

Psychological Predicates and the Point-of-View Hyperprojection

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Abstract: This paper proposes a hyperprojection analysis for experiencer-object psych verbs in English. Specifically, we argue that a surface experiencer undergoes LF movement into the specifier of the functional projection, called “Point-of-View”, that occurs above Tense Phrase. The present analysis provides a unified explanation for a wide range of otherwise mysterious configurational properties of this verb class, such as backward binding, crossover cancellation, anti-local binding, and scope ambiguity. To the extent that the proposed analysis is tenable, two important consequences follow. First, our analysis indicates that the purely syntactic analyses of experiencer-object psych verbs based solely on their θ -theoretic properties, which have been dominant in the generative literature, is untenable. Second, apparently peculiar properties of the verbs in this class like those noted above can be derived as a natural consequence of their often-neglected cognitive-semantic characteristic as subjective predicates (Brekke 1976) and its structural repercussion in the form of hyperprojection.*

Keywords: psychological predicate, backward binding, pivot, point of view projection

1. Introduction

This paper proposes a hyperprojection analysis for the experiencer-object psych verbs (EOPVs) in English such as *amuse*, *frighten* and *please*. We claim that the syntactic derivation of examples with an experiencer argument involves an invisible hyperprojection, called “Point-of-View Phrase” (POVP), that occurs above Tense Phrase (TP). According to this analysis, a Pivot, which represents the point of view from which the report is made (cf. Sells 1987: 455), undergoes covert phrasal movement into [Spec, POVP] at LF. We demonstrate that a set of problematic syntactic properties uniquely associated with EOPVs, such as backward binding, crossover cancellation, anti-local binding, and scope ambiguity, receive a unified explanation under the proposed analysis.

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To the extent that the proposed analysis is tenable, it allows us to draw two implications. First, our analysis indicates that the purely structural analyses of EOPVs solely based on their θ -theoretic properties, which have been dominant in the generative literature, are untenable. Second, the otherwise peculiar syntactic properties of EOPVs like those noted above can be derived as a natural consequence of their unique cognitive-semantic status as subjective predicates and its syntactic manifestation in the form of covert phrasal movement of a Pivot into [Spec, POVP].

The present paper is organized as follows. In section 2, we outline our hyperprojection analysis for EOPVs. In sections 3 and 4, we show that the proposed analysis provides a unified explanation of several otherwise mysterious syntactic properties associated with EOPVs. In so doing, we compare the proposed analysis with previous structural accounts based solely on θ -theoretic considerations of this verb class, as in Belletti and Rizzi (1988), Fujita (1993, 1996), and Pesetsky (1990, 1995). We show that those analyses have several empirical drawbacks that are successfully overcome by the present analysis. Section 5 is the conclusion.

2. Psychological Predicates, Subjectivity, and Pivot: A Hyperprojection Analysis

One lexical semantic characteristic that distinguishes psychological predicates such as *fear*, *amuse* and *happy* from non-psychological predicates is that the former constitute subjective predicates: they denote a subjective mental (change of) state on the part of a sentient human being capable of undergoing his/her internal experience that is beyond the reach of objective observation. This characteristic of psychological predicates is articulated in Brekke (1976: 114, 115) as follows:

What happens or exists in the mind of a particular person is private, 'privileged-access' information, the exclusive possession of that person alone. When someone describes his own emotional experience or state by using terms like *disgusted*, *irritated*, *sad* or *angry*, we have to take his word for it—we cannot argue with him, deny the truth of or positively falsify his predication. This is what I mean when I refer to the psych-verbs as being subjective, in contradistinction to objective predicates referring to events or states of affairs of the external world, observable and verifiable by any appropriate sentient being.

In other words, a psychological predicate includes a statement of a private, mental event/state perceived by a sentient human being capable of subjective evaluation and emotional experience whose exact nature goes beyond objective observation. In this sense, psychological predicates constitute a unique class of subjective predicates. This observation, in turn, suggests that a surface experiencer argument in any psychological predicate construction serves the role of Pivot in the sense of Sells (1987) (see also Zribi-Hertz 1989), namely a person from whose viewpoint a certain internal (change of) state is reported.

Two remarks are in order. First, we maintain that the characterization of psychological predicates as subjective predicates along the lines of Brekke (1976) is due to their cognitive property that is idiosyncratically projected from the inherent

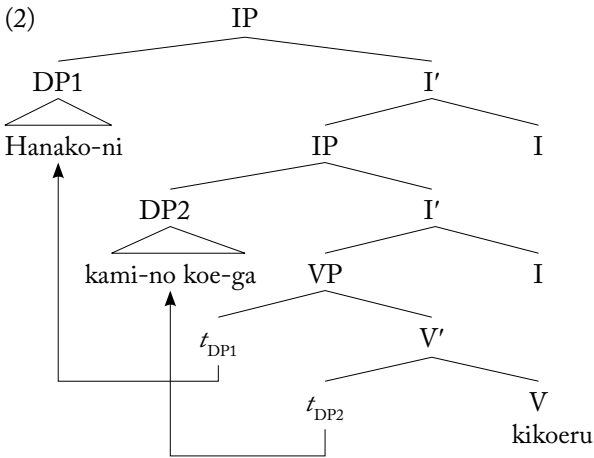
semantics of this class of predicate. This property is qualitatively different from the lexical-semantic property of psychological predicates that determines the syntax-argument structure mapping. Recent work in the lexical semantics-syntax interface has shown that the alignment of arguments in EOPVs in the syntax can be predicted solely by a certain arrangement of semantic primitive predicates (Levin and Rappaport Hovav 1995) or morphosyntactic heads (Hale and Keyser 2002). Indeed, the above-mentioned cognitive-semantic property does not affect the transitive argument structure of the verbs and its syntactic manifestation. This does not mean, however, that the presence or absence of Pivot also has no bearing on the syntactic derivation that does not relate to argument structure. Rather, this cognitive property plays a crucial role in elucidating the nature of peculiar syntactic characteristics of EOPVs. Second, we contend that Brekke's characterization of psychological predicates applies not only to this narrow range of predicates but also to a great variety of constructions including non-psychological predicates when certain cognitive-semantic conditions related to subjectivity and topicality are met. Under this conception, EOPVs are but one archetypical case that facilitates subjective interpretation of an experiencer as Pivot.

The next question, then, is how we can express the cognitive-semantic property of psychological predicates in configurational terms. Campbell and Martin's (1989) analysis of psychological predicates is suggestive in this regard. To account for the well-known phenomenon of backward binding observed in EOPVs, as illustrated by the contrast between *Pictures of himself pleased Michael* and **Pictures of himself hit Michael* (see section 3 for extensive discussion on and analyses of this property), Campbell and Martin hypothesize that a DP receiving the experiencer θ -role optionally raises at LF to a second subject position in the higher specifier of IP in the double-decked IP structure. Evidence for this hypothesis comes from dative subject constructions in Japanese. As first discussed by Kuno (1973), there are certain semantically definable classes of predicate in this language, including verbs of competence (e.g., *wakaru* 'understand', *V-dekiru* 'can V') and verbs of non-intentional perception (e.g., *kikoeru* 'hear', *mieru* 'see'). These verb classes allow a dative experiencer argument and a nominative theme argument that follows it. Some examples of this construction are given in (1a, b).

- (1) a. Hanako-**ni** kami-no koe-**ga** kikoeru (wake)
 Hanako-Dat God-Gen voice-Nom hear (reason)
 '(the reason) Hanako can hear God's voice'
- b. Taroo-**ni** eigo-**ga** wakaru (wake)
 Taro-Dat English-Nom understand (reason)
 '(the reason) Taro understands English'

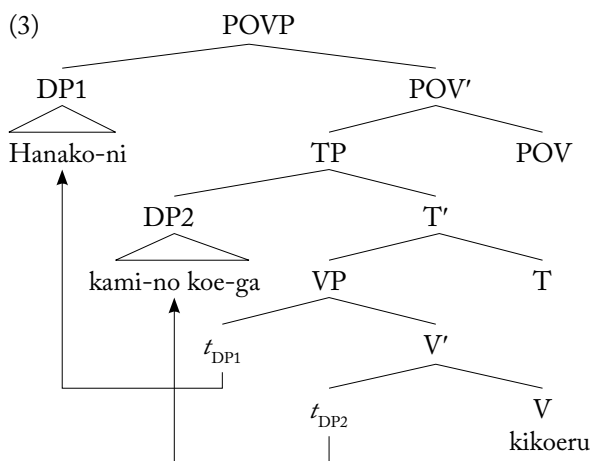
In (1a), *Hanako* is marked with dative *-ni* whereas *kami-no koe* 'God's voice' is marked with nominative *-ga*. Campbell and Martin claim that in (1a), *Hanako* is base-generated within the VP with *-ni* and moved to the specifier of the higher INFL while *kamino-koe* 'God's voice' is base-generated in the complement of the verb *kikoeru* 'hear' and moved into the specifier of the lower INFL. The relevant

structure is shown in (2).



There are two problems with this analysis from the perspective of the Minimalist Program (Chomsky 1995). The first problem is concerned with the optionality of LF experiencer raising and the motivation for this operation. Within the framework of the Minimalist Program, every operation in syntactic derivation must be driven out of necessity. This deterministic view, then, casts doubt on Campbell and Martin's analysis because the motivation for experiencer raising is not made explicit. The second problem is that their analysis misses the important generalization that (the vast majority of) the verbs that participate in dative subject constructions constitute psychological predicates. Certain verbs of competence such as *wakaru* 'understand' as well as verbs of unintentional perception such as *kikoeru* 'hear', *mieru* 'see', and *omoeru* 'seem' refer to a subjective experience/evaluation of a sentient human being. Campbell and Martin's analysis has no way to connect this cognitive-semantic property of verbs that appear in dative subject constructions with LF raising; they would have to simply stipulate that only an experiencer DP can move for some reason.

To solve the problems with Campbell and Martin's analysis, we propose that there is a structural position above TP in the syntactic derivation of a psychological predicate construction that is specifically dedicated for a surface experiencer argument. More specifically, a surface experiencer argument undergoes overt movement from its base position to the specifier position of the functional head we dub *Point-of-View* (POV) to check its [+person] feature against this functional head. As the result of this movement, the surface experiencer is interpreted as Pivot in the sense of Sells (1987), or a standpoint from which a certain mental (change of) state is described. This analysis derives sentence (1a) as shown in (3).



In this derivation, the theme argument *kami-no koe* ‘God’s voice’ undergoes movement into the specifier of TP to receive Nominative case. The TP, then, merges with the POV in overt syntax. The experiencer argument *Hanako-ni* ‘Hanako-Dat’ moves overtly into [Spec, POVP] to serve as Pivot for the sentence in (1a). This analysis successfully overcomes the two difficulties with Campbell and Martin’s analysis. First, the present analysis properly delimits the type of predicates that can occur in the dative subject construction. This construction has two “subject” positions, one in [Spec, TP] for the grammatical subject and the other in [Spec, POVP] for the Pivot. The latter position serves to restrict the set of predicates that appear in the relevant construction to subjective predicates, since only this class of predicate typically has an experiencer argument projected in the syntactic derivation below TP. Likewise, the reason an experiencer moves into [Spec, POVP] is now clear; it moves to serve as Pivot.

It is important at this point to articulate the nature of POV assumed in the present analysis, as well as how and when this projection is introduced into the syntactic derivation. We assume, following the economy of representation proposed by Chomsky (1995), Bošković (1997), and others, that the POVP is projected on top of TP either in overt syntax (as in Japanese dative subject constructions) or in the LF (as in English psych predicate constructions; see sections 3 and 4) only when material within the proposition/TP is interpreted as contributing to the subjective description of a particular event/state on the part of Pivot. In other words, even examples that lack a lexically specified EOPV may still project POVP on top of TP when they are interpreted as describing a private mental state of a human experiencer. We see later in the next section that this situation obtains in many phrases such as “psych idioms/phrases” (Pollard and Sag 1992; Pesetsky 1990; Hatori 1997) whose VP-internal expressions facilitate the Pivot interpretation of an otherwise non-experiencer argument. One way to formalize the above-mentioned assumption is to claim, adopting the most recent derivational theory of syntax as in Chomsky (2004), that when the TP is constructed, it is sent to the

meaning-related component in a cyclic fashion for semantic interpretation. When the interpretation includes a subjective description of an event/state on the part of a Pivot, then the syntactic derivation continues with the merger of POV and LF movement of the Pivot into [Spec, POVP].

The idea that experiencer arguments undergo movement is not new. Like Campbell and Martin (1989), Stowell (1986) proposes within the Government-and-Binding Theory that certain arguments, including experiencers, undergo raising at LF. This idea has been pursued in different directions within the more recent framework of the Minimalist Program. Tenny (2004, 2006) argues that experiencers, marked [+sentient], move to the specifier of the Sentience/Evidentiality Projection located near the top of the CP, giving them special binding properties. More recently, Endo (2007) argues for LF experiencer raising to the specifier of the Topic Phrase in the Rizzi-style left periphery on the basis of minimality effects observed in Japanese backward binding examples. To illustrate, consider (4a–d).

- (4) a. [_{SC} [**Zibun-no** kodomo-ga] [**Yamada-san-no** hokori]]-da.
self-Gen child-Nom **Mr. Yamada-Gen** **pride-Cop**
(subject) (predicate)
‘Mr. Yamada is proud of his son.’ (Endo 2007: 69)
- b. \downarrow _____
DP-Top (= antecedent) ... [FocP ... [_{SC} DP (= containing anaphor) [t Pred] ...
(subject) (predicate)
(Endo 2007: 72)
- c. * [_{SC} [**Zibun-no** kodomo-*wa*] [**Yamada-san-no** hokori]]-da.
self-Gen child-Top **Mr. Yamada-Gen** **pride-Cop**
(subject) (predicate)
‘Mr. Yamada is proud of his son.’ (adopted from Endo 2007: 75)
- d. (Mary-no kodomo-denaku) [_{SC} [**Zibun-no** kodomo-WA
Mary-Gen child-not self-Gen child-Contrast
Yamada-san-no hokori]]-da]
Mr. Yamada-Gen pride-Cop
‘Mr. Yamada is proud of his son, not Mary’s son.’ (adopted from Endo 2007: 90)

Endo proposes that, due to its topic nature (see section 4.1 for relevant discussion on this point), the experiencer argument *Yamada-san* ‘Mr. Yamada’ undergoes topic-driven possessor raising into [Spec, TopP] and binds *zibun* ‘self’ from this position. This derivation is shown in (4b). The impossibility of backward binding in (4c) falls into place, Endo argues, because the topic-marked subject in (4c) is closer to the Top head than the surface experiencer, and hence blocks the movement of the latter at LF. Interestingly, (4c) becomes grammatical when *-wa* is interpreted as contrastive focus, signaled as WA, as shown in (4d). This pattern is also naturally predicted by Endo’s analysis since the focus-marked subject does not count as an intervener for LF topicalization of the surface experiencer.

As an anonymous reviewer points out, our analysis predicts that LF movement

of a surface experiencer into [Spec, POVP] should be blocked by a potential closer DP that bears the [+person] feature. We show in section 3.2 that this prediction is indeed borne out when we review Pesetsky's (1990, 1995) and Fujita's (1993, 1996) generalization that backward binding becomes impossible in causatives with an agent subject. We argue that this effect obtains because the agent DP with the [+person] feature blocks the LF movement of the experiencer DP with the same feature into [Spec, POVP].

One might wonder whether it is possible to situate our hyperclause analysis within the broader context of the cartography project of syntactic structures, "the attempt to draw maps of syntactic configurations as precise and detailed as possible" (Rizzi 2004: 223). It is worthwhile to consider the status of the POVP in this theoretical context since we are claiming that this projection is superimposed on top of TP, as shown in (3). The primary goal of the project has been to identify various functional projections within the CP system and clarify their relative structural position within this layer. This project attempts to uncover the domain of syntactic derivation that interacts with pragmatics since understanding of the nature of syntactic projections such as Focus and Topic makes crucial reference to speaker-hearer interactions, their background knowledge and contexts of previous discourse, old vs. new information, definiteness vs. indefiniteness, topicality, focus, givenness, etc. By contrast, the events/states described by psychological predicates hold in the mind of a sentient individual and do not need speaker-hearer interactions. Rather, they are bona fide linguistic descriptions of what occurs in the mind of a speaker and need not always be transmitted to the hearer (see Jackendoff 1994 on this point). Thus, the POV head in our analysis expresses the inherent cognitive-semantic property of psychological predicates as subjective predicates. In this sense, our proposed analysis deviates from the Rizzi-style cartography project. It is also hard to tell in the present investigation whether our postulated POV corresponds to any one of the functional heads proposed in the literature and what structural position the head in question is located within the CP system, or whether it is in fact above the CP system. We still maintain, however, that the POVP participates in the Syntax of Sentience (Speas and Tenny 2003; Tenny 2004, 2006) in the left periphery of the syntactic representation above the ordinarily postulated array of grammatically motivated projections such as TP and *v*P. In the following section, we provide evidence for this claim based on feature-based minimality effects.

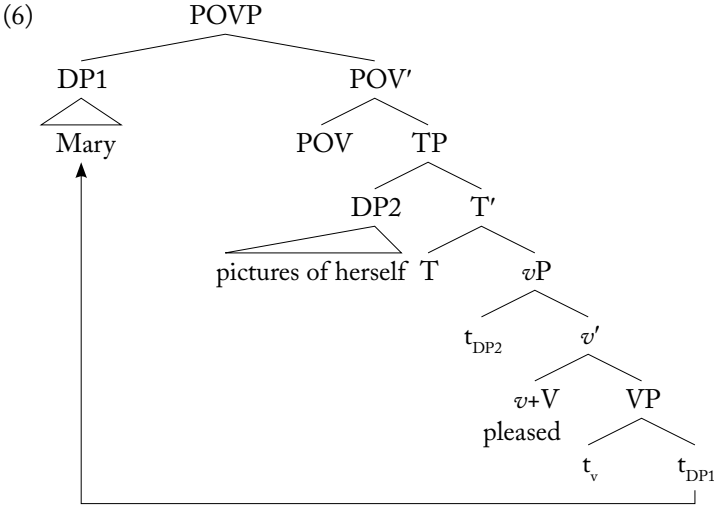
3. Backward Binding

Since Postal (1970), EOPVs have been widely known to exhibit the phenomenon of *backward binding*, where anaphors embedded in subject position can have antecedents that do not appear to bind them in surface structure, in apparent violation of the regular local binding requirement on anaphors (see also Giorgi 1984, Belletti and Rizzi 1988, Campbell and Martin 1989, Pesetsky 1987, 1990, 1995, Bouchard 1995, Iwata 1995, and Fujita 1993, 1996). The peculiarity of this binding pattern is highlighted when we compare (5a), with the psych verb *please*, with (5b),

with the non-psych verb *hit*.

- (5) a. Pictures of herself pleased Mary.
- b. *Pictures of herself hit Mary.

This contrast receives a simple account under our analysis. The existence of the experiencer argument in (5a), not in (5b), yields the interpretation of *Mary* as Pivot. This interpretation is captured at LF by the merger of the POV with the TP, as in (6).



In this structure, *Mary* undergoes covert phrasal movement to serve as Pivot at LF. The POV head remains empty without being occupied by the main verb, which raises to the *v* head (or to the T head). As the result of the experiencer raising, *Mary* is in a position to bind *herself*. Hence, backward binding obtains in (5a). On the other hand, (5b) does not have the POVP since it does not involve a psychological predicate. This means that there is no antecedent available above TP that can bind the reflexive within the subject. Thus, backward binding is precluded in (5b).

In what follows, we compare our proposed analysis with the mainstream generative approaches to backward binding and EOPVs, as in Belletti and Rizzi (1988), Pesetsky (1990, 1995), and Fujita (1993, 1996), which assume that the syntactic structure of this class of verb is predictable solely on the basis of its θ -theoretic properties. We demonstrate, however, that these analyses give false results in various (un-)grammatical cases of backward binding that can be successfully accommodated by our proposed analysis.

3.1. Belletti and Rizzi (1988)

Belletti and Rizzi (1988) propose an unaccusative analysis of EOPVs, according to which the experiencer argument is base-generated in the specifier position of the

VP that is higher than the base-generated position of the theme argument (i.e. the complement of the VP). The surface order is derived by movement of the theme argument into the specifier position of IP to receive structural Nominative Case. Thus, (5a) is represented as in (7).

- (7) [_{IP} Pictures of herself [_I I [_{VP} [_V pleased *t*]]]
-

Belletti and Rizzi argue that backward binding is accounted for if Condition A of the Binding Theory, defined in (8a), is an elsewhere condition that can be satisfied at any stage of syntactic derivation.

- (8) Binding Theory
- a. Principle A: An anaphor must be bound in its governing category.
 - b. Principle B: A pronoun must be free in its governing category.
 - c. Principle C: An R-expression must be free everywhere.
- (Haegeman 1994: 240, with a slight modification; cf. Chomsky 1986: ch. 3)

Then, the binding requirement on *herself* in (5a) is met at the D-structure representation in (7) where *pictures of herself* is still in the complement position of the verb and the reflexive in it is c-commanded by *Mary*.

Belletti and Rizzi's analysis is hard to sustain for many reasons, only two of which we mention here for reasons of space. First, Campbell and Martin (1989), Pesetsky (1990, 1995), and Fujita (1993, 1996) show that backward binding is observed in a far wider range of environments than EOPV constructions, as illustrated by (9b) and (10b) from Campbell and Martin (1989: 45).

- (9) a. Stories about himself always worry John.
 b. Stories about himself always make John worry.
- (10) a. News items about herself generally amuse Mary.
 b. News items about herself generally make Sue laugh.

What the two pairs of examples here show is that an EOPV construction can often be paraphrased by a combination of the syntactic causative verb *make* and an intransitive verb of emotion. The problem with Belletti and Rizzi's analysis posed by these examples is as follows. The experiencer argument in (9b) and (10b) is in a lower clause independent from the matrix clause headed by the causative verb. Furthermore, the causer subject in these examples is selected by the causative verb, not the embedded verb, given that the embedded verbs are both one-place predicates. Given this observation, it is difficult to imagine an unaccusative structure where a matrix subject is generated as an argument of the embedded clause to be bound by the embedded subject. However, this structure is what Belletti and Rizzi's analysis would lead us to posit.

Second, as pointed out by Pesetsky (1995: 43–45), Belletti and Rizzi's analysis of backward binding runs into a Case-theoretic problem. Belletti and Rizzi propose that EOPVs are introduced in the syntax with the θ -grid in which an experiencer is associated with an inherent Case linked to the θ -role assignment

(Chomsky 1986). This stipulation is necessary to motivate the movement of a theme argument into [Spec, IP] for structural Nominative Case, thereby leaving an experiencer argument in situ (i.e. the specifier position of the VP), as shown in (7). Now, if we were to extend the unaccusative analysis to examples like (9b), we would be forced to conclude that *make* assigns inherent Case to *John*. This conclusion is incompatible with the fact that *John* is assigned the experiencer role from *worry* in the embedded clause. The problem becomes even more serious if we examine examples like (11), where *John and Mary* is θ -marked by *angry* in the embedded clause.

- (11) [Each other_i's remarks]_j [_imade e_j [_iJohn and Mary]_i seem t_i to be angry].
(Pesetsky 1995: 45)

The present analysis provides a simple account for the grammaticality of backward binding in (9b) and (10b). *John/Sue* is both interpreted as experiencer arguments, and hence is qualified as a Pivot. Though *laugh* in (10b) is not a psychological predicate by itself, it is cognitively linked to a certain psychological state. Therefore, *John/Sue* moves into [Spec, POVP] at LF. Backward binding obtains because the arguments can bind the reflexive from this derived position.

3.2. Pesetsky (1990, 1995) and Fujita (1993, 1996)

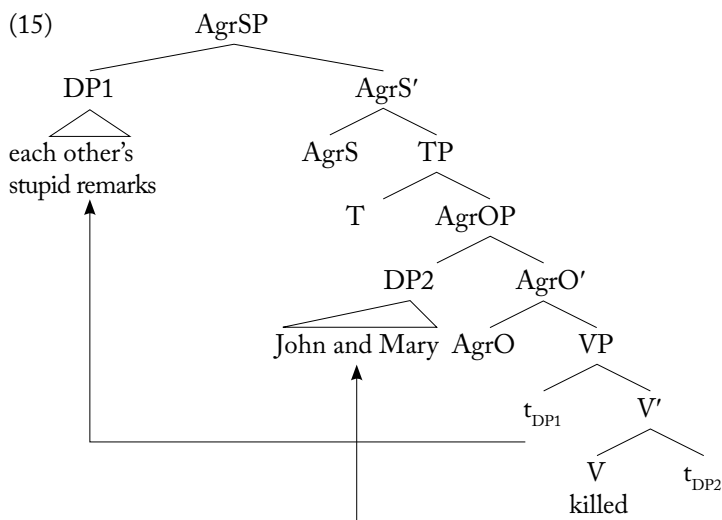
Pesetsky (1990, 1995) proposes a new generalization about backward binding shown in (12). This generalization is intended to account for the difference between (13a–d) and (14a–d).

- (12) A Causer argument of a predicate π may behave as if *c*-commanded by an argumental DP governed by π . (Pesetsky 1995: 49)
- (13) a. ?Each other's stupid remarks eventually killed John and Mary.
b. ?Each other's criticisms harmed John and Mary.
c. ?Those pictures of himself ultimately destroyed Bill.
d. ?Rumors about herself always plunge Mary into a deep depression.
(Pesetsky 1995: 44)
- (14) a. *Each other's stupid friends eventually killed John and Mary.
b. *Each other's parents harmed John and Mary.
c. *Each other's teachers insulted John and Mary.
d. *Each other's swimming coaches plunged John and Mary into a deep depression.
(Pesetsky 1995: 44)

The contrast between (13a–d) and (14a–d) shows that backward binding is sensitive to whether or not the subject in a causative construction is a volitional agent.

Pesetsky (1990, 1995) and Fujita (1993, 1996) each provide a syntactic explanation of the generalization given in (12). The two authors make exactly the same predictions concerning backward binding. Thus, we take the liberty of restricting our discussion to Fujita's analysis, leaving Pesetsky's Cascade-Syntactic analysis aside. Fujita (1993, 1996) provides an Agr-based Case-theoretic account of the

generalization above, providing a minimalist updating of Pesetsky's analysis. The classical version of the Minimalist Program outlined in Chomsky (1993) holds that in English, subjects move to [Spec, AgrSP] in overt syntax whereas direct objects move to [Spec, AgrOP] in covert syntax for Case checking under the Spec-Head Agreement with an Agr head. Assuming the VP-Internal Subject Hypothesis (see Koopman and Sportiche 1988), this version of Case Theory creates a configuration in which the trace of a surface causer subject is bound by the raised experiencer in [Spec, AgrOP] at LF via chain binding, as illustrated by (15) for the example in (13a).



In this structure, the experiencer *John and Mary* is base-generated in the complement of *kill*. This argument then moves to [Spec, AgrOP] in covert syntax. The causer subject *each other's stupid remarks*, base-generated in [Spec, VP], moves into [Spec, AgrSP] in overt syntax. At LF, the trace of the causer subject in [Spec, VP] is (chain-)bound by the direct object in [Spec, AgrOP]. Hence, (13a–d) are correctly predicted as grammatical. (14a–d), on the other hand, involve a volitional agent and disallow backward binding. Fujita (1993: 383) contends that an agent argument is base-generated in a specifier position of the higher VP headed by the abstract verb MAKE. He speculates that this head is structurally higher than [Spec, AgrOP] so that the trace left by the movement of the agent argument should never be bound by the shifted experiencer object in [Spec, AgrOP] at LF; see also Koizumi (1995). Thus, Fujita's approach provides a structural explanation for Pesetsky's generalization.

Fujita's analysis is appealing in that it successfully reduces what has been considered as an exclusive, idiosyncratic property of EOPVs to the property of non-volitional causatives in general. However, it is also too strong precisely for this reason. There are three cases of backward binding where his analysis gives false

predictions. First, consider the minimal pairs in (16a, b) and (17a, b); see Rizzi (1993) for additional examples.

- (16) a. Pictures of herself made Ruth happy.
 b. *Pictures of herself made Ruth famous. (Bando and Matsumura 2001: 95)
- (17) a. That book about herself struck Mary as embarrassing.
 b. *That book about herself struck Mary on the head. (Bouchard 1995: 295)

The contrast between (16a)/(17a) and (16b)/(17b) shows that backward binding is affected by the lexical semantics of the secondary predicates selected by the main verbs *make* and *strike*: psychological predicates (*happy*, *embarrassing*) vs. non-psychological predicates (*famous*, *on the head*). Fujita's analysis could not predict this contrast because his structural analysis would make it impossible for this semantic distinction to make any difference on syntactic derivation. One might save his analysis by arguing that different structures could be assigned to psych and non-psych adjectives. However, assuming the proposed causative structure as in (15) for (16a)/(17a) and another structure for (16b)/(17b) would make Fujita's analysis circular and undermine his original claim that backward binding is a consequence of regular binding at LF.

By contrast, the contrast above is naturally derived by our analysis. The projection of the POV at LF depends on the existence of a surface experiencer argument within the TP. (16a) is grammatical because *happy* contributes to the experiencerhood of *Ruth*; as a result, this argument moves into [Spec, POVP] and binds the reflexive within the subject. This movement is impossible in (16b), however, which does not involve a surface experiencer argument in it. The same story holds for the contrast between (17a) and (17b). The combination of *strike* and *embarrassing* in (17a) creates a complex psych predicate. This yields the desired interpretation under which *Mary* is an experiencer. By contrast, (17b) describes the event in which *Mary*'s book fell on her, thereby precluding the possibility that *Mary* is interpreted as an experiencer within the TP.

Second, Fujita's (1993, 1996) analysis gives incorrect predictions concerning the grammaticality of examples such as (18a–c) and (19a–e). See also Campbell and Martin (1989), Iwata (1995), and Hatori (1997) for additional examples that make the same point.

- (18) a. Pictures of himself in *Newsweek* dominated John's thoughts.
 b. The picture of himself in *Newsweek* made John's day.
 c. The picture of himself in *Newsweek* shattered the peace of mind that John spent the last six months trying to restore.

(Pollard and Sag 1992: 278)

- (19) a. The jokes about herself got Mary's goat.
 b. Each other's nasty remarks really ruffled John and Mary's feathers.
 c. Each other's teaching really got their dander up.
 d. The photos of himself made John's face turn red.
 e. The rumors about herself made Mary's hair stand up.

(Pesetsky 1990: 109)

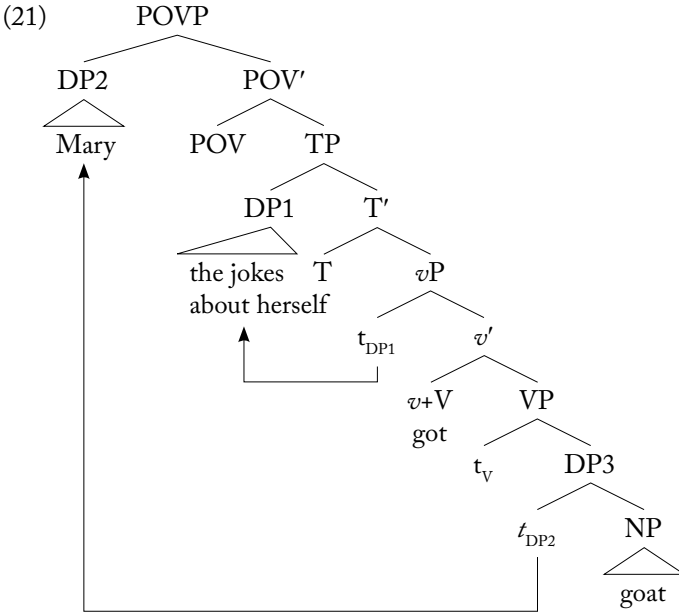
There are two common denominators among these examples. One is that they all denote some mental (change of) state of a human experiencer in the sense that the combinations of the expressions within the VP constitute a kind of “psych idioms” (Hatori 1997) or “psych phrases.” Another is that the potential antecedents for the anaphors in these examples are contained within the direct object. Fujita’s account cannot accommodate this second property because it assumes the first-branching definition of c-command, which would falsely predict these examples to be ungrammatical on a par with (20a–d), which do not show backward binding due to the impossibility of possessor argument binding outside its containing DP.

- (20) a. *Stories about herself generally please Mary’s father.
 b. *Each other’s health worried the students’ doctor.
 c. *Each other’s books amazed the men’s teacher.
 d. *Pictures of each other annoy the millionaire who funded the politicians.
 (Pesetsky 1987: 127)

As an anonymous reviewer pointed out, one might be tempted to maintain Fujita’s analysis in the following way. It has been acknowledged (see Reinhart and Reuland 1993 and references cited therein) that English *self*-forms are divided into syntactic anaphors and logophoric/exempt anaphors based on their different syntactic behavior; the former are subject to standard binding conditions whereas the latter are not. Given this distinction, one might maintain that Fujita’s analysis deals specifically with syntactic anaphors. For the above argument to go through, Fujita’s analysis must be backed up by independent criteria to differentiate syntactic and logophoric anaphors in the sort of backward binding data he discussed. Unfortunately, we do not find such criteria in Fujita’s paper. Our hyperclause analysis, on the other hand, directly solves this problem since it allows for a unified treatment of the two types of anaphors via the covert movement to [Spec, POVP].

Furthermore, the two properties noted above fall out from our analysis. In (18a, b) and (19a, b), a particular combination of VP-internal phrases yields a psychological interpretation of the surface possessor. This motivates the projection of POVP at LF, where the surface experiencer moves into [Spec, POVP]. Backward binding obtains because this raised argument binds the reflexive in [Spec, TP] from [Spec, POVP]. In this analysis, the so-called “logophoricity” is not a special property of reflexive pronouns but instead a semantic reflection of POV.

Let us be more precise about our explanation of backward binding in (18a–c) and (19a–e). We take (19a) for illustration. Consider its derivation in (21).



In this derivation, the possessor experiencer *Mary* undergoes movement into [Spec, POVP] and binds the reflexive within the subject. As pointed out by an anonymous reviewer, since this movement involves extraction out of a DP, two interrelated questions arise here. One is what blocks movement of the whole DP (i.e. *Mary's goat*) in (21). This question is resolved if the movement of the entire DP in the syntax is licit by itself but this movement causes semantic anomaly at LF due to the fact that *Mary's goat* cannot serve as Pivot in [Spec, POVP]. The other question is whether this extraction is licit, given that the Left Branch Condition is otherwise active in English. We assume that the force of this condition is parameterized so that it will not be operative at LF in English; see also Campbell and Martin's (1989) analysis based on Baker's (1988) Government Transparency Corollary. Similarly, according to our analysis, (18c) indicates that the Complex NP Constraint is also lifted. It is known that overt and covert movements obey different constraints. Huang (1982) and Lasnik and Saito (1984) show that island-sensitivity diagnoses only overt movement. Following this line of research, we assume that LF movement of *John* in (18c) from the relative clause is immune to the Complex NP Constraint.

Finally, Fujita's analysis predicts that examples such as (22b) and (23b) should be grammatical, contrary to fact.

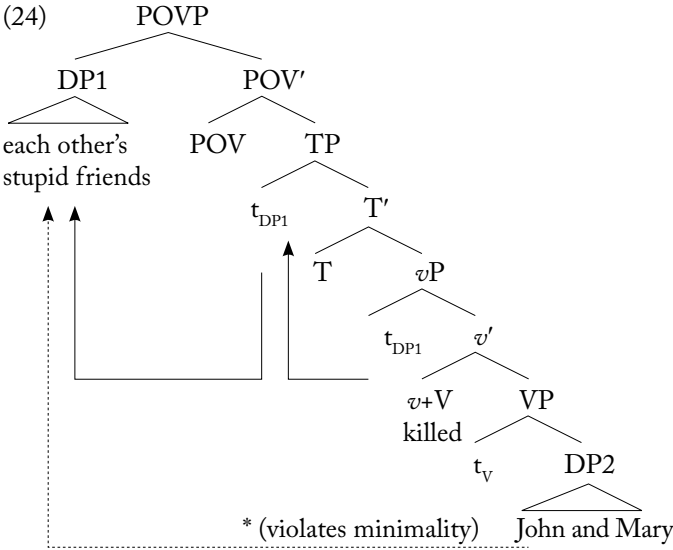
- (22) a. Pictures of himself give Bill a headache.
- b. *Pictures of himself send John a message. (Campbell and Martin 1989: 45)
- (23) a. Pictures of herself amused Mary.
- b. *Pictures of itself broke the vase.

Fujita's analysis correctly predicts (22a) as grammatical. *Bill* undergoes covert object shift into [Spec, AgrOP] for Case checking. As a result, *Bill* (chain-)binds the trace of the reflexive *himself*. However, the same analysis, as it stands, would predict that backward binding should also be possible in (22b). A similar argument can be made on the basis of the contrast between (23a) and (23b). The verb *break* in (23b) is a non-volitional causative verb, just as *amuse* in (23a) is. Then, Fujita's analysis would predict (23b) to be grammatical on a par with (23a) because at LF *the vase* in [Spec, AgrOP] should be able to bind *itself* within the causer subject.

Our hyperclause analysis, on the other hand, gives right results with these examples. (22a) is grammatical because the semi-idiomatic phrase *give x a headache* is a psych idiom that serves to facilitate the Pivot interpretation of *Bill*. This interpretation is accommodated by the projection of the POV on top of the TP, which provides a right configuration for binding to hold at LF. This option is not available in (22b), however, since this example does not involve any sentient experiencer; *John* is nothing but a goal expression. (23b) is bad since the only possible antecedent, namely *the vase*, does not qualify as experiencer/Pivot, and hence does not trigger the introduction of the POVP on top of TP.

Let us now consider how our analysis can account for the difference between (13a–d) and (14a–d), which formed an argument for Fujita's Agr-based Case-theoretic analysis of backward binding. Although the verbs in (13a–d) are not lexically specified as psychological predicates, the VP material in these examples plays a crucial role in facilitating a psychological interpretation. (13a) is acceptable only if the verb *kill* is interpreted as meaning "to depress or discourage one completely." Likewise, the verbs *harm* and *destroy* in (13b, c) are used not in their original sense but in their extended mental sense. Finally, the semi-idiomatic expression *plunge x into a deep depression* in (13d) is synonymous with "to depress x deeply." Thus, the examples in (13a–d) further confirm our analysis, which represents the cognitive-semantic characteristic of the psychological denotation of the VP in the form of the hyperprojection POVP.

Now, the examples in (14a–d) show that the backward binding effect disappears in causative constructions with an agentive subject. We maintain that movement of a surface object experiencer into [Spec, POVP] across an agent in [Spec, *v*P] is blocked by the feature-based minimality. More specifically, following the suggestion of an anonymous reviewer, we propose that not only experiencers but also agents have the feature [+person]. Thus, agent arguments are closer to [Spec, POVP] than experiencer arguments in terms of asymmetric c-command (see also Rizzi 2004 for further recent refinements). This attraction of an agent argument, in turn, results in canceling a backward binding effect that would otherwise obtain. The relevant configuration is illustrated in (24) for (14a).



In this representation, the POV head attracts the closest potential DP with the [+person] feature. The agent *each other's stupid friends* is structurally closer to [Spec, POVP] than the experiencer *John and Mary*. Thus, the POV head attracts the agent DP, with the result that the experiencer DP cannot undergo covert LF movement to binding the reflexive within the agent subject. This analysis receives support from the fact that the verbs in (14a–d) cannot be interpreted as psychological predicates. Thus, *kill* in (14a) cannot mean ‘to depress’ but rather ‘put to death’; if there were no experiencer raising at LF, both interpretations should be freely available in (14a). The contrast between (13a) and (14a), therefore, suggests tight correlations between the POVP and the lexical semantics of VP-internal material, as argued for in our hyperclause analysis. Note also that (14a–d) provide independent empirical support for our claim that the specifier of the POV head is in the left periphery of syntactic derivation; otherwise, the blocking effects caused by a volitional subject won't be naturally accounted for.

An anonymous reviewer suspects that our minimality-based analysis of the lack of backward binding effects with a volitional agent will incorrectly rule out examples such as (25) since the LF movement of *Bill* to [Spec, POVP] across the DP subject with the [+person] feature would violate the minimality constraint on attraction.

(25) Susan frightens Bill.

However, there is reason to believe that the mere presence of DPs like *Susan* does not necessarily entail that they serve to block the LF movement of the surface experiencer. Grimshaw (1990: 160) argues that “with non-agentive psychological predicates the subject is actually not an *individual* but belongs rather to the type of properties of individuals.” In support of this analysis, Grimshaw notes that a non-

agentive DP subject (e.g. *John* in (26a)) in an EOPV construction can be replaced by another DP that expresses a property of the individual denoted by that DP (e.g. *John's behavior* in (26a)). This alternation, illustrated further in (26b, c), is impossible for non-EOPVs, such as *murder* and *fear*, as in (27a–d).

- (26) a. John/John's behavior concerns them.
 b. He/What he does bothers them.
 c. We/Our personal characteristics irritate him. (Grimshaw 1990: 160)
- (27) a. John murdered him.
 b. *John's behavior murdered him.
 c. He fears us.
 d. *What he does fears us. (Grimshaw 1990: 160)

Given Grimshaw's argument, we can maintain that the presence of *Susan* in (25) does not block the movement of an experiencer into [Spec, POVP] at LF. The DP behaves as if it did not have the [+person] feature at LF under its non-agentive interpretation. The same line of argument also applies to the movement of an experiencer argument over a putative subject DP with the [+person] feature in dative subject constructions such as (28a), brought to our attention by the same reviewer. This movement is fine because (28a) is most naturally interpreted as if *Hanako* did not have the [+person] feature. In fact, this example is most felicitously paraphrased as in (28b) with the noun *koto* 'thing'.

- (28) a. Boku_i-ni Hanako-ga t_i wakara-nai/ais-e-nai.
 I-Dat Hanako-Nom understand-Neg/love-can-Neg
 'I do not understand Hanako./I cannot love Hanako.'
- b. Boku-ni Hanako-no-koto-ga wakara-nai/ais-e-nai.
 I-Dat Hanako-Gen-thing-Nom understand-Neg/love-can-Neg
 'I do not understand Hanako./I cannot love Hanako.'

3.3. Backward binding: Syntactic or non-syntactic?

Before closing our discussion on backward binding, we wish to briefly address a fundamental question, namely, whether or not the phenomenon of backward binding is truly an issue that should be dealt with in the syntax. On the empirical side, examples like (29a, b) might be taken to indicate that the binding effect cannot be handled by an intra-sentential notion such as c-command, and hence is not syntactic in nature.

- (29) a. *John* was furious. The picture of *himself* in the museum has been humiliated.
 (Büring 2005: 226)
- b. *John* was going to get even with Mary. That picture of himself in the paper would really annoy her, as would the other stunts he had planned.
 (Pollard and Sag 1992: 274)

We would like to argue that such examples do not necessarily undermine our syntactic treatment of backward binding. Although we cannot go into a detailed examination of examples with this cross-sentential binding pattern here, one

theoretical possibility in the Minimalist Program readily suggests itself. As argued extensively in Nunes (1995) and Hornstein (2000), the current minimalist theory of structure building as Copy + Merge allows cross-clausal movement as one of the naturally available computational options. Under this assumption, then, it is plausible that *John* in (29a) moves from within the TP to another TP so it may bind the reflexive as Pivot in [Spec, POVP]. To the extent that this direction is tenable, we believe that our hyperclause analysis brings with it a further advantage. It allows us to incorporate the insight of functional/discourse-related work (Zribi-Hertz 1989; Kuno and Takami 1993; Takami 1995), namely, that backward binding is captured by “subject of consciousness” and “logophoricity,” without necessarily relegating data as in (29a, b) to some other non-syntactic component of the human grammar.

On the theoretical side, several non-syntactic approaches to peculiarities of psychological predicates have been advanced in Grimshaw (1990), Culicover and Jackendoff (2005), and Pustejovsky (1995). For reasons of space, we focus on Grimshaw’s (1990) lexical approach here. Grimshaw argues for a lexical analysis of backward binding in terms of her prominence theory of argument structure: an anaphor must be bound by a DP that is higher than it on her proposed hierarchy of thematic prominence in (30).

(30) (Agent (Experiencer (Goal/Source/Location (Theme)))) (Grimshaw 1990: 24)

Backward binding holds in an EOPV, according to Grimshaw (1990), because the experiencer is more prominent than the theme on her thematic hierarchy. For example, (5a), *Pictures of herself pleased Mary*, is grammatical because the anaphor *herself* contained within the theme subject is bound by the more thematically prominent (i.e. experiencer) DP *Mary*.

We do not adopt this type of lexical approach on two grounds. First, it is not clear to us whether it can deal with many other properties of EOPVs. As we will see in the next section, this class of verbs shows not only backward binding but also other apparently peculiar quantificational characteristics concerning weak crossover, scope ambiguity, and others which have been convincingly shown in the generative literature to be sensitive to syntactic notions such as c-command, movement restrictions, A vs. A'-movement, topicality and definiteness. Grimshaw’s and other researchers’ lexical analyses cannot be serious competitors to our analysis unless they show that those quantificational properties can be adequately dealt with in their conceptual semantic/lexical structure with a better empirical coverage. Unfortunately, none of the three works mentioned above actually undertakes this task. Second, we have analyzed several cases in the previous subsections where the backward binding effect arises not simply by virtue of an EOPV but rather by a particular combination of the material within the TP that facilitates the Pivot reading of an otherwise non-experiencer argument. It is not obvious whether those cases can be properly accounted for by Grimshaw’s prominence theory of binding at the pre-syntactic level of argument structure because it is specifically tailored to accommodate backward binding effects observed in an EOPV verb.

3.4. Summary

We have shown that backward binding in EOPVs receives a straightforward structural account under the hyperprojection analysis. This analysis proposes that the POV head is merged with TP at LF, depending on the Pivot interpretation of a surface experiencer argument. The covert movement of this surface experiencer into [Spec, POVP] provides the right structural configuration for it to bind into the anaphoric expression within the surface subject. We have also pointed out several cases where previous structural analyses make false predictions with respect to backward binding. We have shown that those problematic cases are naturally accounted for by our analysis.

4. Weak Crossover Cancellation, Anti-Local Binding and Scope Ambiguity

Since Postal (1970), EOPVs have been noted for their apparently peculiar syntactic properties other than backward binding. The purpose of this section is to demonstrate that these properties also naturally fall into place under our hyperclause analysis.

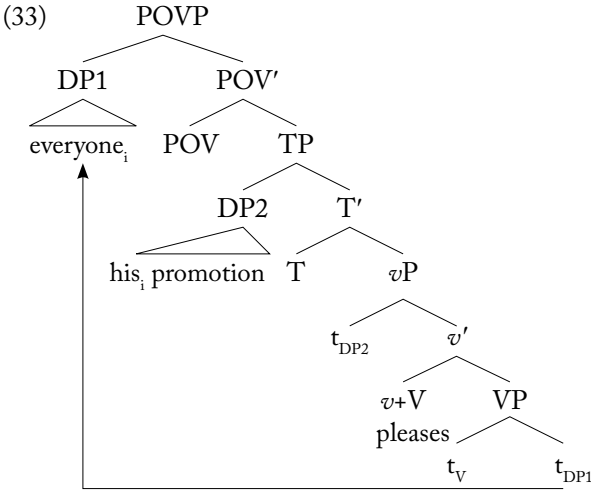
4.1. Weak Crossover Cancellation

EOPVs allow inverse variable binding of the reflexive within the subject by the surface experiencer argument. This property is illustrated in (31a, b) (Fujita 1993: 384; see also Johnson 1992). Comparison of these examples with the standard cases of weak crossover (Postal 1971; Wasow 1979) as in (32a, b) with non-EOPVs shows that inverse variable binding is a unique property of EOPVs.

- (31) a. His_i promotion pleases everyone_i.
 b. His_i health worries every patient_i.
 (32) a. *His_i father hit everyone_i.
 b. *His_i father killed everyone_i.

May's (1977) Quantifier Raising could take care of (32a, b), because it, as A'-movement, creates a weak crossover configuration. However, if this covert operation were responsible for the derivation of (31a, b) as well as (32a, b), it would not predict the contrast observed here. This means that an alternative analysis is in order.

Our hyperclause analysis accommodates the weak crossover cancellation effect in (31a) from an independently motivated principle. (31a) has the structure in (33) at LF.



In this configuration, the pronoun *his* has *everyone* in [Spec, POVP] as its local binder. This correctly accounts for variable binding in (31a). This reading is not available in (32a), however, because its derivation does not have the POVP projection.

One might object that, for our analysis to go through, we would need an additional assumption that [Spec, POVP] is an A-position. It has been widely acknowledged since Mahajan (1990) that A-movement does not yield the weak crossover effect. This property is illustrated by the contrast between (34a) and (34b).

- (34) a. *Who_i did his_i mother see t_i? (A'-movement)
- b. Everyone_i t_i seems to his mother t_i to be a genius. (A-movement)

If we adopt this traditional assumption, [Spec, POVP] should show positional properties characteristic of A-position. However, we have not been successful at this point of our research in finding evidence for or against the A-status of [Spec, POVP]. Rather than pursuing this issue, we maintain, following the suggestion of an anonymous reviewer, that the lack of the weak crossover effect in (31a, b) is related not to the A- vs. A'-distinction but to the referentiality/topicality of the experiencer argument shifted to [Spec, POVP] at LF. Based on the absence of weak crossover effects in parasitic gap constructions, *tough*-constructions, and topicalization in English, Lasnik and Stowell (1991: 704) argue that “if the local A'-binder is either a referential NP (topicalization) or an operator bound by an external antecedent (appositive relatives, *tough*-movement constructions, and parasitic gap constructions), then there is no weak crossover effect.”

Our analysis, combined with Lasnik and Stowell's (1991) proposal, predicts that the experiencer moving to [Spec, POVP] should be a referential DP. This prediction is indeed borne out. Takami (1995) and Endo (2007) both suggest the relevance of topicality of the antecedent in backward binding. Takami (1995: 307) shows, based

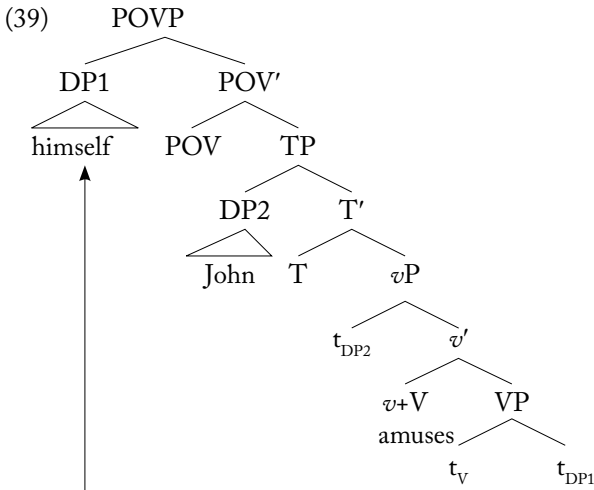
undergo covert movement into [Spec, TopP] in Endo's analysis. (37b) is grammatical because the topic-compatible quantifier *subete* 'every' can undergo such movement. We take the contrast between (37a) and (37b) to provide independent evidence that the experiencer in backward binding examples must be topical and hence referential.

4.2. Anti-Local Binding

EOPVs are also known to be exceptional in that they do not allow local binding of an anaphor in direct object position by the causer subject, as shown in (38a) from Roberts (1991: 29) (see also Postal 1971: 71 and Grimshaw 1990: 158). The peculiarity of this property becomes clear when we compare this example with (38b), which involves a non-EOPV and allows local binding.

- (38) a. ??John amuses/disgusts/horrifies/irritates himself.
 b. John killed/hurt himself to surprise his friends.

Roberts (1991: 29) notes that (38a) is ungrammatical only under its non-volitional reading. Thus, *John amuses himself* is fine with the agentive reading of *amuse* as in *John amuses the kids with his stories*. Given Grimshaw's (1990) analysis of the DP subject in non-agentive EOPV constructions as denoting properties of that DP (see section 3.2), it must be *himself* who undergoes raising into [Spec, POVP], since *John* behaves as if it did not bear the [+person] feature, as we argued earlier in section 3.2. The LF representation for *John amuses himself* under the non-volitional reading is in (39).



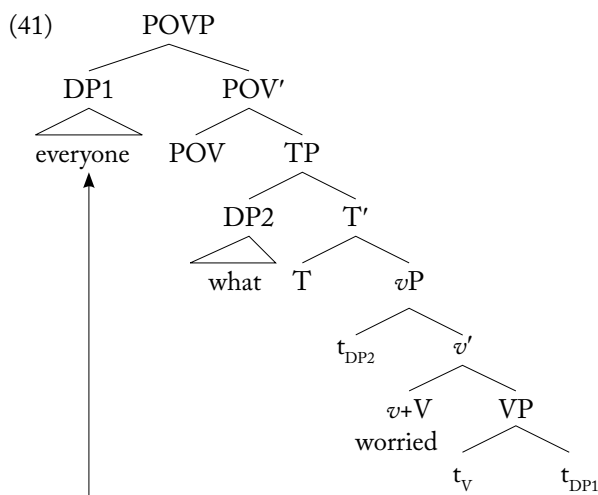
This representation is correctly ruled out by Condition C of the Binding Theory because *John* in [Spec, TP] is bound by *himself* in [Spec, POVP]. (38b) is correctly predicted as grammatical because the POVP projection is not superimposed above TP.

4.3. Scope Ambiguity

As observed by Kim and Larson (1989), EOPVs exhibit a scope interaction between the causer subject and the experiencer object, as in (40a). Compare this example with (40b), which involves a non-EOPV and allows only the wide scope reading of the subject.

- (40) a. What worried everyone? (what>every, every>what)
 b. Who hit everything on purpose? (who>every, *every>who)
 (Kim and Larson 1989: 681, 682, with a slight modification)

This special property also falls into place as a natural consequence of our analysis. The LF representation for the example in (40a) is shown in (41).



When the derivation has constructed the TP, *what* c-commands *everyone* in situ, deriving the wide scope reading of the *wh*-phrase. When the POVP is projected in covert syntax, *everyone*, which has now moved into the specifier position of POVP, c-commands the *wh*-phrase. This inverse c-command relation derives the narrow scope reading of the *wh*-phrase. The present analysis also correctly predicts that *everyone* cannot take scope over *who* in (40b) without the POVP. Again, the Quantifier Raising-based analysis would certainly provide the desired configuration for the inverse scope reading in (40a), but it would incorrectly predict (40b) to be scopally ambiguous.

4.4. Agentivity and Psych Effects

We have seen at the end of section 3 that the backward binding effect does not manifest itself when agentivity is forced on the surface subject in an EOPV construction. The relevant examples given earlier in (14a–d) are repeated here as (42a–d).

- (42) a. *Each other's stupid friends eventually killed John and Mary.
 b. *Each other's parents harmed John and Mary.
 c. *Each other's teachers insulted John and Mary.
 d. *Each other's swimming coaches plunged John and Mary into a deep depression.

(Pesetsky 1995: 44)

We argued that backward binding effects are cancelled in this context due to the feature-based Relativized Minimality. If this account is correct, we predict that not only backward binding but also all the other psych effects examined in this section should disappear when EOPVs involve a volitional agent subject. This prediction is confirmed by (43a–d). ((43c) is from Roberts 1991: 30, with a slight modification.)

- (43) a. *Friends of each other often pleased Tom and Sue on purpose.
 [backward binding]
 b. *His_i friends amuses every patient_i on purpose.
 [weak crossover cancellation]
 c. They often disturb each other on purpose while studying.
 [anti-local binding]
 d. Who worried everyone on purpose? (who>everyone, *everyone>who)
 [scope ambiguity]

5. Conclusions

This paper has proposed a hyperprojection analysis of experiencer-object psych verbs. According to this analysis, a surface experiencer moves into [Spec, POVP]. The Point-of-View head attracts the closest DP with the [+person] feature into its specifier so that the DP may serve the role of Pivot in the sense of Sells (1987). The present analysis provides a unified explanation of a wide range of otherwise mysterious configurational properties of EOPVs, such as backward binding, cross-over cancellation, anti-local binding, and scope ambiguity.

Our hyperclause analysis has certain implications for LF, logophoricity and binding. First, our analysis indicates that crucial reference must be made to the grammatical level of LF to account for backward binding and other related phenomena since it is only at this level that the desired c-command relation obtains under our analysis. This observation, we believe, counts as supporting the minimalist assumption (Chomsky 1993, 1995) that LF is the only interface level at which semantic interpretation applies. Second, the so-called “logophoricity” is not a special property of reflexive pronouns but instead a semantic reflection of POV in the syntactic derivation. Finally, what has heretofore been called “backward binding” is nothing but a special case of forward binding regulated by the standard version of the Binding Theory, defined in (8a–c).

One might wonder whether our proposed analysis does not need modifications of the domain over which binding is defined. It is commonly held in the literature that the relevant domain (variously expressed as the governing category, as in

(8a–c), or as the binding domain, as in Chomsky 1993, 1995) is TP and DP. Thus, it might be concluded on the basis of grammatical examples like *Pictures of him/himself; worry John* (Johnson 1992: 265) that the domain must be so defined as to include the POVP for Condition A but to exclude it for Condition B. However, this sort of revision is required anyway, and we believe that it ultimately follows from the inherent nature of reflexive vs. pronominal expressions that Chomsky's (1986) BT-compatibility attempts to capture. Unless evidence to the contrary is adduced, we presume that our proposed analysis does not necessitate any substantial modification of Binding Theory.

To the extent that our proposed analysis is tenable, two important consequences follow. First, within the generative framework, structural analyses of EOPVs that depend solely on their θ -theoretic properties/argument-structure, as in Belletti and Rizzi (1988), Pesetsky (1990, 1995), Fujita (1993, 1996), have been dominant. This paper shows that this line of approach is hard to maintain. Rather, a hybrid analysis that incorporates insights from both structural and discourse-related works that attempt to elucidate factors that contribute to the pivothood of an experiencer DP (e.g., Zribi-Hertz 1989; Kuno and Takami 1993; Takami 1995) is necessary to accommodate a wide range of examples involving backward binding and other related phenomena. Second, our analysis indicates that otherwise unpredictable syntactic behaviors of EOPVs can be reduced solely to their often-neglected cognitive-semantic characteristic as *subjective predicates* and its structural repercussion in the form of hyperprojection.

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[要 旨]

心理述語と視点超投射

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本論文では、従来構造的分析が有力とされてきた英語の経験者目的語心理動詞に対し、新たに意味の面から光をあてることにより、その諸特性を導き出す。まず、Brekke (1976)の観察に基づき、この動詞クラスがその認知意味的性質上主観的動詞群を形成することを確認する。次に、この観察を捉えるため、経験者解釈が語彙的または合成的に認められる文の派生には従来仮定されている時制句 (TP) より上の位置に視点投射が含まれており、表層経験者はその指定部に論理形式部門で非顕在的移動を受けると提案する。この分析によれば、逆行束縛効果、弱交差効果の消失、作用域の多義性などの一見特異な経験者目的語心理動詞の構造的特性が統一的に導き出される。本分析が正しければ、二つの理論的帰結が得られる。第一に、これまで生成統語論の枠組みで支配的であった、意味役割のみに基づく構造的な心理述語分析には限界がある。第二に、心理動詞の特異性はすべてこの動詞群特有の主観性述語としての認知意味的性質及びその統語的反映に還元される。