Backward Binding in Japanese, Chinese and English: A View from Possessor Raising to FinP and Causative vP*

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Abstract

Backward binding commonly found in psych-verb and causative-verb constructions has sparked debates between syntactic and pragmatic analyses (Belletti and Rizzi (1988); Pollard and Sag (1992); Pesetsky (1995); Landau (2010)). This article proposes a unified syntactic analysis of backward binding based on data from English, Japanese, and Chinese. We argue that subject-oriented anaphors in the subject of a causative predicate allows backward binding from object because a specific light verb hosts a causative NP in its Spec (Folli and Harley (2007)), and because the Experiencer/Causee argument, as a subtype of Possessor argument, undergoes LF-movement to [Spec, Fin], one of the subject positions (Rizzi and Shlonsky (2006), Ogawa and Nawata (2025)).

***Keywords*:** Backward binding, subject-orientation, possessor raising, FinP, LF subjecthood, light verbs

1. Introduction

In the realm of generative syntax, it is well-accepted that Binding Theory (A) (henceforth, BT(A)) governs the syntactic distribution of reflexives and reciprocals (combined as anaphors), where 'c-commanding' and 'binding in a local domain' are both purely syntactic notions. Although a number of empirical problems with this

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simple definition of BT(A) have triggered several times of reformulation of BT(A), the basic insight has been maintained so far (Chomsky (1981: 211), Chomsky (1982: 78), Reinhart (1983), Chomsky (1986: 171), among others). However, many authors oppose this view and argue for a pragmatic licensing of anaphors or logophors (Clements (1975), Kuno (1978, 1987), Maling (1984), Sells (1987), Zribi-Hertz (1989), Pollard and Sag (1992), Landau (2010), among others).[1]

One controversial issue that stimulates the syntax-pragmatics debate is the fact about 'backward binding' in an Experiencer-Object (EO) psych-verb construction, as shown in (1a, b) (Stowell (1986), Belletti and Rizzi (1988), Pesetsky (1995)):

(1) a. Rumors about himself$_i$ engaged John$_i$. (Pesetsky (1995: 43))
b. Each other$_i$'s supporters worried [Freud and Jung]$_i$. (ibid.: 201)

In (1a, b), the reflexive in the Theme NP is apparently unbound by its antecedent because it is the grammatical subject and its antecedent, the Experiencer NP, is the grammatical object, and the latter does not c-command the former. Some researchers have favored a pragmatic approach to this fact because the BT(A) does not apply in the simplest way (Postal (1971), Hermon (1985), Iwata (1995), Oshima (2009), and Landau (2010), among others). Other researchers have put forth a syntactic approach (Belletti and Rizzi (1988), Pesetsky (1995), Lee (2001), Cheung and Larson (2015), among others). Above all, Belletti and Rizzi (1988) (henceforth, B&R) convincingly argue that the Experiencer argument is originally in [Spec, VP] and c-commands the Theme argument at the complement of a psych-verb at D-structure, after which the latter moves across the former to a surface subject position, because the former is licensed by an inherent accusative Case at the D-structure position, and that BT (A) is also satisfied at D-structure before the Theme NP moves to the subject position.

Pesetsky (1995) has discovered that backward binding in the psych-verb context is a mere subcase of the more general cases of backward binding in the

causative context in (2a-c), which contrasts with the agentive contexts in (3a, b):[2]

(2) a. Each other$_i$'s remarks gave [John and Mary]$_i$ a book. (Pesetsky (1995: 201))

b. Each other$_i$'s remarks made [John and Mary]$_i$ angry. (ibid.: 218)

c. Each other$_i$'s criticism forced [John and Mary]$_i$ to confront their problems. (ibid.: 218)

(3) a. *Each other$_i$'s parents harmed [John and Mary]$_i$. (Pesetsky (1995: 44))

b. *Each other$_i$'s teachers insulted [John and Mary]$_i$. (ibid.: 44)

In Pesetsky's terms, the Causer argument is base-generated in the syntactically lowest position among all the arguments and is raised to the Spec of a phonetically empty CauseP, crossing the Experiencer NP. (2a-c) satisfy BT(A) for the same reasons as B&R argue for. (3a, b) are ill-formed because the Agent argument, base-generated higher than the Experiencer argument at every level of representation, cannot contain an anaphor without violating BT(A).[3]

Cheung and Larson (2015) (henceforth, C&L) observe backward binding in Mandarin Chinese and argue for an essentially identical idea as B&R's and Pesetsky's, with the only difference being that the surface subject which Pesetsky (1995) identifies as a *Causer* argument is replaced in C&L by a *Source* argument. (4a, b) are cases of backward binding, and (5a, b) correspond to the English examples in (3a, b), where *ziji* 'self' is the monomorphemic anaphor.

(4) a. Ziji$_i$ de pengyou de guanhuai gan.dong-le Lisi$_i$.
Self DE friend DE solicitude touch-Perf Lisi
'The solicitude of self$_i$'s friends touched Lisi$_i$.'

b. Ziji$_i$ de fumu de zhichi gan-dong-le meige cansaizhe$_i$.
self DE parents DE support touch-Perf every contestant

'The support of self$_i$'s parents touched every contestant$_i$.'

(C&L (2015: 130))

(5) a. *Ziji$_i$ de pengyou da-le Lisi$_i$.
self DE friend hit-Perf Lisi
'Self$_i$'s friend hit Lisi$_i$.'

b. *Ziji$_i$ de pengyou piping-le Lisi$_i$.
self DE friend criticize-Perf Lisi
'Self$_i$'s friend criticized Lisi$_i$.' (ibid.: 130)

Backward binding in the psych- and causative-verb contexts is also observed in Japanese, as originally observed in Akatsuka (1976). In Japanese, the EO psych-verbs are always morphologically causativized unaccusative verbs. In (6a, b), *zibun* is the monomorphemic anaphor with basically the same properties as *ziji* in Chinese:[4]

(6) a. [Zibun$_i$-no e-ga marude ure-na-i koto]-ga
Self-Gen picture-Nom at all sell(intr.)-Neg-Pres fact-Nom
Takashi$_i$-o zetuboo-s-ase-ta.
Takashi-Acc despair-do-Caus-Past
'The fact that his$_i$ painting do not sell at all drove Takashi$_i$ into despair.'

b. [Zibun$_i$-ga Emi-ni erab-are-ta koto]-ga
Self-Nom Emi-Dat choose-Pass-Past fact-Nom
Yoshio$_i$-o utyooten-ni shi-ta.
Yoshio-Acc very happy-to make-Past
'The fact that he$_i$ was chosen by Emi made Yoshio$_i$ extremely happy.'

(6a) involves an analytic causative psych-verb, and (6b) is a synthetic causative construction. Both license backward binding, just as in (1a-b) and (2a-c). Lee (2001) demonstrates similar data of backward binding in Korean.

Importantly, backward binding holds in many typologically unrelated languages including English, Italian, Chinese, Japanese, and Korean, and it is established in the same contexts of (analytic/synthetic) causative constructions, which cannot be accidental. It is then reasonable to try to explain the cross-linguistic generalization by principles of UG with some necessary morphological microparameters, along the lines of Borer-Chomsky conjecture (Borer (1984), Chomsky (1995), Kayne (2000), Baker (2008), Satik (2022), among others).

In explaining the cross-linguistic generalization, one more important fact is that *zibun* 'self' in Japanese, *ziji* in Chinese, and a monomorphemic anaphor in other languages are basically subject-oriented (Katada (1991), Wang and Pan (2021: 4)).[5]

(7) John$_i$-ga Bill$_j$-ni zibun$_{i/*j}$-no syasin-o mise-ta.
John-Nom Bill-Dat self-Gen picture-Acc show-Past
'John showed Bill a picture of himself.' (*zibun* = John/*Bill)

(8) Zhangsan$_i$ gaosu Lisi$_j$ ziji$_{i/*j}$ ying-le.
Zhangsan told Lisi self win-Perf
'Zhangsan told Lisi that he had won.' (*ziji* = Zhangsan/*Lisi)

The subject-orientation requirement of the monomorphemic anaphors cannot be met in the backward binding context, even if the Experiencer argument can somehow c-command *ziji/zibun* in a subject NP from its *object* position: e.g., [Spec, VP].

Those who defend a non-syntactic pragmatic analysis of (long-distance / subject-oriented) anaphors argue that this is the very reason why backward binding should *not* be a syntactic phenomenon (cf. Zuribi-Hertz (1989), Pollard and Sag (1992), Iwata (1995), Wang and Pan (2021)). On the other hand, those who attempt a syntactic analysis of the backward binding in Mandarin Chinese (and Japanese and English) need to explain how the Experiencer argument in these sentences can

occupy a grammatical subject position at LF, c-commanding a subject-oriented anaphor (cf. Kishimoto (2014)). As for the trigger of the LF-movement, Landau (2010) is a viable possibility. As for the landing site of the movement, Rizzi and Shlonsky (2006) argue that [Spec, Fin] is a second subject position. As for the overt movement of the Causer argument, we can assume with Folli and Harley (2007) that there are two different types of light verbs for dyadic verbs, v_{DO} and v_{CAUSE}, with the latter attracting a Causer argument to its Spec. One more key idea is concerned with a certain restriction on Possessor Raising (see section 3). Exploiting these independently motivated hypotheses, we argue that there is a way to syntactically explain the backward binding of subject-oriented anaphors. Hence, there is no reason to resort to a pragmatic analysis of backward binding in Japanese and Chinese.

This article is organized as follows: Section 2 introduces previous articles whose claims are crucially adopted in our subsequent discussion and give a critical review of some of them. Section 3 introduces our own claims and hypotheses for a unified syntactic explanation of the backward binding observed across languages, and explicates how the phenomenon is accounted for in the proposed framework. Section 4 critically reviews Wang and Pan's (2021) logophoric analysis of the Chinese monomorphemic anaphor *ziji* 'self' and some authors' arguments for a logophoric analysis of the complex reflexive *himself* in English. Section 5 is a conclusion.

2. Previous Analyses of (Backward) Binding and Quirky Subjects

2.1. Landau (2010)

B&R divide psych-verbs into three subclasses (I, II, III), as summarized in (9):

(9) a. Class I (transitive, stative): nominative experiencer, accusative theme.
John loves Mary.

b. Class II (eventive/stative): nominative theme, accusative experiencer.

The show amused Bill.

c. Class III (unaccusative, stative): nominative theme, dative experiencer.
The idea appealed to Julie. (Landau (2010: 5-6))

Class I verbs are transitive stative verbs in which an Experiencer argument is realized as a subject with nominative case and a Theme argument is realized as an object with accusative case. Most Class II verbs are realized with a nominative subject for the Theme argument and an accusative object for the Experiencer argument and ambiguous between an agentive eventive reading and a nonagentive stative reading. Class III verbs are unaccusative stative verbs in which the Theme and Experiencer arguments are a nominative NP and a dative PP, respectively.

With this as a baseline, Landau (2010) focuses most of his discussion on Class II psych-verbs, elucidating a set of their peculiar properties by claiming that an empty locative preposition universally assigns an inherent case, which is sometimes accusative and otherwise dative or locative, to the EO (ibid.:55). He proposes to attribute various peculiar properties of Class II psych-verbs, which he calls "true psych-effect," to the LF-movement of the accusative Experiencer as a locative PP to a specifier of TP, a typical subject position, due to the semantic requirement that both locative and temporal adverbs need to be licensed in the local domain of TP.

The EO of a Class II psych-verb is headed by an empty locative preposition and that it is raised to a subject position at LF. This idea enables us to capture not only the similarity between locative inversion and the EO psych-verb construction in English (his chapter 9.1) but also an intriguing set of cross-linguistic generalizations such that the EO is morphologically realized by a locative PP in many languages (= (10a, b)), and that it denotes various properties of a "grammatical subject" (= (11)):

(10) a. ha-seret hipil paxad *al* Gil.
the-movie dropped fear on Gil <Hebrew>
'The movie frightened Gil.' (Landau (2010: 16))

b. Chuir sin eagla orm.
put that fear on-me <Irish>
'That frightened me.' (ibid.: 18)

(11) a. [PRO$_{1/*2}$ ayant critique la politique étrangère du government], les membres de l'opposition$_1$ ont attaque teur chef$_2$.
'Having criticized the government's foreign policy, the members of the opposition attacked their leader.'

b. [PRO$_{1/*2}$ ayant cambriolé plusteurs banques dans la réfion], l'homme balafré$_1$ a èté reconnu par un individu$_2$ bien connu des services de la police.
'Having robbed several banks in the area, the scarred man was recognized by a fellow well known to the police.'

c. [PRO$_{1/2}$ quitté la Californie], nos amis$_1$ nous$_2$ manquent. <French>
'Having left California, we miss our friends.' (Landau (2010: 94))

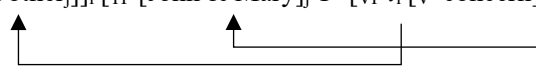
(10a, b) show that the EO in Hebrew and Irish is marked with a locative preposition. (11a, b) show that the psych-verb differs from other types of verb in that either the subject or object can be the controller of the PRO in the adverbial clause: (11a) shows that the subject but not the object of a transitive action verb can control the PRO subject of an adjunct clause; (11b) shows that the derived subject but not the demoted subject of an achievement verb can control the PRO subject of an adjunct clause; in (11c), by contrast, both the subject and object of a psych-predicate can control the PRO subject of an adjunct clause, a fact which is neatly explained if the surface object of a psych-predicate can function as a (derived) subject at the level where the controller of PRO is determined: LF.

Another convincing type of evidence for the LF-raising of the Experiencer qua locative PP to a subject position, as put forth by Landau (2010), is that many of the Class II psych-verb constructions prohibit "forward binding" in their stative contexts (= (12a, b)), a judgment shared by Postal (1971) and Lee (2001). Landau (2010) attributes the ill-formedness of "forward binding" to Binding Condition (B) or (C) under his assumption that the quirky Experiencer as a locative PP raises to a [Spec, T] at LF, an A-position, as in (13):[6]

(12) a. *John and Mary rather concerned each other in their youth.
(Landau (2010: 109))

b. *I am disgusting to myself. (Postal (1971), Landau (2010: 110))

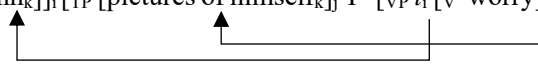
(13) $[_{TP}\ [_{PP}\ \varphi_P\ [_{DP}$ each other$_j]]_i\ [_{TP}$ [John & Mary]$_j$ T^0 $[_{VP}\ t_i\ [_{V'}$ concern$]$ $t_j\ ]]]$



A natural extension of this idea would be to claim that the so-called "backward binding" is actually a "forward binding" at LF, where the Experiencer argument qua the locative PP is raised to a [Spec, T] and c-commands the anaphor in the Theme/Causer NP in another [Spec, T], as in (14b):

(14) a. Pictures of himself$_i$ worry John$_i$. (B&R (1988: 317))

b. $[_{TP}[_{PP}\ \varphi_P\ [_{DP}$ John$_k]]_i\ [_{TP}$ [pictures of himself$_k]_j$ T^0 $[_{VP}\ t_i\ [_{V'}$ worry$]$ $t_j\ ]]]$



Contra this intuitive idea, however, Landau (2010) suggests that backward binding is a property of logophors that occur in the psych-verb construction, rather than a syntactically determined anaphor binding that is ruled by BT(A). As evidence, Landau (2010) shows examples in which c-commanding of an anaphor by its antecedent would not be established at D-structure (nor at LF), as in (15a, b):

(15) a. These nasty stories about himself$_i$ broke John$_i$'s resistance.
(Bouchard (1992); Landau (2010: 73))

b. These rumors about himself$_i$ caught John$_i$'s attention.
(Iwata (1995); Landau (2010: 73))

In (15a, b), the antecedent of the reflexive is contained in a larger NP which is the direct object of a transitive verb, and hence it is clear that the former cannot c-command the latter at D-structure, nor at LF, even if the direct object as a whole is for some reason raised to a subject position. Landau has not, however, discussed the possibility that only the antecedent NP, *John*, as the possessor of the head N, *resistance* in (15a) and *attention* in (15b), undergoes possessor raising to a subject position at LF. Intuitively speaking, *break John's resistance* is almost equivalent to *defang/incapacitate John* and that *catch John's attention* is almost equivalent to *attract/fascinate John*, where *John* is interpreted as the Experiencer of the event expressed by the complex predicate consisting of the verb and the head of the object NP (Ogawa (2001)) and *John* here is interpreted as the location where the externally caused event takes place. If this reinterpretation after restructuring is possible, *John* in (15a, b) can have a [loc] feature to be licensed in the TP domain, where it can be qualified as the binder of the reflexive, and (15a, b) satisfy BT(A) at LF.

Such an idea might seem to be proposed just in order to explain the otherwise problematic data. In the next section, however, we will demonstrate that a similar idea of possessor raising from a psych-noun phrase is independently motivated.

2.2. Kishimoto (2000, 2014)

We have seen in (7) and (8) that *zibun* 'self' in Japanese and *ziji* 'self' in Chinese are subject-oriented anaphors, meaning that it can only take a grammatical subject as its antecedent, but not a direct or indirect object. Therefore, the (im)possibility of anaphoric relation between *zibun* and its antecedent enables us to

identify which NP is the grammatical subject of a sentence and which is not.

With this fact presupposed, Kishimoto (2000) proposes to divide the construction in Japanese using a dative/locative particle *-ni* into two types in terms of which NP can license the subject-oriented anaphor *zibun* 'self' and which cannot. Apparently, Japanese has two types of constructions in which the two arguments of the existential verb *iru* 'be' or *aru* 'be' can be realized with a dative NP and a nominative NP, respectively. In one type as in (16a) (which we will refer to here as the Existential Locative Construction (ELC)), the nominative NP but not a dative/locative NP functions as the grammatical subject, as shown by the fact that the nominative NP can be the antecedent of *zibun* contained in the dative/locative NP in (16a). In the other type as in (16b, c), which we will refer to here as the Possessive Construction (PC), the dative NP but not a nominative NP functions as the grammatical subject, as shown by the fact that the dative NP can be the antecedent of *zibun* contained in the nominative NP, but not vice versa:

(16) a. **Taro$_i$-ga** zibun$_i$-no heya-ni iru. (ELC)
Taro-Nom self-Gen room-in be-AN[7]
'Taro is in his own room.' (Kishimoto (2000: 59))

b. **Taro$_i$-ni** zibun$_i$-no okane-ga aru. (PC)
Taro-Dat self-Gen money-Nom be-IN
'Taro has his own money.'

c. *Zibun$_i$-no tomodati-ni **kodomo$_i$-ga** iru.
self-Gen friend-Dat child-Nom be-AN
'A friend of himself has a child.' (ibid.: 58)

Kishimoto concludes that a nominative NP is the grammatical subject in the ELC, whereas a dative NP is the grammatical subject in the PC. The latter will also be referred to here as the dative subject construction (DSC).

Kishimoto (2014) proposes that in Japanese there is a covert counterpart of the DSC that has a genitive subject within a nominal predicate. More specifically, he claims that a certain type of psychological nominal predicate, such as *nayami* 'worry', *hokori* 'honor', and *ziman* 'boast' allows possessor raising and that the overtly raised possessor is morphologically marked with a dative case:

(17) a. Sono musume-ga **Mary-no** hokori-dat-ta.
that daughter-Nom Mary-Gen honor-Cop-Past
'(Lit.) That daughter was Mary's honor.'

b. **Mary-ni**-wa sono musume-ga hokori-dat-ta.
Mary-Dat-Top that daughter-Nom honor-Cop-Past
'(Lit.) To Mary, that daughter was an honor.'

(Kishimoto (2014: 230))

In (17a), the Experiencer of the nominal psych-predicate *hokori-da* 'honor-be' is expressed as a genitive phrase, whereas in (17b), it is realized as the subject of the DSC. (17a) and (17b) express the same logical meaning. Thus, Kishimoto proposes that the genitive Experiencer in (17a) undergoes LF possessor raising and has the LF structure in (18a), whereas the DSC in (17b) has the LF structure in (18b):

(18) a. [$_{TP}$ Exp-Gen [~~Exp-Gen~~ Theme-Nom [$_{NP}$ ~~Exp-Gen~~ N-Pred] Cop] T]

b. [$_{TP}$ Exp-Dat [Theme-Nom [$_{NP}$ N-Pred] Cop] T]

That (17b)/(18b) is a DSC is shown by the fact that the dative NP in (17b) can be the binder of *zibun* 'self', as in (19), just like the DSC/PC as in (16b):

(19) **John$_i$-ni-wa** zibun$_i$-no musuko-ga [nayami-no tane]-da.
John-Dat-Top self-Gen son-Nom worry-Gen seed-Cop

'(Lit.) To John, self's son is the source of worry.'

(Kishimoto (2014: 234))

Surprisingly, the genitive Experiencer of the psych-nominal predicate construction in (20) can also license the subject-oriented anaphor *zibun*, even if the possessor cannot c-command the anaphor at S-structure (or before Spell-Out):

(20) Zibun$_i$-no musuko-ga [**John$_i$-no** nayami-no tane]-da.
self-Gen son-Nom John-Gen worry-Gen seed-Cop
'(Lit.) Self's son is John's source of worry.' (Kishimoto (2014: 234))

This fact is, however, neatly explained if the genitive possessor is raised to the same syntactic position as the dative subject in (19) at LF, where BT(A) is satisfied.

If we can extend the same logic to (15a, b), the apparently logophoric nature of *himself* can neatly fall under BT(A), through the same covert possessor raising as applied to (20). The conclusion to be reached is, then, that the major cases of backward binding can be syntactically explained. See also Section 2.6.

2.3. Island (In)sensitivity of Covert Movement

Here, one might wonder why our LF movement analysis of the Experiencer argument from an island do not violate a constraint on movement. Thus, if *John* in (15a), repeated below as (21a), moves out of the prenominal position within a NP, it should violate the Left Branch Condition, for the same reason as (21b) is ill-formed. Or, if *John* in (22a) is moved out of the complex NP, it would violate the Complex NP constraint for the same reason as the overt wh-movement in (22b):

(21) a. These nasty stories about himself$_i$ broke John$_i$'s resistance.
b. *Who$_i$ did you know t_i's mother? / *Whose did you know t_i mother?

(22) a. The picture of himself$_i$ in Newsweek shattered the peace of mind that John$_i$ had spent the last six months trying to restore.
(Pollard and Sag (1992); Landau (2010: 73))

b. *She kissed a man who bit one of my friends, but Tom does not realize which one of my friends$_i$ she kissed a man who bit t_i.
(Ross (1969: 276))

However, this is not a problem for our theory for two reasons. First, the constraints on movement have been proposed to explain the locality of *overt* movement such as wh-movement and relativization in English (Ross (1986), Lasnik and Saito (1992)), among others, and it is well-known that wh-in-situ's essentially do not obey any island constraint, except for a reason-asking monomorphemic wh-phrase in Chinese (Huang (1982)) and in Japanese (Fujii and Takita (2007)).[8] (23a, b) show the contrast between the in-situ object-asking wh-phrase *nani* 'what' and the reason-asking wh-phrase *naze* 'why' in Japanese:

(23) a. [Taro-ga nani-o te-ni ireta koto]-o sonnani okotteiru no?
Taro-Nom what-Acc obtained fact-Acc much be.angry Q
'For which x you are so angry about the fact that Taro obtained x.'

b. *[Taro-ga naze sore-o te-ni ireta koto]-o
Taro-Nom what-Acc it-Acc obtained fact-Acc
sonnani okotteiru no?
much be.angry Q
'For which reason x you are so angry about the fact that Taro obtained it for x.' (Fujii and Takita (2007: 107))

Second, it has also been equally well-known that even an overt wh-movement is exempt from (or mitigated with) most island constraints if the complement of the

[+wh] C head which includes a syntactic island is deleted by sluicing (Ross (1969)):

(24) ?She kissed a man who bit one of my friends, but Tom does not realize which (one of my friends). (Ross (1969: 276))

(25) a. *Ben will be mad if Abby talks to one of the teachers, but she couldn't remember [which (of the teachers)]$_i$ Ben will be mad if she talks to t_i.

b. Ben will be mad if Abby talks to one of the teachers, but she couldn't remember [which (of the teachers)]$_i$ (Merchant (2001: 88))

The contrast between (22b) and (24) shows that the Complex NP constraint effect is radically mitigated if sluicing takes place. The contrast between (25a, b) shows that the Adjunct Island effect completely disappears if sluicing takes place.

In sum, the so-called island effect is induced only when movement is overt and the derivational process of the movement is PF-visible. Given this generalization, the well-formedness of (21a) and (22a) does not undermine our claim, because the derivational process of the LF-movement is not PF-visible.

2.4. Ogawa and Nawata (2025)

In section 2.2, we showed that the data in English with which Landau (2010) argued for the necessity to resort to a logophoric nature of backward binding can (if not 'must') be explained syntactically if we extend all the instances of Experiencer argument is raised to [Spec, T], even if it is deeply embedded in an NP.

A careful reader should, however, be aware that Landau's (2010) proposals and Kishimoto's (2014), although similar in their claim about the covert raising of Experiencer argument, are different in one crucial respect: Whereas Kishimoto (2014) claims that only the Experiencer argument qua possessor of a psych-noun can be raised, Landau (2010) claims that essentially all the locative PP can be qualified as

a candidate for covert raising, as every temporal and locative PP needs to be licensed in TP. In fact, Landau identifies the covert raising of Experiencer to the overt locative inversion in English, as in (26), which is not limited to Experiencer arguments at all:

(26) a. Among the guests was sitting my friend Rose. (Landau (2010: 117))
b. Over our heads glowed an unfamiliar object. (ibid.: 123)

Of course, not all locative PPs can undergo locative inversion but there are some semantic or information-structural restrictions, such that clausal negation is excluded, that the verb must be informationally light, that change-of-state verbs are excluded, that locative inversion induces presentational focus on the postverbal DP, and that the inverted locative must be a topicalized subject (Landau (2010: 120-124)). However, compared with the candidates for the covert Experiencer raising, the range of the PPs that can undergo locative inversion is much wider.

Similarly, the candidates for the dative subjects in Japanese are not limited to Experiencers. As observed in Shibatani (1977) and Kishimoto (2000), among others, the DSC in Japanese is possible with stative (complex) predicates such as *iru* 'need', *hituyoo-da* 'be necessary', *dekiru* 'be able to do', *mieru* 'see', *hosii* 'want', *kowai* 'fear', as well as a certain subset of the analytic stative verbal or adjectival predicates with some implication of possession, such as the *V-rareru* 'can do / have an ability to do' and *V-tai* 'want to do / have a desire to do'.

Ogawa and Nawata (2025) argue that all the predicates that can license a dative subject are possessive predicates, and that this is not an accidental generalization because Japanese is a language that lacks a transitive possessive verb corresponding to the English *have*, in which the possessive relationship is expressed by pairing an existential copular verb with a locative PP (Freeze (1992)). Harves and Kayne (2012) also propose one famous cross-linguistic generalization such that if a language does not have a transitive verb of possession, the language does not have a transitive verb

of "necessity" either. Harves and Kayne's (2012) generalization also holds true in Japanese. In fact, the meanings expressed by the combination of the transitive verbs *have* and *need* and a nominative subject and an accusative object in English always needs to be expressed in Japanese as a combination of a dative subject, a nominative object, a copulative/existential verb and/or a nominal predicate.

Another claim made by Ogawa and Nawata (2025) is that the dative subject of the DSC must establish a predication relation with an individual-level predicate, as opposed to a stage-level predicate. Carlson (1980) analyzes predicates describing a temporal state or event of an individual as *stage-level* predicates (SLP), and predicates describing a permanent or intrinsic property of an individual as *individual-level* predicates (ILP). Combining this basic distinction with Diesing's (1992) Mapping Hypothesis, Ogawa and Nawata (2025) argue that the dative subject in Japanese is base-generated in a higher position than a standard nominative subject, or more specifically, in the Spec of FinP, which Rizzi (1996) identifies as a functional category in the CP-layer that denotes finiteness.[9] The dative subject, qua locative PP, can be base-generated in [Spec, Fin] because, Ogawa and Nawata argue, it is a kind of what Maienborn (2001) refers to as a "frame-setting locative (FSL)," which is located at the highest position among the three subtypes of locative modifiers in his classifications: internal locatives, external locatives, and frame-setting locatives.

2.5. An Extension of Ogawa and Nawata (2025)

We adopt Ogawa and Nawata's (2025) idea that the dative subject in Japanese syntactically occupies [Spec, Fin] as an additional subject position as in (27a), and that it is an (abstract) possessor and an FSL at the same time, and hence the dative subject can be the syntactic binder of the subject-oriented anaphor *zibun* 'self':

(27) a. [$_{\text{ForceP}}$ WH [Force [$_{\text{TopP}}$ TOPIC [Topic [$_{\text{FocP}}$ FOCUS [Focus [$_{\text{FinP}}$ SUBJ(Dat) [Fin [$_{\text{TP}}$ SUBJ(Nom) [T [$_{\text{vP}}$ …]]]]]]]]]]

b. [$_{FinP}$ DP-Dat (= FSL/possessor) [$_{TP}$ [$_{DP}$ … *zibun* …]-Nom [$_{VP}$ NP-Loc Predicate (V/A/N)]]]

Also, we claim that Experiencer in the psych-predicates and the Causee in the causative predicate are a kind of (abstract) possessor of the following eventuality in that it possesses the situation denoted by the predicate.

Given these assumptions, we can license covert raising of Experiencer to [Spec, Fin] even in languages in which multiple Specs of TP are not overtly licensed, such as Modern English, or in languages in which there is allegedly no TP, such as Old English (Gelderen (2022)) and Mandarin Chinese (Lin (2006)). Indeed, we predict that even these languages have/had a dative subject and/or backward binding with a subject-oriented anaphor in a nominative NP and its antecedent in the accusative case. See Nawata (2019) for the dative/quirky subject in Old English. Backward binding in Mandarin Chinese such as (4a, b) can be licensed in (28b), which is minimally different from (27b) in the absence of a TP subject position:

(28) a. [$_{FinP}$ [$_{vP}$ Theme/Causer [$_{VP}$ Experiencer [$_{V'}$ V ~~Theme/Causer~~]]]] (overt syntax)

b. [$_{FinP}$ Experiencer [$_{vP}$ Theme/Causer [$_{VP}$ ~~Experiencer~~ [$_{V'}$ V ~~Theme/Causer~~]]]] (LF)

Ogawa and Nawata (2025) claim that the dative subject in [Spec, Fin] must be the possessor of a certain property denoted by the ILP. However, there are a few exceptions to this generalization in that the possessor can be a result state of an event denoted by an SLP (change-of-state) predicate. First, as Takano (2011) notes, either the Theme NP or the Goal NP of a double complement unaccusative verb such as *modoru* ‘get back’ and *wataru* ‘pass’ can be the antecedent of *zibun*:

(29) a. Ken$_i$-ga zibun$_i$-no heya-ni modor-ta.
Ken-Nom self-Gen room-to get.back-Past
'Ken got back to his own room.'

b. Ken$_i$-ni zibun$_i$-no saihu-ga modor-ta.
Ken-to self-Gen purse-Nom get.back-Past
His own purse got back to Ken.' (Takano (2011: 234))

The verb *modoru* 'get back' is an achievement, change-of-location verb rather than a stative verb, and yet the dative NP in (29b) can behave like a subject and can license the subject-oriented anaphor *zibun*. Takano (2011) argues that [Spec, v] can have an EPP feature to host either a dative NP or a nominative NP in this construction, and that that is why either of the two NPs can license a reflexive contained in the other NP. However, if any dative NP as well as nominative NP can fill in [Spec, v], an empirical problem will arise in explaining the contrast in the possibility of a dative NP to be the antecedent of *zibun*. First, consider the contrast between (30a) and (30b):

(30) a. Saikin, watasi$_i$-ni zibun$_i$-no ziyuu-ni-naru
recently I-Dat self-Gen freedom-to-become
jikan-ga fueta.
time-Nom increased
'Recently, I have had more time for myself.'

b. ?*Saikin, watasi$_i$-ni zibun$_i$-no harau zeikin-ga hueta.
recently I-Dat self-Gen pay tax-Nom increased
'Recently, the amount of tax that I myself have to pay has increased.'

In (30a), time freedom is something we can have and its possessor is represented as the dative subject, and hence it satisfies the possession requirement imposed on FinP. By contrast, in (30b), tax is not venitive but andative. Hence, the dative subject is

the payer, not the possessor, of the tax. What matters, however, is that the predicate *hueru* 'increase' used in (30a, b) is not a stative verb (ILP) but an incremental theme verb (SLP). Hence, we are led to the conclusion that not only the subject of an ILP but also the (extended) possessor of an SLP can license the DSC in Japanese.[10]

Second, the *zibun* 'self' embedded in a causative nominative NP can be bound by a genitive NP embedded in an accusative NP, even if the main predicate is not a psych-verb nor an analytical causative predicate but a lexical causative verb, if its antecedent in an accusative NP is interpretable as the possessor of the entire situation (change-of-state event or its result state) denoted by the sentence, as in (31a):

(31) a. Zibun$_i$-no ronbun-ga kokusai jaanaru-ni saitakus-are-ta
self-Gen article-Nom international journal-to accept-Pass-Past
koto-ga Taro$_i$-no kenkyuu-o sarani ikioizuke-ta.
fact-Nom Taro-Gen research-Acc further energize-Past
'The fact that self's article was accepted to an international journal further energized Taro's research activities.'

b. Taro got energized because his own article was accepted by an international journal.

This fact is similar to (2a) with the ditransitive *give* in English, but different from it in that the antecedent NP is deeply embedded in the object NP and hence could not c-command *zibun* if it remained in-situ. But we are assuming that the possessor of an entire eventuality can be raised to [Spec, Fin] at LF to license *zibun* from the additional subject position. This holds true in (31a) because it can be paraphrased as in (31b), where *Taro* can be qualified as the possessor of the entire eventuality. This is why (31a) is acceptable.

(32) [$_{FinP}$ [NP-Gen]$_i$ [$_{TP}$ [*zibun*$_i$ … N2]-Nom [[~~NP-Gen~~]$_i$-N1]-Dat

ikioizuke-ta]]

Third, Takano's (2011) example in (29b) can also be explained in the same way: if his own purse (which he once lost) gets back to Ken, Ken will (again) be the possessor of the purse. Hence, the possession requirement is satisfied. (29b) is acceptable because the dative NP can be moved to [Spec, Fin], rather than [Spec, v].

Fourth, the acceptability of (15a, b) also falls under our analysis of [Spec, Fin] as the landing site for possessor raising. In section 2.1, we stated that *break John's resistance* is almost equivalent to *defang/incapacitate John* and that *catch John's attention* is almost synonymous with *attract/fascinate John.* This means that *John* in these examples is an abstract possessor of a certain mental condition instigated in him. (15a, b) can be paraphrased as (33a, b), respectively. Hence, the Experiencer is raised to [Spec, Fin] to be qualified as the antecedent of *himself* at LF:

(15) a. These nasty stories about himself$_i$ broke John$_i$'s resistance.
b. These rumors about himself$_i$ caught John$_i$'s attention.

(33) a. John$_i$ could no longer have resistance to anything due to these nasty stories about himself$_i$.
b. John$_i$ had attention to these rumors about himself$_i$.

Our analysis can also explain the data that Pollard and Sag (1992) and Iwata (1995) provide for their logophoric analysis of backward binding, as shown below:[11]

(34) a. The picture of himself$_i$ in *Newsweek* bothered John$_i$.
b. *The picture of himself$_i$ in *Newsweek* bothered [John$_i$'s father].
(Pollard and Sag (1992: 277))

(35) a. *Stories about herself$_i$ generally please [Mary$_i$'s father].
(Iwata (1995: 115))

b. *Pictures of each other$_i$ annoy [the millionaire who funded the politicians$_i$].

(34a) is a typical case of backward binding with psych-verbs. In (34b), the binder of the anaphor is embedded in a larger *animate* NP as its possessor, and the only difference between (34b) and (15a, b) is whether the direct object is a [+human] kinship NP or a [-human] inalienable possession NP. In the former case, even if the possessor of a [+human] NP *John* is raised to [Spec, Fin] at LF, it cannot be interpreted as the experiencer of the entire event denoted by the predicate, as (34b) means that it is John's father, not John, that experiences a bothering situation caused by the picture. In (35a), too, the person who is pleased by the referent of the subject NP is not *Mary* but *Mary's father*. In (35b), too, *the politicians* is not the experiencer of the annoying situation. In all these instances, since the antecedent of the anaphor cannot be the possessor of the entire event denoted by the main predicate, and hence it cannot be raised to [Spec, Fin], and the BT(A) is violated at LF.

2.6. The Cases of Non-Psych Nominal Predicates

One fact apparently problematic for our analysis and in support of Kishimoto's (2014) is that even if the nominal predicate is a possessive noun, the possessor does not seem to license overt possessor raising to result in the DSC, nor can it license backward binding. However, we will argue that the cases of non-psych nominal predicates indeed support our hypothesis. Consider, first, (36a, b):

(36) a. Sono okane-ga Mary-no syoyuu-dat-ta.
that money-Nom Mary-Gen possession-Cop-Past
'That money was in Mary's possession.'

b. *Mary-ni-wa sono okane-ga syoyuu-dat-ta.
Mary-Dat-Top that money-Nom possession-Cop-Past

‘Mary was in possession of that money.’ (Kishimoto (2014: 236))

Kishimoto (2014) also shows that the possessive nominal *syoyuu* ‘possession’ does not allow backward binding either:

(37) *Zibun$_i$-no kuruma-ga Mary$_i$-no syoyuu-dat-ta.
Self-Gen car-Nom-Nom Mary-Gen possession-Cop-Past
‘Self’s car was in Mary’s possession.’ (ibid.: 236)

In our theory, *Mary*, as the possessor of the possessive nominal, should be able to be raised to [Spec, Fin] and license *zibun*. Moreover, if we assume with Ogawa and Nawata (2025) that the NP in [Spec, Fin] can license the DSC in Japanese, it seems unclear why the possessor cannot license the DSC in (36b).

However, this problem is only apparent, since (37) turns well-formed if the affirmative sentence is replaced by a negative sentence, as in (38):

(38) Zibun$_i$-no kuruma-ga Mary$_i$-no syoyuu-de-wa nakat-ta.
Self-Gen car-Nom-Nom Mary-Gen possession-Cop-Top Neg-Past
‘Self’s car was not in Mary’s possession.’

In order to make (38) acceptable, *zibun-no kuruma* ‘self’s car’ needs to be interpreted as ‘the car Mary is using daily’, rather than ‘the car Mary possesses’, because the latter interpretation involves semantic contradiction. The ill-formedness of (37) can also be attributed to its semantic tautology because it says that one’s possession is his/her possession. In fact, if we replace *syoyuu* ‘possession’ by a compound noun *syoyuu-butu* ‘possession-thing’ and add an emphatic adjective *yuiitu-no* ‘only’, (36b) and (37) also turn acceptable, as in (39a, b), which are acceptable in such a context that everything Mary is using daily except for her car is not her own (legal)

possession but is her husband's:

(39) a. Mary-ni-wa zibun$_i$-no kuruma-ga yuiitu-no
Mary-Dat-Top self-Gen car-Nom only-Gen
syoyuubutu-dat-ta.
possession.thing-Cop-Past
'For Mary, self's car was the only thing which she possesses.'

b. Zibun$_i$-no kuruma-ga Mary$_i$-no yuiitu-no
Self-Gen car-Nom Mary-Gen only-Gen
syoyuubutu-dat-ta.
possession.thing-Cop-Past
'Self's car was in the only thing which Mary possesses.'

In Kishimoto's theory, when a genitive argument of a nominal predicate is not construed as an Experiencer, no θ-role transfer takes place, and hence neither the DSC nor backward binding should be allowed in (38) or (39a, b). The well-formedness of (38) and (39a, b) are, hence, counterexamples for his analysis of the psych-nominal predicates. In our theory, on the other hand, not only the Experiencer but also a pure Possessor can be raised to [Spec, FinP] either overtly or at LF, as far as it is the possessor of the situation expressed by the predicate. Thus, *Mary* in (39a, b) is not only the possessor of the car itself but also experiences the situation in which her car is the only thing which she has the right to dispose. Hence, the acceptability of these sentences neatly falls under our theory.

2.7. Folli and Harley (2007)

Kayne (1975) identifies two different types of analytic causative constructions in French, referred to as *faire par* (FP) and *faire infinitif* (FI), respectively. The FI is transparent, compositional, and widely acceptable with any selection of the

embedded verb or verb phrase, whereas the FP is much more restricted than FI. Kayne points out six properties that distinguish the FP from the FI.

Folli and Harley (2007: 201) demonstrate that essentially the same distinction can be made between the Italian counterparts of the FI and FP, as in (40a-f):

(40) a. The causee of a transitive embedded verb is marked with dative case in FI and by a preposition, *da*, in FP (in Italian).
b. Non-passivizable idioms are acceptable in FI but not in FP.
c. The FI *a*-phrase (*a* = *to* in English) can bind the embedded object; the FP *da*-phrase (*da* = *by* in English) cannot.
d. The causee may be omitted in FP but not in FI.
e. Non-passivizable verbs are acceptable in FI but not in FP.
f. There is a sense of obligation on the part of the causee in FI but not in FP.

The distinction between the FI and FP made on the basis of these properties is acknowledged to be widely applicable to Romance languages in general.

Building on these observations, Folli and Harley (2007) propose that there are two types of light verb, v_{DO} and v_{CAUSE}, where v_{DO} requires an Agentive subject and can take either a nominal or small clause complement, whereas v_{CAUSE} can take either an Agentive or inanimate Causative subject, and obligatorily takes a small clause complement, as in (41):

(41) Folli and Harley's (2007: 210) proposal:

Flavor of v	Specifier	Complement
v_{DO}	Agent	Nominal or small clause
v_{CAUSE}	Causer or Agent	Small clause

Folli and Harley's essential claim is that the Causer must be an inanimate entity, whereas the Agent must be an animate entity and that the light verb associated with the FI is v_{CAUSE}, which can license both Agent and Causer, whereas the light verb associated with the FP is v_{DO}, which can license only Agent. It follows from these assumptions that the range of constructional variations will be much more restricted for the FP than for the FI in terms of the embedded subject (i.e., Causee), although the small clause complement embedded below the causative light verb *faire* 'make' is possible for both v_{DO} and v_{CAUSE}.

3. Our Proposed Explanation of Backward Anaphora in English, Japanese and Chinese

3.1. Proposals and Assumptions

The gist of Folli and Harley's (2007) claim is that there is more than one type of light verb, even if we limit our attention to dyadic verbs. They do not exclude the possibility that there are other types of light verbs than v_{DO} and v_{CAUSE}. In fact, we need other types of light verbs that select an unaccusative verb or ES psych-verb (cf. also Takano (2011), Cheung and Larson (2015)). What types of light verbs are necessary is a purely empirical issue. Hence, we will not literally adopt Folli and Harley's (2007) conceptions of the light verb syntax, but make a few modifications and incorporate them into the clausal spine we will henceforth adopt in this article.

First, we assume that v_{CAUSE} can take only Causer as its specifier, whereas v_{DO} can take only Agent as its specifier.

Second, we assume that not only v_{DO} but also v_{CAUSE} can take a Nominal clause, at least as a choice among cross-linguistic parametric variations, and the positive value for it applies at least to Japanese.

Third, we assume that an Experiencer argument in the clausal spine is universally base-generated in [Spec, VP] (pace Cheung and Larson (2015)), that the Experiencer argument of an ES psych-verb is overtly raised to [Spec, T] as its nature

as an NP (Landau (2010)), although the Experiencer argument of an EO psych-verb can be left in-situ in overt syntax due to its nature as a PP (Landau (2010)).

Fourth, an NP/PP moving to [Spec, Fin] needs to move through [Spec, v], because the light verb v is a phase head and the Phase Impenetrability Condition (PIC) (Chomsky (2001)) prevents any movement skipping [Spec, v].

Fifth, the Theme argument is base-generated at the complement of V, and when it is also interpreted as Causer as in the case of the EO psych-verb construction, it is raised to the specifier of v_{CAUSE} and is properly licensed therein (Pesetsky (1995)).

Sixth, the movement of the Theme NP to [Spec, v_{CAUSE}], though crossing the Experiencer argument in [Spec, V], does not violate the Minimal Link Condition (MLC) because the Experiencer of an EO psych-verb is a PP, and is not forced to be attracted to [Spec, v_{CAUSE}] or [Spec, T] to which the Theme/Causer could move, for the same reason as the common NP-raising from the embedded [Spec, T] to the matrix [Spec, T] across an Experiencer PP as in (42) is legitimate:

(42) John seems [$_{PP}$ to Bill] [$_{TP}$ ~~John~~ to be smart].

Seventh, the LF movement of the Experiencer to [Spec, Fin] across [Spec, T] where a nominative subject occupies would not violate the MLC, either, because the covert movement is not triggered by the EPP feature but by a semantically driven formal [+Poss] feature, which is not shared by the nominative subject in [Spec, T]. We can conjecture that the Possessor/Experiencer has to take scope over the Possessed and that such a semantic requirement imposes a formal [+Poss] feature on the Fin head, so as to make the LF representation interpretable at the C-I interface.

3.2. The Proposed Derivation of Backward Binding

Given these proposals and assumptions, the derivation of a typical EO psych-verb construction in overt syntax and at LF, which we already introduced in (28a, b),

can be elaborated as in (43a, b):

(43) a. [$_{FinP}$ [$_{TP}$ Theme/Causer [$_{vP(CAUSE)}$ ~~Theme/Causer~~ [$_{VP}$ Experiencer [$_{V'}$ V ~~Theme~~]]]]] (overt syntax)

b. [$_{FinP}$ Experiencer/Possessor [$_{TP}$ Theme/Causer [$_{vP(CAUSE)}$ ~~Theme/Causer~~ [$_{VP}$ ~~Experiencer~~ [$_{V'}$ V ~~Theme~~]]]]] (LF)

In (43a), the Theme/Causer argument of a psych-predicate is overtly raised from the complement of V to [Spec, v] to satisfy the [+cause] feature of v_{CAUSE}, and then to [Spec, TP] to satisfy the EPP and Case features of T. In (43b), the Experiencer argument, merged at [Spec, V], is raised to [Spec, Fin] to satisfy the [+Poss] feature of Fin. We assume that [Spec, Fin] is an A-position (as an extended subject position). Hence, if the Experiencer argument (43b) is the antecedent of an anaphor contained in the Theme/Causer argument, the anaphor is bound by the Experiencer and (43b) satisfies BT(A) at LF. Since [Spec, Fin] is an extended subject position, *zibun* 'self' in (6a, b) in Japanese and *ziji* 'self' in (4a, b) in Chinese can also satisfy its subject-orientation requirement. That is why backward binding is legitimized, even in languages with a subject-oriented anaphor such as Japanese and Chinese.

Although our explanation of backward binding is largely based on Landau's (2010) idea about the syntax of the psych-verb constructions that the Experiencer Object (EO) of a Class II psych-verb is a locative PP which is covertly raised to a position that takes a nominative subject in its scope, it differs from Landau's in that we have attempted to provide a syntactic explanation of backward binding, and that the covert raising of the EO is not for the licensing of the [loc] feature of a locative PP in the TP domain but for the licensing of the [+Poss] feature of the Experiencer argument in the FinP domain. Moreover, the Experiencer is not always identified with the direct object of an EO psych-verb but the genitive NP modifying an inanimate direct object can be the possessor. The well-formedness of (1a, b) and (15a,

b) can be explained without any additional assumptions.

Landau's theory and ours should make different predictions: First, we predict that backward binding should be possible in languages without TP (such as Chinese; Lin (2006)) or in languages that lack multiple specifiers of TP (such as Italian). These predictions are indeed borne out.

Second, as we are assuming that what is moved to [Spec, Fin] is the Possessor of the eventuality denotated by the matrix predicate, we predict that not only the Experiencer argument but also the Goal argument can be raised to [Spec, Fin]. This will explain why (29b) and (30a) are well-formed.

Third, as Landau (2010) rejected a syntactic explanation of backward anaphora, he has missed the important generalization that a causative predicate needs to be involved in the possibility of backward anaphora (Pesetsky (1995)). In our theory, this generalization is captured by a modification of Folli and Harley's (2007) hypothesis about the light verb syntax. Only when v_{CAUSE} is projected above VP can the Theme argument be raised to [Spec, v] overtly across the Experiencer (or any other type of) argument and the word order of Theme overtly preceding Experiencer be attained.

Fourth, our explanation of backward binding is also similar to Kishimoto's (2014) idea in that a genitive NP can sometimes be qualified as a grammatical subject when it functions as a possessor after being covertly raised to a higher A-position than where a nominative subject occupies and can bind an anaphor in the nominative subject at LF. However, our analysis is also different from Kishimoto's (2014) in at least two respects. First, in our system, the scope of covert raising is not limited to Experiencer, so we can provide a unified explanation for the backward anaphora in the causative verbs in (2a-c), the causative change-of-state verbs in (15a, b), and the non-psych possessive nominal predicates in (38a, b) and (39a, b). Such a unification is impossible in Kishimoto's (2014) theory, which is specifically proposed for the psych-nominal construction in Japanese. Second, it remains unclear how

Kishimoto's (2014) theory is applicable to a language with backward binding but without the DSC, such as Mandarin Chinese. For these two reasons, our system is superior to Kishimoto's.

3.3. Pesetsky's Generalization

The final issue that a syntactic analysis of backward binding should tackle with is Pesetsky's (1995) generalization that backward binding is possible with causative non-agentive predicates. In causatives, Pesetsky (1995) includes not only the psych-verbs in (1a, b) but also the lexical causative verb *give* in (2a), periphrastic causative verbs *make* and *force* in (2b,c). These examples contrast with the agentive predicates as in (3a, b). (1b), (2b), and (3b) are repeated below as (44a-c):

(44) a. Each other$_i$'s supporters worried [Freud and Jung]$_i$.
b. Each other$_i$'s remarks made [John and Mary]$_i$ angry.
c. *Each other$_i$'s teachers insulted [John and Mary]$_i$.

We claim that the necessary condition of causation excluding agency follows from the fact that the movement of the Experiencer from within VP to [Spec, Fin] needs to use [Spec, v] as an escape hatch, due to the phasehood of vP (Chomsky (2001)), and that for the derivation to converge, multiple Specs of vP are necessary. First, consider the causative non-agentive in (44a, b). Here, we claim that [Spec, v_{CAUSE}] is available not only as the landing site of the overt movement of the Causer NP, but also as an escape hatch for the movement of the Experiencer NP to [Spec, Fin]. Hence, the PIC is satisfied and (44a, b) also satisfies BT(A).

Suppose, on the other hand, that v_{DO} cannot license multiple Specs as A-positions. Then, the Experiencer would not be able to reach [Spec, Fin] without violating the PIC. Hence, BT (A) is violated in (44c).

This distinction between causative non-agentive predicates and agentive

predicate can also be semantically motivated. Consider (45a), which is a causative sentence that has an inanimate subject NP and its possessor:

(45) a. John's letter pleased his mother.
b. John's friend hit Bill.

A common interpretation of (45a) is that John wrote a letter, which is sent to his mother and his mother, who read the letter, was pleased. In this sequence of multiple events, John's letter is the direct causer of the psych-predicate *please his mother*, but we can also interpret *John* as the indirect causer of the same event and result, because John's letter pleasing his mother entails John pleased his mother. Hence, we assume that the $v_{CAUSE}P$ can license multiple Specs and the indirect causer can undergo possessor raising to the outer Spec of $v_{CAUSE}P$, due to both being causers. In this construction, the Experiencer can use one of the two Specs of vP as an escape hatch. Hence, the Experiencer argument can be moved out of the vP to reach [Spec, Fin], without violating the PIC. The same explanation also applies to the analytic causative predicates as in (44b). The vP associated with the causative verb *make* can license multiple Specs for the same reasons.

In both cases, the Experiencer and Causee moved to [Spec Fin] are also interpretable as the Possessor of the entire event, since (45a, b) can be paraphrased as in (46a, b). Hence, when the Causee is moved to [Spec, Fin] at LF, it can use the outer Spec of vP as an escape hatch and reach [Spec, Fin] successfully:

(46) a. [Freud and Jung]$_i$ have had a worry because of some event caused by each other$_i$'s supporters.
b. [John and Mary]$_i$ have had an anger because of some event caused by each other$_i$'s remarks.

By contrast, even if the subject of an agentive predicate has a possessor as in (45b), the possessor cannot be interpreted as the indirect agent of the event. Thus, in (44b), John's friend hitting Bill does not entail that John hit Bill. Hence, the v_{DO} cannot license multiple Specs. This means that if the Patient argument is to undergo covert movement to [Spec, Fin], it cannot be moved out of the vP due to the PIC. This is why (44c) is ill-formed.

4. Logophoricicity vs. Anaphoricity

4.1. The Alleged Logophoricity of the Chinese *Ziji* and Japanese *Zibun*

Long-distance (monomorphemic) anaphors such as *ziji* 'self' in Chinese and *zibun* 'self' in Japanese are alleged to have some properties that resist syntactic explanations (see also note 5). This section reviews such previous analyses.

Wang and Pan (2021) prefer a pragmatic account to a syntactic analysis of the so-called Long-Distance Reflexive (LDR) in Chinese *ziji*, on the basis of the data showing some cases in which *ziji* is not c-commanded by its antecedent and cases in which *ziji* takes a non-subject as its antecedent. From our perspectives, however, most of their arguments against syntactic analyses are not viable.

First, consider (47):

(47) Zhangsan$_i$ kuajiang ziji$_{i/j}$ xia-le Lisi$_j$ yi tiao.
Zhangsan praise self scare-Perf Lisi one jump
'That Zhangsan$_i$ praised self$_{i/j}$ greatly surprised Lisi$_j$.'
(Wang and Pan (2021: 4))

Wang and Pan (2021) argue that in (47) the object *Lisi* can also be accepted as the antecedent of the LDR *ziji*. However, this is a typical case of backward binding with psych-predicates, and *ziji* can refer to *Lisi* here for the same reason as (1a, b) in English, (4a, b) in Chinese and (6a, b) in Japanese: LF-raising of the Experiencer

argument to [Spec, FinP] enables it to bind the anaphor in the sentential subject. Hence, (47) is not a problem for us.

Second, consider (48):

(48) Zhangsan$_i$ quangao Lisi$_j$ ziji$_{*i/j}$ yinggai xian kan-dong-le,
Zhangsan advise Lisi self should first read-understand-Perf
zai gei xuesheng jiang.
then to student speak
'Zhangsan advised Lisi to understand (the materials) before teaching the students. (Wang and Pan (2021: 4))

In (48), Wang and Pan argue that *ziji* can refer to *Lisi*, the indirect object of the matrix verb *quangao* 'advise', and in fact, it cannot refer to the matrix subject *Zhangsan*. However, this is a variant of the well-established control complement in English. The English counterpart of (48) is expressed with a control complement with a PRO subject, as in (49), where the matrix verb *advise* is an object-control verb, so that the PRO subject of the infinitive complement clause should be controlled by the matrix object but not by the matrix subject:

(49) John$_i$ advised Bill$_j$ [PRO$_{*i/j}$ to understand the materials before teaching the students].

In Japanese, as in Chinese, the PRO subject can be replaced by the overt reflexive *zibun*, and yet the same kind of control relation needs to be established between the PRO or the emphatic reflexive *zibun* and the matrix object, as in (50a, b):

(50) a. Taro$_i$-wa Jiro$_j$-ni [[seito-ni osieru-maeni-wa] PRO$_{*i/j}$
Taro-Top Jiro-to student-to teach-before-Top

kyozai-o rikaisiteoku yoo] zyogensi-ta.
material-Acc understand Comp afvise-Past
'Taro advised Jiro to understand the materials before teaching them to the students.'

b. Taro$_i$-wa Jiro$_j$-ni [[seito-ni osieru-maeni-wa]
Taro-Top Jiro-to student-to teach-before-Top
zibun$_{*i/j}$-ga/*kare-ga kyozai-o rikaisiteoku yoo] zyogensi-ta.
self-Nom he-Nom material-Acc understand Comp advise-Past
'Taro advised Jiro to understand the materials before teaching them to the students.'

In (50a), the unpronounced subject of the embedded clause, expressed here as PRO, should be identified with the matrix object *Jiro* but not with the matrix subject *Taro*, because *zyogensuru* 'advise' is an object control verb. In (50b), the infinitive complement of an object control verb can be overtly realized by *zibun* 'self', but not by the third-person singular masculine pronoun *kare* 'he'. These facts show that the embedded clause is not a finite clause that allows any nominative subject but a controlled infinitive complement and *zibun* is an emphatic reflexive that overtly realizes PRO, rather than *zibun* as a pure LDR, and its distribution should be governed by the same constraint as governing the distribution of obligatorily controlled PRO (cf. Culicover and Jackendoff (2001), Boeckx and Hornstein (2004), Ostrove (2026)). The same comment also applies to (48) in Chinese. Hence, the lack of subject orientation of *ziji* in (48) does not pose a problem for a syntactic analysis of *ziji* as an LDR / subject-oriented anaphor.

Third, consider (51):

(51) [Wuqingde shishi]$_i$ gaosu Lisi$_j$ ziji$_{*i/j}$ de jihua xingbutong.
harsh fact tell Lisi self DE plan not-work

'The harsh reality tells Lisi$_j$ that his$_j$ plan does not work.'

In (51), *ziji* can be bound by the object *Lisi*. Wang and Pan (2021) argue that (51) is thus in conflict with the subject-orientation requirement of *ziji*. From our perspectives, however, (51) is quite similar to (52a), with the matrix ditransitive verb *ataeru* 'give', in which the indirect object qua possessor can be the antecedent of *zibun* 'self', apparently against the subject-orientation requirement. In fact, we have an acceptable translation of (51) into Japanese, as in (52b):

(52) a. John$_i$-ga musuko$_j$-ni zibun$_{i/j}$-no heya-o atae-ta.
John-Nom son-Dat self-Gen room-Acc give-Past
'John gave his son his own room.'

b. Sono zizitu-ga Taro$_i$-ni, zibun$_i$-no keikaku-ga umaku ika-nai
that fact-Nom Taro-to self-Gen plan-Nom well go-Neg
koto-o osie-ta.
fact-Acc tell-Past
'That fact told Taro that self's plan would not work well.'

What is common to these examples is that the matrix verb is a ditransitive verb and that the indirect object is the experiencer or possessor of the result state of the caused event of giving someone something. Experiencer is an abstract possessor. Hence, we can apply the same analysis as we gave to the typical cases of backward binding to (51) and (52a, b): the indirect object of the ditransitive construction undergoes covert raising to [Spec, FinP] as the possessor of the entire situation. Hence, (51) is not problematic for us, either.

Fourth, Wang and Pan (2021) point out that the fact that *Zhangsan* in (53a), embedded in the subject NP, can be the antecedent of *ziji*, and argue that it cannot be explained syntactically, since the possessor of the NP does not c-command the

reflexive. They also argue that the contrast between (53a) and (53b) is in conflict with a syntactic solution of the problem because the only difference between them is that the verbs used are *anshi* 'hinted' in (53a) and *biaoming* 'indicated' in (53b):

(53) a. [Zhangsan$_i$ de xin]$_j$ anshi Lisi$_k$ hai-le ziji$_{i/*j/k}$.
Zhangsan DE letter hinted Lisi harm-Perf self
'Zhangsan$_i$'s letter hinted that Lisi$_k$ harmed him/himself$_{i/k}$.'

b. [Zhangsan$_i$ de xin]$_j$ biaoming Lisi$_k$ hai-le ziji$_{*i/*j/k}$.
Zhangsan DE letter indicated Lisi harm-Perf self
'Zhangsan$_i$'s letter hinted that Lisi$_k$ harmed him/himself$_{i/k}$.'
(Wang and Pan (2021:5))

However, the second author of this article, as a native speaker of Mandarin Chinese, asked five native speakers of Mandarin Chinese about the acceptability of (53a, b) and all of them accepted (53b) as well as (53a) in the reading in which *ziji* refers to *Lisi*. We understand this fact as showing that *Zhangsan*, the possessor of the matrix subject, can undergo possessor raising to the outer Spec of v_{CAUSE}P, from where it can A-bind *ziji*, because v_{CAUSE}P can license multiple Specs. If the acceptability of (53b) displays inter-speaker variations, that is probably because the easiness of the inference of indirect causation may vary from person to person.

Fifth, Wang and Pan (2021) demonstrate that a first/second-person pronoun prevents *ziji* from extending its binding domain beyond the clause containing these pronouns, whereas a third person pronoun does not, which they argue falls out of a syntactic explanation:

(54) a. Zhangsan$_i$ juede {wo/ni}$_j$ dui ziji$_{*i/j}$ mei xinxin.
Zhangsan think I/you to self not confidence
'Zhangsan thinks that {I/you} have no confidence in

myself/yourself/*him.'

b. {Wo/Ni/Zhangsan}$_1$ juede Lisi$_j$ dui ziji$_{i/j}$ mei xinxin.
{I/You/Zhangsan} think Lisi to self not confidence
'{I/You/Zhangsan} think(s) that Lisi has no confidence in me/you/him/himself.' (Wang and Pan (2021:5-6))

A similar blocking effect is also observed for the anaphor binding of *zibun* in Japanese. Kuno (1978) observes that in (55a) *zibun* cannot be bound by the matrix subject, when the embedded subject is a first-person pronoun:

(55) *Taro$_i$-wa [boku-ga zibun$_i$-ni kasi-ta] okane-o
aro-Top I-Nom self-Dat lend-Past money-Acc
nakusite-simat-ta rasii.
lose-end.up-Past it.seems
'It seems that Taro$_i$ lost the money I lent him$_i$.' (Kuno (1978: 213))

The same kind of degradation is also observed when the embedded subject is a second-person pronoun *anata/kimi* 'you'.

We argue that the blocking effect can also be explained syntactically, if we take into account the fact that *zibun* and *ziji* are monomorphemic reflexives for which there is no evidence that phi-features exist (Katada (1990: 291)). Note first that *zibun* must take a [+human] antecedent. And it is subject-oriented and it can be long-distance bound. To explain these properties of *zibun*, Katada (1990) claims that *zibun* in Japanese has an operator feature [+op] and because of this, it undergoes LF-raising to a VP-adjoined position, from which it can only be locally c-commanded by a subject, as objects occur VP-internally. Hence, only a grammatical subject can be the antecedent of *zibun*. As the movement of *zibun* is an A′-movement, it can move successive cyclically, and its property as the long-distance anaphor follows from this

long-distance movement.

Pushing Katada's (1990) ideas one-step forward, let us propose that *zibun* and *ziji*, due to their underspecified nature on phi-features, need to gain their phi-feature values by being bound by an NP with a full phi-feature specification. Suppose also that the first- and second-person pronouns have such a full phi-feature specification, whereas the third-person singular noun or pronoun does not have to have a phi-feature specification and agreement may have a default manifestation, as in (56):[12]

(56) A third-person singular noun/pronoun can have a phi-feature specification, but does not have to; in the latter case too, the third-person singular form emerges on a predicate as the default agreement.

There is good reason to believe that a third-person singular agreement is the default agreement. Thus, Ackema and Neeleman (2019) argue that the verbs in the impersonal passive construction in Dutch manifest the third-person singular agreement because third-person is the default in the person system and singular is the default in the number system.

(57) Nog jaren {is /*ben /*bent /*zijin} naar een oplossing gezocht.
Still years be-3sg /be-1sg /be-2sg/be-pl for a solution searched
'People searched for a solution for many years.'

Note also that in the cleft construction where a first- or second-person pronoun subject occupies the post-copula focus position, the finite verb following the subject wh-operator in the presuppositional clause does not have to agree with the focal NP but can manifest the default third-person singular agreement, as in (58a, b):

(58) a. It's {me/you} who **is** responsible. (Akmajian (1970: 150))

b. It's you that **has** to change. (COCA; 2019; MOV)

These facts are instantiations of the statement in (56).

Given (56) as a correct generalization, we now claim that the monomorphemic reflexives in Japanese and Chinese in a VP-adjoined position, due to the lack of its own phi-feature values in their lexical specification, need to have the phi-feature values syntactically copied from the closest c-commanding T (or Fin in a language which lacks T) that has an NP with a non-default phi-feature in its specifier, and such a valuation takes place after the LDR moves to a VP-adjoined position at LF. However, such a valuation fails if the subject NP in [Spec, T] is headed by a third-person singular noun that lacks phi-features; in the latter case a default agreement will emerge on T. It follows from these assumptions that if *zibun/ziji* occurs in a clause whose subject is a first- or second-person pronoun as in (54a), they will obligatorily receive a phi-feature value from the first- or second-person pronoun in [Spec, T] or [Spec, Fin]; if the *zibun/ziji* that has its phi-feature valued as the first/second person were raised to a higher clause, it would violate the principle of economy of derivation. Hence, the blocking effect. On the other hand, suppose that *zibun/ziji* occurs in a clause whose subject is a third-person subject that lacks a phi-feature and that the T head manifests a default agreement. In that case, the LDR cannot receive a phi-feature value from the clausemate subject, so that the LDR can move up to the next-higher clause, without violating the principle of economy. In fact, it has to, in order to fix its phi-feature values at LF. This is why they *can* allow a long-distance binding. If the embedded subject is third-person singular and the matrix subject is first/second-person singular as in (54b), no blocking effect should occur because the third-person NP in the embedded clause can lack a phi-feature specification and manifests a default agreement on T. If the blocking effect with the first- and second-person pronominal subject on the embedded clause is explained in this way, we no longer have to rely on a pragmatic constraint as claimed in Oshima

(2009) or Wang and Pan (2021), and we can maintain a purely syntactic explanation of the distribution of *zibun* in Japanese and *ziji* in Chinese.

4.2. Other Logophoric/Pragmatic Approaches to Anaphors

Zuribi-Hertz (1989) provides data of long-distance anaphor in English which she identifies as 'pronouns used emphatically' and argues that the notion of 'subject' relevant to the licensing of a long-distance anaphor is not a 'syntactic subject' in the sense of generative grammar but a discourse-grammarian notion of 'subject of consciousness', and that English also allows long-distance anaphor in this sense:

(59) John$_i$ believes that letter was sent to either Mary or himself$_i$. (ibid.: 699)

An anonymous reviewer pointed out to us that the exempt anaphor is even legitimate across sentence boundaries, suggesting that the distribution of the exempt anaphor *cannot* be explained syntactically (cf. also Charnavel and Zlogar (2016)):

(60) **John**$_i$ was going to get even with Mary. That picture of **himself**$_i$ in the paper would really annoy her, as would the other stunts he had planned. (Pollard and Sag (1992: 274))

In fact, Pollard and Sag (1992) argue that in (60) the narrator takes on John's perspective, and that if a discourse is made where Mary's, not John's, viewpoint is presented, the sentence becomes severely degraded, as in (61), and in order to make the sentence grammatical, *himself* needs to be replaced by the pronoun *him*:

(61) Mary was quite taken aback by the publicity **John**$_i$ was receiving. That picture of **him**$_i$/***himself**$_i$ in the paper had really annoyed her, and there is not much she could do about it. (Pollard and Sag (1992: 274))

Based on this, Charnavel and Zlogar (2016) propose that these anaphors can be bound by empathy loci and perspective centers. These are pragmatic accounts.

However, we take it that the acceptability of (59) and (60) only implies that there is an emphatic use of reflexive, which is different from a syntactic reflexive. Consider also (62), which shows that an emphatic reflexive can occur even preceding its antecedent, although the reflexive is not c-commanded by its antecedent, potentially violating BT(A), and the pronoun *I* is locally c-commanded by the coindexed reflexive, potentially violating BT(B):

(62) **Myself**, **I**'m not voting in this election, because there isn't a single candidate who hasn't promised to do something I consider evil.
(COCA, 2012, WEB)

In any event, the distribution of emphatic reflexives/pronouns should be distinguished from normal reflexives/pronouns. No matter how the distribution of emphatic reflexives/pronouns is to be explained, it does not justify a pragmatic analysis of backward binding and falsify a syntactic analysis of it, unless it is proved that the reflexive used in backward binding is *always* the emphatic reflexive.

In fact, Pollard and Sag (1992) also show that both an exempt anaphor in a *picture*-noun and the backward anaphora that would otherwise be possible in the psych-verb construction are subject to a certain locality constraint such that if there is animate subject in a closer position, all anaphors must take it as their antecedent:

(63) a. Bill_j remembers that Tom_i saw a picture of $\text{himself}_{i/*j}$ in the post office.
b. *The fact that Sue likes himself_i is believed (by Mary) to be disturbing Tom_i.

The ill-formedness of in (63a, b) in the relevant interpretation will provide an independent support for a syntactic treatment of backward binding in the psych-predicate construction by the BT(A), since locality is a syntactic notion.

5. Conclusion

Exploiting Landau's (2010) proposal about LF-movement of Experiencer as a kind of Locative, Ogawa and Nawata's (2025) claim that Possessor as a kind of Locative occupies a higher subject position than a normal subject, i.e. [Spec, Fin], and the claim that v_{CAUSE}, but not v_{DO}, can license multiple Specs, we have developed a completely syntactic analysis of backward binding and a wider range of facts about *zibun* and *ziji* as LDRs than were previously recognized in the literature of Japanese and Chinese syntax. Coupling these proposals with other assumptions such as the notion of LF-movement of the LDR and the default agreement in TP, we have demonstrated that all the data that Wang and Pan (2021) use for arguing against a syntactic analysis of the various properties of *ziji* in Chinese (and the corresponding facts for *zibun* in Japanese) can be syntactically explained. We also argued that although emphatic reflexives have to be admitted independently of normal reflexives, the fact does not undermine a syntactic analysis of backward binding unless it is proved that the reflexive occurring in the backward binding context is *always* the emphatic reflexive and not a pure reflexive, which does not follow conceptually.

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Notes

1) "Logophors" were originally introduced as morphologically differentiated pronouns whose antecedent must be the one "whose speech, thoughts, feelings or general state of consciousness are reported" (Clements (1975: 141)); hence, "logophoric pronouns appear predominantly within sentential arguments of predicates of communication and mental experience." (Sells (1987: 445)). Proponents of this camp advocate that various notions used in discourse grammar such as topichood, restrictiveness, empathy and point of view are relevant for the distribution and interpretation of anaphors (see Zribi-Hertz (1989: 702-706) for a brief summary on this type of approaches).

2) Grimshaw (1990) argues for B&R's unaccusative analysis, and Pesetsky (1995) provides a causative analysis of nonagentive psych-verbs, essentially along the same line as B&R and Grismshaw (1990). Iwata (1995) also argues for a causative analysis, but is different from B&R's, Grimshaw's (1990), and Pesetsky's (1995) analyses in claiming that psych-verbs are transitive verbs in which CAUSER (the CAUSE that highlights a resultant state) is an external argument. This analysis is unable to deal with backward binding. See also Section 4 for a critical review of previous pragmatic accounts of the subject-orientation, long-distance binding and backward binding of anaphors.

3) In what follows, we will also assume, in accordance with the current minimalist

program, that BT(A) applies only at LF. See Chomsky (1995: chapter 4) for the copy theory of movement for explaining the connectivity as seen in (i) below, where the anaphor *himself* can take either *John* or *Bill* as its antecedent, even if it is not c-commanded by either:

(i) [Which pictures of himself$_{i/k}$]$_j$ did John$_i$ say that Bill$_k$ saw t_j?

4) Wang and Pan (2021: 12) note, however, that *ziji* in Chinese can take an inanimate antecedent. This is one of the small number of differences between *ziji* in Chinese and *zibun* in Japanese, for which we have no explanation.

5) Across languages, a monomorphemic anaphor can take a grammatical subject, but not a direct or indirect object, as its antecedent. Such an anaphor tends to be a long-distance anaphor too, and hence it allows its antecedent to be a subject outside the clause in which it occurs. See Tang (1989) and Wang and Pan (2021) for *ziji* in Chinese, Thrâinsson (1976) for *sig* in Icelandic, Katada (1990: 309) for *zibun* in Japanese, *seg* in Norwegian, *zich* in Dutch, *se* in Italian, and *caki* in Korean, and Zuribi-Hertz (1989: 700) for similar facts in Latin, Korean, Italian, Danish and English, among others.

6) Landau (2010: 110) carefully notes that in eventive nonagentive contexts, forward binding is not ruled out:

(i) John and Mary accidentally startled each other in the dark.

Lee (2001) also notes that there is a significant amount of lexical and/or construction-specific variations in the acceptability of forward binding among native speakers of English, as in (ii):

(ii) a. They bothered each other.
b. ?They concerned each other.
c. ?*John bothers himself.
d. ?*John depresses himself. (Lee (2001: 287))

7) AN and IN are the abbreviations for animate and inanimate nouns. *Iru* is used when the possessed noun is animate, whereas *aru* is used when the possessed noun is inanimate.

8) Quantifier Raising at LF is subject to a stricter locality constraint than the usual wh-movement: it is essentially clause-bound (Hornstein (1995)).

9) See Rizzi and Shlonsky (2006), Nawata (2019) and Ylinärä and Frascarelli (2021) for independent claims that [Spec, FinP] can be qualified as a subject position. See also Kiss (1996) for the claim that two S-structure subject positions are available: IP and RefP.

10) In fact, Ogawa and Nawata (2025) discuss the diachronic process of development of the ILP (DSC) from the SLP (ELC), which means that ILP and SLP are gradient properties. See also Aoyagi (2020) for another argument against Takano (2011).

11) See also Section 4.2 for a caution about *picture*-noun reflexives.

12) The notion of default is ubiquitous in the grammatical system of language. Thus, masculine is the default gender agreement (Huddleston and Pullum (2005: 103)), accusative is the default case (Schütze (2002)), etc.

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