the truck is full as a consequence, whereas (8c) does; because of the Locative expression in (8d), the truck is not in full control. In other words, Agent's full control of Theme as regards Theme makes the implication possible that Theme 'the truck' is full. By causative decomposition, we can be sure that (7a) entails only that 'hay is in the truck' due to change of location. In Korean, Japanese and many other languages, the verb corresponding to 'load' functions only as an activity verb with regard to Goal, aspectually being incomplete. Goal cannot be Thematized as an object of the Agent's control.

As for the verb *chil-ha-* 'spray, paint, color,' Goal (Loc) can become obj. with an Instrumental NP or another obj. NP of paint, etc. in Korean. Observe the following.

- (9) a. John -i pyok -e pheint-r+i chil-ha -yos' -ta
 Nom wall Loc paint Acc paint Past Dec
 'John sprayed paint on the wall.'
- b. John -i pyok -+i pheint-ro chil-ha -yos' -ta
 Acc Instr
 'John sprayed the wall with paint.'
- c. John -i pyok -+i pheint-r+i chil-ha -yos' -ta
 Acc Acc
 'John sprayed paint on the wall.'
- d. pyok -e/pyok -i pheint -ka chil-ha -yo-ci-os'-ta
 wall Loc Nom Nom spray get Past Dec
 'Paint got sprayed on the wall.'
- e. pyok-i pheint -ro/*-r+i chil-ha -yo-ci -os'-ta
 Nom Inst Acc spray get Past Dec
 'The wall got sprayed with paint.'

As evidenced in (9d,e), the original Theme takes Nom in the passive S and in that case the original Goal NP can also take Nom, forming a double Nom construction. If Goal becomes the subj., the passive S can take an Instrumental-marked NP but not an Acc-marked Theme. So the source of (e) is (b) but not (c). The Instrumental case remains licensed by the active verb and the Passive-creating *-ci* licenses Nom in subj. The 'wall' in (b) but not in (c) may be Theme. Alternatively, we may view 'paint' as Instrument from the beginning to the end and similarly 'wall' as Goal/Locative consistently, adopting grammatical Subjectivalization or Objectivalization as needed.

Adverbials of duration, distance or frequency can take Acc if there is an Agent implicit or explicit in control of that aspect of the event described by the predicate concerned³. For the same verb, there can be an Agent or non-Agent subj. as in (10) and (11), respectively, and the event described by (11) is not a state but a process. So the ultimate criterion to determine the Acc vs. Nom marking is not stativity. There are also 'passive verbs' as in

(12). Consider:

- (10) Younghi-nin nun -ɨl se pon -ɨl /o -pun -tongan -ɨl
 Top eye Acc 3 time Acc 5 minute for Acc
 k'ampak'ori -os' -ta
 blink Past Dec
 'Younghee blinked her eyes three times/ for five minutes.'
- (11) Younghi(-nin) nun -i se pon (-i)/*se pon -ɨl/o -pun -tongan
 Nom Nom Acc 5 minute for
 k'ampak'ori -os' -ta
 'As for Younghee, her eyes blinked 3 times/ for 5 minutes.'
- (12) Younghi-nin chinku-eke se pon -ɨl sok -as' -ta
 Top friend by 3 time Acc cheated Past Dec
 'Younghee was cheated three times by friends.'

We may need to posit some abstract active verb for such a lexical passive verb as *sok-* in (12) or *mac-* 'be beaten' to have Decomposition and generalizations. Any way, (12) has an Agent (explicit here) to make Acc possible. When an inalienable possession/part-whole NP as obj.-Theme becomes the subj. of a passive S, if it is animate (thus sentient), then the passive sentence can have the part/possessed noun Acc-marked, but if the subj. is inanimate, then the passive S cannot have the part noun Acc-marked as indicated earlier (see Lee 1973: 150). I assigned a [+responsibility] feature to an animate subj. to make Acc-marking possible. An inanimate subj. cannot make its part subject to undergoing a(n adversary) passive act on its own. If a plant happens to be the subj., acceptability might be slightly better but most Koreans would not accept it except in the case of personification. Only Nom-marking is perfect. Similarly, such an Acc-marked lexical passive predicate as *pi-ril mac-* 'be caught in the rain' does not normally apply to an inanimate subj. (again except in personification).

Interestingly, on the other hand, the verb 'clear' in English can have both the Thematized Source and the original Theme as an oblique NP as follows:

- (13) Mary cleared the table of dishes. [Source Thematized]

But in Korean, that is impossible; if the Thematized Source appears, then the original Theme cannot occur. Observe:

- (14) a. Mary-nin table-ɨl chiwu -os' -ta
 Top Acc clear Past Dec
 'Mary cleared the table.'
- b.*Mary-nin table-ɨl kiris -ɨl chiwu -os' -ta
 Top Acc dishes Acc clear Past Dec
 'Mary cleared the table of dishes.' (Intended)
- c. Mary-nin (table-eso) kiris -ɨl chiwu -os' -ta
 Top from dishes Acc clear Past Dec
 'Mary cleared dishes (from the table).'

Thus, different languages show different subcategorization possibilities. In English, the verb 'eat' subcategorizes for obj.

NP optionally (with an incorporated object NP), but in Korean, the obj. NP is obligatory for the corresponding verb. Similarly, in English, the verb 'kick' can have a null obj. syntactically as in (15) but it is impossible in Korean.

(15) The mule kicked.

(16) a. nosae-ka hokong -i cha as' -ta
 mule Nom empty air Acc kick Past Dec
 'The mule kicked.'

b. nosae-ka pal-kil-cil -i ha -yos' -ta
 mule Nom kicking Acc do Past Dec
 'The mule did the act of kicking.'

In Korean, if the obj. is missing, it is an obj. understood from discourse. Otherwise, it is either an idiomatic use or a case of an oblique (e.g., Goal) NP before transitivization in general as already explicated above.

At the same time, different languages show different selection restrictions. For example, we can see the following in English:

(17) J. F. Kennedy flew to New York.

But in Korean, only 'flying objects and animals' can fly, normally. Even in English, J. F. Kennedy is not a flying person but a person going by a flying object, which is an instrument.

1.2. Argument Structure and Theta-Role Types

For the correct representation of underlying conceptual structures associated with event structures on one hand and with other linguistic structures on the other, and for significant grammatical generalizations, we claim that decomposition and thematic role type analysis are necessary. Although we may need individual thematic roles such as 'walker' and 'bildee' for such verbs as 'walk' and 'build' as well as lexical entailments (and presuppositions) of verbs at some level of description, we maintain that thematic role types such as Agent and Theme are necessary (cf. Dowty 1989b).

Then, when do we have a Theme and an aspectually delimited event? Let us consider the following examples.

- (18) a. John pushed the cart.
 b. John pushed the cart to the store.
 c. Don't push, there is enough room for everyone.

In (18a), John uses pressure in order to move the cart forward. So the cart gets pressure (and probably it moves). Then, John is Agent and the cart is Theme in a sense, when it gets saliency; it gets pressure or is affected. Naturally the Theme can become the subject of a passive sentence corresponding to (18a). But the movement of the cart by inertia at this stage has no aspectual delimitation with respect to distance and constitutes an activity (a test: 'John was pushing the cart' entails (18a), or it may be modified by 'for (an hour)'). However, the cart is a vehicle and the purpose of pushing a cart is normally causing it to get to a

destination. Therefore, the endpoint of the event described by the verb in (18b) is the point at which the cart reaches the terminal position, i.e., the store, and the event in this case is aspectually delimited (and the predicate can be modified by 'in an hour'). An easily understood, non-salient Theme can easily be incorporated (into the verb), forming an intransitive verb as in (18c). In this case, the only salient argument should be Agent and even that does not appear because it is the subject of an imperative sentence. (18a) can have a delimited reading only if it has a specific terminal destination of the cart understood⁴.

Definiteness plays an important role for forming a delimited event. For instance, in (9b) far above, when the Thematized Goal 'wall' is understood as commonly done to be definite or explicitly takes a Definite determiner *kɨ* 'the, that' before it, the resulting event is delimited (and thus can take a time adverbial ---*tongan-e* 'in---'). This is also the case with accomplishment VPs such as *kirim* 'picture, drawing' -ɨl(Acc) *kiri-* 'draw'. If the obj. takes Numeral (+Classifier), then the event again gets delimited (Lee 1989). This generalization applies to VPs such as *sakwa* 'apple' -rɨl(Acc) *mok-* 'eat'. If 'apple' takes a Definite determiner or a Numeral, then the event becomes delimited. If the obj. noun does not take any of these two and is Indefinite, then the event does not become delimited and becomes repeated acts or sometimes some unfinished (partitive) act. The same generalization normally applies to cognate obj. VPs such as *chum* 'dance' -ɨl(Acc) *chu-* 'dance' and *k'um* 'dream' -ɨl(Acc) *k'u-* 'dream'. They typically describe activities, with their Indefinite cognate objects, although they can denote delimited events, with Definite or Numeral-marked cognate objects. Then, activity-forming Indefinite objects can hardly be proto-typical Themes, even when they constitute Themes.

Grammatically, Agent may be an external argument, but event-wise, it cannot be outside of a relevant event (in a broad sense); with activity, Agent is a (volitional) causer of the event in question and, with delimited events, it has a close relation with Theme or endpoint Goal/state. As regards (14b), if John has no control of the whole event (if John puts sudden pressure on the cart but does not direct it to the store, for instance, and the cart rolls down to the store accidentally, anyway), then the sentence may not be appropriately used to describe the situation. The Korean counterpart 'Goal NP -*k'aci* (up to) Theme NP-Acc *mil-* (push)' has the same constraint.

In Korean, verbs such as *tochak-ha-* 'arrive,' *tal-ha-* 'reach,' *tah-* 'touch' require the Loc-marked Goal NP. They cannot be used as transitive verbs. The Goals are not conceptualized as affected and the events not as controlled by any Agents. They constitute unaccusatives. But in English, 'reach' is a transitive verb and when it has the meaning of 'arrive at' both the subject and object NP's must be internal arguments. A similar case might be the Vt 'equal' or the Vt 'resemble,' which even blocks passivization due to the lack of affectedness. These might be said to undergo transitivization but not quite Thematization from some oblique arguments (their counterparts in Korean often take the commitative marker). However, the Vt 'cross' and its equivalent in Korean

konno- have a Theme and aspectual delimitation or culmination.

2.1. Argument Structure and Psych-Predicates

Such a verb as *tah-* 'touch,' 'reach' is ambiguous between its psych-predicate and non-psych-predicate meanings, which can be illustrated as follows:

- (19) a. *namu kaci -ka cipung -e tah -as' -ta*
tree branch Nom roof Loc touch Past Dec
'Branches touched the roof.'
- b. *?cipung -i namu kaci -e tah -as' -ta*
roof Nom tree branch Loc touch Past Dec
'The roof touched tree branches.'
- c. *i cha -wa co cha -ka soro tah -as' -ta*
this car and that car Nom each touch Past Dec
'This car and that car are touching/touched each other.'
- (20) *no (pal -e) t'ang -i tah -ni? [Psych-predicate]*
you foot Loc land Nom touch Q (in swimming)
'Do you feel the touch of the land (on your foot/feet)?'

In (19a), branches are things that move (and hang down), whereas the roof is not. Something that can move as opposed to an unmovable thing is typically selected as subj., when sensation is not involved. Therefore, (19b) is slightly unhappy but logically 'touching' may be like a symmetric relation in a sense (in resultative state) as evidenced in (19c), where both cars may be viewed as moving objects in a different sense, and even (19b) should be all right in a special context where the roof becomes salient. Both arguments appear to be underlyingly (Dative-like) Locatives (or Goals). But it is against distinctness of thematic roles. So we can posit Theme as subj. and Goal in Korean (then the conjoined subj.s in (19c) take cross-roles), but in English, 'touch' is a Vt and if there is no Agent as subj. who uses pressure the obj. should be a transitivized ideational Goal (cf. 'touch on the issue' for an abstract verb). So, in the following sentence the progressive form 'touching' is not so active as to make its obj. passivized into a subj. Observe:

- (21) a. Your hair is touching his skin.
b. ??His skin is being touched by your hair.

Of course, most Goal obj.s such as the obj. of 'enter' or 'reach' cannot be passivized in English because they fail to be perceived as controlled (or affected) Themes (when perceived so, they can be passivized, in the sense of 'invade,' for instance). However, for such verbs as 'butter,' 'paint' and 'spray,' passive is possible because the Thematized Goal is regarded as controlled or affected by Agent (the material applied being regarded as Instrument).

On the other hand, when sensation is involved, the Experiencer becomes passive and the Theme NP takes Nom in Korean, even though the Experiencer may be moving and try to reach the land before touching really occurs. A touching sensation as well as all other feelings and sensations can be felt by the Experiencer involved alone, and the Experiencer NP typically functions as

'To Grandmother Inho was loathsome.'

Even in (24c), the Dative marker has the meaning of 'to' or 'for' and because of the oblique (?) case marker the Topic marker after it tends to show some contrastive meaning, so the meaning would be 'To that woman (in contrast with to other women/people).' (24b) is slightly better than (24a) because the Dat-marked NP is in the Topic/subj. position in (24b). If this Dat- and Top-marked NP is positioned after the Nom-marked Theme NP, the contrastive meaning gets stronger because of its S middle position. Example (25) evidently shows that the so-called Dative subj. thesis in Korean is not correct; the Honorific marker after the predicate stem is not in agreement triggered by any Dative NP (also see Lee 1990). If (24d) is embedded in a complement S, the Topic is suppressed to become an embedded Nom-marked subj., not to become a Dat-marked NP. When an Experiencer has some feeling about 'Stimulus' (as in Fillmore), the Stimulus may radiate some energy and the Experiencer perceives it passively as in a passive S, so Experiencer is like Dative in meaning, and that is why we cannot have a passive S for a psych-predicate. Thus, we find many languages such as Malayalam, Hindi-Urdu, Sinhala, Kalasha and Sanskrit as well as OE in which the so-called 'Dative subject' phenomenon is witnessed, and the so-called Dative inversion is proposed for some European languages⁶ (cf. (24c), with Dat + Top above, though in different meaning).

Now, consider the following examples. Theme and Experiencer are two different role types and they cannot be conjoined for one and the same predicate.

- (25) a. na-nin k̄i yongwha-ka s̄ilph̄i -os' -ta
 I Top the movie Nom sad Past Dec
 'To me, that movie was sad.'
 b. k̄i yongwha-nin s̄ilph̄i -os' -ta
 'That movie was sad.'
 c. *na -wa k̄i yonghwa -nin s̄ilph̄i -os' -ta
 I and the movie Top sad Past Dec
 'I and the movie were sad.'
- (26) a. na-nin (k̄i il -i) s̄ilph̄i-o hae -s' -ta
 I Top the matter Acc sad do Past Dec
 'I felt sad (over that matter).'
- b. na -nin k̄i il -i s̄ilph̄i -os' -ta
 Nom
 'I was sad about the matter.'

I would say that Experiencer is missing from (25b). It could be the speaker, a particular person or general people depending on the contexts.

Most Psych-Adj.s can form the Psych-Adj + -o ha- 'do, feel' construction that takes an Acc Theme regularly as in (26a) above. The construction can take Imperative or sometimes Progressive (progressive of state, mainly) in Korean like ordinary agentive verbs, having a cognitive Agent as its subj.(Nom-taking) and a Theme as its obj.(Acc-taking). Underlyingly, such a cognitive Agent must be like Experiencer because of the Adj. morpheme in the construction and there is no simple passive counterpart for the

construction. However, the construction behaves as a regular transitive verb because of the verb 'ha-' added to the Adj. Therefore, the argument structure [Experiencer Theme] associated with the Adj., responsible for the double Nom construction, changes to the argument structure [CogAgt Theme], responsible for the [Nom Acc] transitive construction, because of the verb. Cognitive verbs like a7- 'know' have a similar status. English Psych-verbs have an analogous status, but they can have passive and no progressive. If the Psych-construction happens to lack a Theme like *na-nin chup-ta* 'I am cold,' then the *ha-* construction creates an intransitive construction like *na-nin chuw-o ha-n-ta* 'I feel cold' (even in the fall, for instance). However, if the construction is [Experiencer Body-Part Sensation-Adj.], the Nom-taking Body-Part, which should be underlyingly Loc, can hardly be accusativized with the *ha-* construction.

On the other hand, Experiencer must be at least [+Specific], in case it is not [+Definite], as we can see below:

- (27) a. ?*haksaeng-i han myong kae -ka musow -os' -ta
 student Nom one Cl dog Nom afraid of Past Dec
 'A student[-Specific] was afraid of dogs.'
- b. ?*haksaeng-i han myong koerow -os' -ta
 pained
 'A student[-Specific] was pained.'
- c. haksæng han myong-i koerow -os' -ta
 'A student[+Specific] was pained.'
- c. haksæng-i han myong nomo-ci -os' -ta [Unaccusative, non-Psych]
 fall
 'A student[-Specific] fell.'

2.3. Psych-Predicate and Reflexive

Let us now turn to the problem of the remarkable behavior of the reflexive anaphor in Psych-construction in Korean (and mostly in Japanese as well as in many Indo-European languages including English as evidenced in A. Giorgi (1984), E. Keenan (1988), J. Grimshaw (1990)). Observe the following.

- (28) a. John_i(-eke)-nin caki(-casin)_i-ka wonmangsirow -os' -ta
 Dat Top self Nom deplorable Past Dec
 'As for John, self was deplorable to him.'
- b. caki(-casin)_i-ka John_i(-eke)-nin wonmangsirow -os' -ta
 'Self was deplorable to John.'
- c. *caki(-casin)_i-ka John_i-i wonmangsirow -os' -ta
 Nom Nom deplorable Past Dec
 'Self_i was deplorable to John_i.'
- d. *caki(-casin)_i(-eke)-nin John_i-i wonmangsirow -os' -ta
 'To self, John was deplorable.'
- e. ?*John_i-i caki(-casin)_i-eke-nin wonmangsirow -os' -ta
 'John was deplorable to self.'
- f. John_i-i caki(-casin)_i-nin wonmangsirow -os' -ta
 Nom Contrast
 'John deplored self, not others.'

The Experiencer 'John' binds the reflexive in (28a). If Dat appears,

-nɪn must be attached to it in the Experiencer NP. The Nom-marked reflexive is Theme. The Experiencer NP can take Nom instead of Top, but then it gets Focus and exclusive reading. If the reflexive Theme is scrambled to the front, still the same binding relation holds as in (28b), though slightly harder than (28a) because of the linear order. In Korean (differently from Japanese), the double Nom-marked Experiencer and Theme NPs are rigidly ordered in that order, hence the ungrammaticality of (28c); the reflexive is in the Experiencer position and the following Theme NP cannot bind it. The Top-marked reflexive in the Topic position cannot be bound by the following NP either as in (28d). If 'John' as Theme is fronted as in (28e), anomaly occurs. The subj. of a passive cannot bind the following Dat-marked Agent either. A Nom-marked Theme NP cannot bind the following Experiencer or Agent NP. Agent or Experiencer can function as the binder of a reflexive anaphor. In (28f), 'John' is Experiencer and the reflexive is Theme.

A similar phenomenon occurs in raising and transitive Psych-verb constructions as follows:

- (29) a. *caki_i olkul -i John_i -ɪn po -ko siph -os' -ta*
 face Nom Top see Comp want Past Dec
 'John wanted to see his own face.'
 b. *John_i -ɪn caki_i olkul -ɪl/-i po -ko siph -os' -ta*
 Top Acc Nom
 Same as (a).
- (30) a.(?)*caki-casin_i-i Mary_i -rɪl kamtong-sikhi -os' -ta*
 Nom Acc move Past Dec
 'Self moved Mary.'
 b. *Insu_i-ka caki_{i,j}-rɪl sarangha-n-ta-nɪn sasil-i*
 Nom Acc love Dec fact Nom
 Mihi_j-rɪl koerop{-ke ha/ -hi} -os' -ta
 Acc pain do Caus Past Dec
 'The fact that Insoo_i loves self_{i,j} pained Mihi_j.'

The D-structure position of Experiencer for (29a) cannot be after the initial Theme NP; the Theme is an internal argument of the embedded verb 'see' and the Experiencer is needed by the matrix Adj. 'want,' not being able to be inserted between the two predicates. Therefore, it must be before the embedded complement clause initially and bind the reflexive, no matter whether it is raised or not (see (29b)), and then scrambling can occur. However, raising is possible with the Psych-adjectival form but not with its Psych-verbal form *siph-o ha*, having *-o ha-* 'do, feel' attached, which needs a Psych-Agent. A Psych-Agent is selected by a Psych-verb. So the Acc marker for the embedded Theme is retained if the matrix predicate is in the Psych-verb form. Therefore, even when we adopt the VP-internal treatment of Experiencer as suggested by Belletti and Rizzi (1986) and Stowell (1986) (a modification of Postal (1969)), we have to posit Experiencer before (and above) Theme in Korean, not after it. Then, analogously we can have [Experiencer, S-bar (Theme?)] for the above Psych-Adj. In (30b), the reflexive in the sentential subj. can be bound by the following Acc-marked Experiencer NP in the predicate part, no matter whether it is a complex causative predicate or a morphological causative

predicate.

In (30a), the Vt *kamtong-sikhi-* 'move' morphologically comes from Vi *kamtong-ha-* 'be moved' plus CAUSE, necessitating causative decomposition (*kamtong-ha-ke HA-* 'CAUSE to be moved') and cannot normally take Agent but only Theme as subj., so the reflexive is simply a Theme, meaning 'self's performance of some sort.' Our mind does not move by physical force. Then, there occurs naturally a distinction between Theme-CAUSE (psychological) and Agent-CAUSE (physical). There could be Instrument-CAUSE also, but Instrument hardly functions as subj. in Korean. The Vi Psych-construction takes the form of 'Mary [Experiencer] -ka [[Theme] for CAUSE]-e(ke) *kamtong-ha-yos'-ta* 'Mary was moved by/at [[Theme] for CAUSE].' This underlying Theme takes the subj. position and the underlying Experiencer the obj. position in the Psych-causative construction. Another such Vi is *nola-* 'be surprised,' and its causative Vt *nolae(khi)-* is agentive, even though its complex causative predicate construction is ambiguous between agentive and non-agentive. Consider:

- (31) a. *Insu-ka caki tongsaeng-ɨl nolae-khi -os' -ta*
Nom self brother Acc scare Caus Past Dec
'Insoo scared his own brother (by some action).'
- b. *Insu-ka na-rɨl nola -ke ha -yos' -ta*
Nom Acc scared Comp cause Past Dec
'Insoo caused me to be scared.'

In the case of the Vt *kamtong-sikhi-* 'move' in (30), physical Agent is not involved because some content, but not any direct action, causes change in psychological state. In the case of (31a), however, direct physical action is involved in causing sudden fear, particularly with the morphological causative (the underlying thematic Experiencer functioning as obj., being bound by the subj. on surface); aspectually, direct sudden causation is related to morphological causative and indirect causation to syntactic complex causative, reflecting iconicity, as we have seen from the outset. In the case of agentive Psych-causative, in (31a), where Agent is involved, an instrumental action expression underlyingly desirable, is unexpressed. In (31b), the subj. can be either Agent or Theme. Even if it is Agent, the action cannot be as direct and sudden as in (31a), and if it is Theme, then the person's appearance or feature causes change in the Experiencer's psychological state.

From our analysis above, it is clear that Experiencer is more prominent than Theme and must be the antecedent of a reflexive Theme in Psych-Adj. construction and in Psych-causative construction, and of a reflexive in the Theme subj. NP in Psych-causative construction. In (30a), for instance, if 'Mary' takes the subj. position and the reflexive the obj. position, the S will get a ?* or ??? in grammaticality. In (31a), if the subj. is the reflexive and the obj. NP, e.g., 'John-*il*' is intended to be its antecedent, the S will get a *. Then, we can either apply Grimshaw's a-command directly or maintain c-command by having decomposition and a VP-internal Experiencer NP in D-structure. If we need an abstract complex causative predicate construction at some level of linguistic description any way, then we may have to

think about the latter possibility more seriously. For instance, a-command cannot explain the following data in Korean:

(32) $Insu_i-n\dot{n}$ $caki_i-ka$ $mangchi$ $-os'$ $-ta$
 Top Nom ruin Past Dec

'As for Insoo, he himself ruined.'

(33) $Insu_i-n\dot{n}$ $caki_i-ka$ $miw-o$ ha $-yos'$ $-ta$
 Top Nom hate do Past Dec

'As for Insoo, he himself hated.'

(34)?* $Insu_i$ [Theme]- $n\dot{n}$ $caki_i$ [Exp]- ka miw $-os'$ $-ta$
 Top Nom hatable P Dec

'Insoo was hatable to himself.'

The obj. Theme has been topicalized in (32) or (33) (also, the obj. Experiencer in *Insu-n \dot{n} caki-ka nolae-khi-os'-ta* 'As for Insoo, he himself scared'), and it becomes the antecedent of the reflexive Agent or Psych-Agent in subj. position, whereas a Topicalized Theme cannot be the antecedent of the reflexive Experiencer NP in a Psych-Adj. construction as in (34) (a Topicalized Theme NP can also be the antecedent of the following reciprocal subj. NP). Topicalization itself of a Theme NP can be said to be prohibited in Psych-Adj. construction. Likewise, a Topicalized NP or a noun in a Topic NP can be the antecedent of the following thematically more prominent Agent subj. NP in Korean. Except for Topicalization, Agent and Experiencer, which are cognizers, are more prominent than any other (non-cognizer) role types.

As discussed so far, argument structure and Psych-predicates can better be understood by having lexical decomposition and aspectual analysis, together with definiteness and cognitiveness. At the same time, we need further research on event structure for the thorough understanding of the topic under discussion.

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ENDNOTES

1. I would like to express my gratitude to Prof Akira Ikeya and other members of the Logico-Linguistic Society of Japan for providing for us the valuable opportunity of presenting papers at Sophia U in December 1989 and for the patience he has shown editing the proceedings.

2. A human is not something easy to control and, underlyingly, a human object, even when affected, must be Goal. That is why children acquiring Korean have the stage of using the Dative marker *-hanthe* instead of Acc for the object of such transitive verbs as *t'aeri-* 'hit,' when they already acquired Acc. Also, in some languages such as Spanish, a human or animate object necessarily shows an oblique case marker *a* before it, as in *El ama a Juan* 'He loves Juan.' Likewise, in a causative construction *a* appears as in *Juan hace salir a Pedro* 'Juan makes Pedro leave' (Chomsky 1988). A similar thing may happen in the case of Japanese dative instead of Acc in (3).

3. See Maling (1989) for a nice observation and discussion of Acc/Nom-marked adverbials in Korean, though she is more syntactically-oriented.

4. Ramchand (1989), who follows Tenny (1987), does not distinguish between this kind of Theme and the delimitation created by the Goal endpoint.

5. In a sentence like *chinku-iy kothong-i kasim-e o-a tah-nin-ta* 'My friend's pain comes and touches my heart,' there is an implicit Experiencer Topic that has not been realized.

6. Earlier versions of the present paper were presented at the SNU Language Research Institute conferences in '88 and '89, and at the Korean Society of Cognitive Science conference in '89.