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Revisiting anaphor complexity in Japanese

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Various approaches have been proposed regarding the ways of analyzing anaphors that allow long-distance binding, apparently violating Binding Condition A. A question that needs to be answered by any such analysis is as follows: why do only some anaphors allow long-distance binding? This paper tries to answer this question under a recent approach to long-distance binding (Charnavel 2020a; b; Baker & Ikawa 2024), which I refer to as *the null mediator approach*, focusing on Japanese data. In Japanese, it is known that morphologically simplex anaphors permit long-distance binding whereas morphologically complex ones do not. I argue that the effect of morphological complexity on the availability of long-distance binding can be readily explained through the null mediator approach, once the internal structure of the anaphors and the Phase Impenetrability Condition from Chomsky (2001) are taken into account. This lends additional credence to the null mediator approach to long-distance binding. I further demonstrate that this proposal makes an accurate typological prediction with regard to the correlation between anaphor complexity and long-distance binding.

1 Introduction

While it is widely assumed that an anaphor needs to be bound locally (i.e., Binding Condition A), it is also well-known that some anaphors allow long-distance (LD) binding (Giorgi 1984; Sells 1987; Kuno 1987; Huang & Liu 2001; Sundaresan 2012, a.o.). A famous example is a Japanese anaphor *zibun*. Deferring the discussion on the exact definition of binding domains until later (Section 3.2), the example in (1) shows what is canonically considered LD binding of the anaphor *zibun*: here, *zibun* can be bound by the matrix subject *John*, as well as the local subject *Bill*.[1]

(1) John-wa [Bill-ga zibun-o semeteiru-to] itta.
John-TOP Bill-NOM self-ACC is.blaming-that said
'John$_i$ said [Bill$_j$ is blaming zibun$_{i,j}$].'

Such LD binding has long attracted attention from theoretical studies, and to date various mechanisms have been proposed to account for the apparent violation of Condition A (Manzini & Wexler 1987; Cole et al. 1990; Reinhart & Reuland 1993; Huang & Liu 2001; Nishigauchi 2014; Park 2018; Charnavel 2020a; b; Baker & Ikawa 2024, a.o.).

Every account of LD binding has to ultimately address the question of what kind of anaphors necessitate local binding, what kind of anaphors do not, and why. A prominent generalization in the literature concerning this matter is that there is a correlation between the morphological complexity of an anaphor and its capability for LD binding. More specifically, it has been claimed that morphologically complex anaphors require a local antecedent, while morphologically simplex anaphors allow LD binding, as initially observed by Faltz (1985) and later theoretically analyzed by Pica (1987), Cole & Sung (1994), Progovac (1993) and Haspelmath (2008), a.o. Japanese, for example, is said to exhibit this pattern language-internally (Katada 1989; 1991; Kishida 2011; Noguchi 2018, a.o.). Katada (1991) illustrates this contrast using the example in (2). These sentences show that a Japanese simplex anaphor *zibun* can be bound by either the embedded subject *Bill* or the matrix subject *John*. On the other hand, the complex anaphors *zibun-zisin* and *kare-zisin* can only be bound by the embedded subject *Bill*.

(2) a. John-ga [Bill-ga Mike-ni zibun-no koto-o hanasita-to] itta.
John-NOM Bill-NOM Mike-DAT self-GEN matter-ACC told-that said
'John$_i$ said that Bill$_j$ told Mike about zibun$_{i/j}$.'

[1] The examples in this paper are mostly collected from the literature, with the confirmation of the judgments by the author, who is a native speaker of Japanese. The additional data reflect the judgments by the author, unless otherwise noted. As is made clear in the relevant part, some of the data, especially the ones for which judgements are relatively subtle, are further confirmed by an informant, who is a native speaker of Japanese and is not a linguist.

b. John-ga [Bill-ga Mike-ni {zibun-zisin/kare-zisin}-no koto-o
John-NOM Bill-NOM Mike-DAT self-GEN matter-ACC
hanasita-to] itta.
told-that said
'John$_i$ said that Bill$_j$ told Mike about {zibun-zisin$_{?*i/j}$/kare-zisin$_{?*i/j}$}.'
(Katada 1991: 289)

Given that the element *zisin* is present in the anaphors in (2b) but not in the anaphor in (2a), one might initially consider the presence of the element *zisin* as a potential factor in introducing the requirement for a local antecedent (c.f. Reinhart & Reuland (1991; 1993) (see Section 2.1 for related discussions)). However, the fact of the matter is that it is the complexity that matters here. Kishida (2011) observes that *zisin* can be used as a simplex anaphor by itself and, when employed in such a matter, it allows LD binding (although Kishida notes that local reading is slightly preferred as indicated by "?" in (3)).

(3) John-wa Joe-ni [Mary-ga zisin-o semeta-to] itta.
John-TOP Joe-DAT Mary-NOM self-ACC blamed-that said
'John$_i$ told Joe that Mary$_j$ blamed zisin$_{?i/j}$.' (Kishida 2011: 94)

This example confirms that the element *zisin* itself does not carry locality requirement. Rather, it is the complexity of *zibun-zisin* (or *kare-zisin*) that triggers the locality requirement.

But why does an anaphor's complexity affect the availability of LD binding in Japanese? This question seems all the more pressing under the recent approach to LD binding which I refer to as *the null mediator approach* (Charnavel 2020a; b; Charnavel & Bryant 2023; Baker & Ikawa 2024). According to this approach, what seems to be LD binding is considered to be mediated by a local null pro. However, the straightforward prediction of this approach is that every local anaphor should be susceptible to binding by the null pro. So why do certain anaphors resist being bound by it, and why is it that complexity serves as the distinguishing factor between anaphors that can be bound by it and those that cannot?

This paper seeks to investigate these questions and provide an explanation for the effect of complexity within the null mediator approach to LD binding. I argue that, by examining the internal structure of anaphors and incorprating Chomsky's (2001) Phase Impenetrability Condition, the influence of complexity can be elucidated within the framework of the null mediator approach. Additionally, I demonstrate that this line of analysis correctly predicts the typology of anaphor complexity and LD binding. These results, in turn, lend further credence to the null mediator approach toward LD binding.

Before entering the primary component of this paper, three points need to be noted. The first point pertains to subject-orientation, which is frequently examined in relation to the availability of LD binding. There exists a prevalent perspective suggesting that LD anaphors typically exhibit

subject-orientation and some previous studies have tried to elucidate these dual characteristics concurrently (Pica 1987; Giorgi 1984; Cole & Sung 1994, a.o.). However, the availability of LD binding and subject-orientedness are dissociated in Japanese, as pointed out by Katada (1991). To illustrate, in (4), the same sentence as (2), Katada observes that the LD anaphor *zibun* and the local anaphor *zibun-zisin* do not allow binding by *Mike*, while another local anaphor *kare-zisin* does. That is, subject-orientedness applies not only to LD anaphors but also to local anaphors.

(4) John-ga [Bill-ga Mike-ni {zibun/zibun-zisin/kare-zisin}-no koto-o
John-NOM Bill-NOM Mike-DAT self-GEN matter-ACC
hanasita-to] itta.
told-that said
'John$_i$ said [that Bill$_j$ told Mike$_k$ about {zibun$_{*k}$/zibun-zisin$_{*k}$/kare-zisin$_k$}].'
(Katada 1991: 289)

In light of this observation and the paper's primary focus on LD binding, I do not attempt to provide an account for the subject-orientedness of these anaphors in the remainder of this paper.[2] Instead, I simply assume that subject-orientedness is attributed to some restriction on the use of *zibun* without committing to any view regarding the nature of the restriction.

The second thing to note is the status of *zibun-zisin*. Previous studies claim that there are, in fact, two distinct kinds of *zibun-zisin* (Hara 2001; 2002; Mihara & Hiraiwa 2006; Kishida 2011); a complex anaphor, which this paper is interested in, and an intensified simplex anaphor. The element *zisin*, in general, has a use as an intensifier. For example, it can attach to a proper noun like *John* and form an expression *John-zisin* 'John himself'. When this intensifier *zisin* is attached to the simplex anaphor *zibun*, the result is an intensified simplex anaphor *zibun-zisin*. According to these previous studies, the complex anaphor use and the intensified simplex anaphor use can be distinguished both phonologically as well as semantically. First, *zisin* as an intensifier forms a distinct accent domain from *zibun*, whereas *zibun-zisin* as a complex anaphor forms a single accent domain (Mihara & Hiraiwa 2006). This difference surfaces as a slightly higher pitch on *zi* in *zisin* (i.e. *zibun-zisin*) in comparison to the complex anpahor *zibun-zisin*.[3] Second, *zibun-zisin* as an intensified simplex anaphor tends to be pronounced with stress (Kishida 2011). Third, the intensified simplex anaphor *zibun-zisin* requires contrastive meaning, unlike the complex anpahor *zibun-zisin* (Hara 2001; 2002; Kishida 2011).

Of particular significance for the current purpose, despite its surface similarity to the complex anaphor *zibun-zisin*, the intensified simplex anaphor *zibun-zisin* is a simplex anaphor in

[2] But see Katada (1991) for an account that derives the subject-orientation of the Japanese anaphors together with LD binding.

[3] While the author agrees with Mihara & Hiraiwa (2006) regarding the judgment on the accent, there might be some variations among the speakers on this judgment: my informant reports that he does not clearly see the difference of the accent.

its nature and is therefore expected to permit LD binding. In fact, it has been observed that, with a contrastive reading, a stress and the accent on *zisin*, *zibun-zisin* allows LD binding as exhibited in (5) (Hara 2001; 2002; Kishida 2011; Mihara & Hiraiwa 2006).

(5) Yoko-wa [Junko-ga hoka-no hito-de-wa naku zibun-zisin-o sonkei
Yoko-TOP [Junko-NOM another-GEN person-COP-TOP not zibun-zisin-ACC respect
si-teiru-to] kii-ta.
do-ASP-comp hear-PST
'Yoko$_i$ heard that Junko$_j$ respects zibun-zisin$_{i/j}$, not someone else.' (Hara 2001: 123)

Thus, when assessing the availability of LD binding, it is crucial to differentiate between the two usages of *zibun-zisin*. Throughout the remainder of this paper, I solely examine the usage of *zibun-zisin* as a complex anaphor, and not the usage of *zibun-zisin* as an intensified simplex anaphor. To prevent confusion between the two usages, all the data including *zibun-zisin* below are judged without a separate accent on *zisin*, a stress, or the contrastive reading, unless expicitly stated otherwise.

Third, even with the distinction of the two uses of *zibun-zisin* in mind, one might still wonder whether the judgement in (2) is a credible one, especially given the result obtained in the studies of Kim & Yoon (2009) and Kim & Yoon (2020) about Korean. In Korean, similarly to Japanese, theoretical studies have proposed that there is an LD anaphor *caki* and a local anaphora *caki-casin* (e.g. Cole et al. 1990). Despite this theoretical generalization, Kim & Yoon (2009) and Kim & Yoon (2020) observe with experimental studies that *caki-casin*, in fact, does allow LD binding (see similar results for Liu (2020) in Mandarin Chinese). At a first glance, this result appears to suggest that the theoretically assumed contrast between local and LD anaphors may be illusional, raising doubt regarding the validity of analyzing the contrast between *zibun* and *zibun-zisin*. However, note that Kim & Yoon (2020) nevertheless conclude that the generalization that *caki-casin* is a local anaphor in contrast to *caki* is syntactically real. They found that LD binding of *caki-casin* is surely possible, but it is qualitatively different from the LD binding of *caki*: the former is judged to be degraded when there is a local animate potential binder, while the latter is judged to allow LD binding even in the presence of a local animate potential binder. Based on this, they claim that while LD binding of *caki* is syntactically licensed, such syntactic LD binding is unavailable for *caki-casin*. LD binding of *caki-casin* is, according to Kim & Yoon (2020), coerced extra-syntactically, overriding syntactic restriction.[4] Thus, the result from Kim &

[4] It is worth noting that Kim & Yoon (2020) do not identify extra-syntacticity with logophoric pattern in binding (cf. Reinhart & Reuland (1993); Kim & Yoon (2009)): they assume that the syntactically lincensed LD binding of *caki* shows a logophoric binding pattern. As is made clear below, the LD binding of *zibun*, which I assume to be syntactically licensed, shows a logophoric pattern of antecedent choice.

Yoon (2020) does not deny the validity of studying the syntactic contrast between LD anaphros and local anaphors.

A relevant question here would be whether Japanese shows the same pattern as the one observed for Korean by Kim & Yoon (2020): that a local anaphor allows LD binding more easily when there is no local animate potential binder. Fully addressing this question in a manner parallel to Kim & Yoon (2020) would require an experimental investigation, which falls beyond the scope of this paper. Tentatively, the example in (6) suggests that LD binding of *zibun-zisin* does not improve even without a local animate potential binder.

(6) Taroo-wa [sono dekigoto-ga zibun/*zibun-zisin-o kaeta-to] omotteiru.
Taroo-TOP that event-NOM self-ACC changed-that think
'Taroo thinks that event changed {zibun/*zibun-zisin}.'

If this observation holds true, it suggests that Japanese does not permit the extra-syntactic coercion for LD reading of syntactically local anaphors, or at least not to the same extent as Korean. Such divergence between Japanese and Korean itself is not unexpected, given that Kim & Yoon (2020) state that there is a cross-linguistic difference regarding the degree to which the extra-syntactic LD binding is permissible. Leaving the experimental investigation into Japanese and its comparison with Korean for a future study, this paper focuses on the syntactic contrast between *zibun-zisin* and *zibun*, which surfaces in (2).

This paper is structured as follows. Section 2 provides a review of the theoretical background of the research question. Here, I introduce the details of the null mediator approach to LD binding, asserting its superiority over alternative approaches. Subsequently, I show why the contrast between simplex and complex anaphors regarding LD binding poses challenges for the null mediator approach. In Section 3, the core proposal of the current paper is presented. This section delineates the key claim and examines the corresponding predictions within Japanese. Finally, Section 4 examines a typological prediction of the current proposal.

2 Theoretical Background

While the present study is not the first attempt to tackle the inquiry into the effect of anaphor complexity on the availability of LD binidng, it contends that revisiting this question at this juncture is especially relevant in light of recent advancements in the analysis of LD binding. In this section, I first review the previous accounts of the correlation between anaphor complexity and LD binding as well as the approaches to LD binding they assume. Subsequently, I introduce and review the recent development of what I would call *the null mediator approach* to LD binding, highlighting its advantages over the approaches assumed by the previous studies on anaphor complexity. Finally, I underscore the importance of addressing the issue of anaphor complexity within the framework of the null mediator approach.

2.1 Previous approaches

There are mainly three types of explanations regarding the relationship between anaphor complexity and the availability of LD binding: the proposal put forth by Reinhart & Reuland (1991; 1993), the account assuming a movement approach to LD binding, and the account assuming the relativized Condition A approach to LD binding.

Beginning with Reinhart & Reuland (1991; 1993), they propose a substantially revised version of binding conditions. According to them, some anaphors are what they call reflexivizers, which reflexive-mark the predicates that select them. They posit that predicates, with the exception of a specific subset of intrinsically reflexive predicates, must be reflexive-marked by having a reflexivizer as an argument in order to be reflexive, which is their version of Condition B. Within their approach, Condition A can be characterized as a requirement dictating that a reflexive-marked predicate has to be reflexive. As long as they do not violate these conditions, anaphors can freely obtain an antecedent from discourse, resulting in what appears to be LD binding. To illustrate how this operates in cases pertinent to the current discussion, let us consider an example provided in (7).

(7) John says [that Bill betrays ANAPHOR].

Suppose the anaphor in (7) is a reflexivizer. In such cases, the anaphor reflexive-marks the predicate and, hence, Condition A forces it to be interpreted as bound by *Bill*, not allowing LD binding. If, on the other hand, the anaphor is not a reflexivizer, the anaphor does not reflexive-mark the predicate. Thus, Condition B prevents the predicate from being reflexive, disallowing the interpretation where the anaphor is bound by *Bill*. This, at the same time, implies that Condition A is not applicable and hence, the anaphor can freely get an antecedent from the discourse as long as it is not *Bill*. Now, importantly for the current discussion, Reinhart & Reuland claim that complex anaphors (which they refer to as *SELF anaphors*) are reflexivizers while simplex anaphors (which they call *SE anaphors*) are not. Crucially, according to their proposal, the difference between simplex and complex anaphors in terms of their status as reflexivizers stems from the semantics of the additional morpheme SELF that appears in the complex anaphors.

This line of analysis, however, is not extendable to the Japanese paradigm, at least in a straightforward way. First, as outlined in the core data in (2) above, *zibun* allows local binding as well as LD binding (see also Kishida 2011). According to Reinhart & Reuland's analysis, such local binding of a simplex anaphor should be ruled out as Condition B violation, as *zibun* does not have the ability to reflexive-mark the predicate.[5] Second, as mentioned above, Reinhart & Reuland attribute the distinction between simplex and complex anaphors to the presence

[5] But see Aikawa (1993) for the idea that the local binding of *zibun* can be captured as a case of coreference and hence does not require reflexivization.

or absence of the morpheme SELF, rather than the complexity of the structure. This point is pivotal in capturing the Japanese data: as noted in Section 1, in Japanese, *zibun* and *zisin* are LD anaphors respectively when used as simplex anaphors. However, when they are combined and form a complex anaphor, the resulting anaphor behaves as a local anaphor, suggesting that the difference between local and LD anaphors should be attributed to the complexity itself, rather than a specific morpheme. Thus the approach to complexity advocated by Reinhart & Reuland (1991; 1993), which attributes the reflexivizer function to a particular morpheme, is not straightforwardly applicable to the anaphor complexity in Japanese.

The other two accounts appear to be better aligned with the Japanese data in the sense that the distinction between simplex anaphors and complex anaphors is attributed to the complexity of the structure. What differentiates the two accounts lies in the approach to LD binding they assume.

The type of account based on what I would call *the movement approach* to LD binding has been proposed by studies such as Pica (1987), Cole et al. (1990), Cole & Sung (1994) and Katada (1991). The movement approach to LD binding claims that LD binding of an anaphor is achieved by covert movement of the anaphor into the same locality domain as its antecedent. Hence, according to this approach, the LD binding in (8a) is achieved by covert movement of the anaphor into the matrix clause as shown in (8b).

(8) a. John$_i$ said [Bill is blaming self$_i$].
b. John$_i$ self$_i$ said [Bill is blaming t_i]

While the details vary among the studies, what these studies have in common is the idea that anaphor complexity matters for LD binding because it influences the possibility of movement. Pica (1987) and Cole & Sung (1994) claim that the movement involved in (8b) is head-movement. According to them, while simplex anaphors have X^o status and can undergo head-movement, complex anaphors are phrasal and cannot undergo head-movement. Hence, they stay locally and, as a result, complex anaphors cannot be bound by the matrix subject. A slightly different account is proposed by Katada (1991). Katada, who analyzes *zibun* and *zibun-zisin* in Japanese, assumes that *zibun* has a [+op] status and this motivates it to undergo phrasal movement into some VP-adjoined position. In her view, simplex *zibun* can undergo movement to a VP-adjoined position in a higher clause given that its trace is lexically governed by the predicate that selects it. However, when *zibun* within the complex anaphor *zibun-zisin* moves out, its trace is not lexically governed because the presence of *zisin* between the trace of *zibun* and the predicate serves as a barrier. Thus, *zibun* can only move to the local VP, where it can antecedent-govern its trace.[6] Setting aside the differences in the details, the pivotal aspect shared by these studies is

[6] Under Katada's analysis, *kare* in *kare-zisin* lacks a [+op] operator and hence, does not move, resulting in the locality requirement on *kare-zisin*.

the view that movement of the anaphor enables the apparent LD binding and complexity affects the possibility of such movement.

Another type of account for the effect of anaphor complexity on LD binding assumes what I would refer to as *the relativized Condition A approach* to LD binding (Manzini & Wexler 1987; Progovac 1993). The relativized Coniditon A approach captures LD binding by relativizing some aspect of Condition A (Manzini & Wexler 1987; Progovac 1993). In particular, Progovac (1993), tries to account for the effect of anaphor complexity from this perspective. Specifically, she relativizes the potential antecedent and claims that LD anaphors take a head Agr as their antecedent, whereas local anaphors take a nominal phrase as their antecedent. (See Aikawa (1993) for the same line of analysis of LD binding of *zibun*.) Here, Agr is assumed to be coindexed with the subject it agrees with. She further assumes that some Agr can be anaphoric to the higher Agr and form a chain (see also Borer (1989)). Given that the higher Agr agrees with the subject in its specifier, this results in a structure, as schematized in (9). This means that an anaphor bound by Agr1 can be transitively bound by Agr2 and, as a consequence, can be coindexed with a higher subject.

(9) $\text{John}_i\ \text{Agr2}_i$ said [Bill Agr1_i blame self_i]

This idea can capture the effect of anaphor complexity by further assuming that relativization of the antecedent is done based on the head/phrasal status of the anaphor: a simplex anaphor, being X^o, requires a head Agr as its local antecedent. On the other hand, a complex anaphor, being phrasal, requires a phrase NP as its local antecedent. As the LD binding is made possible via binding by Agr, this successfully derives the observation that only simplex anaphors undergo LD binding.

While the approach of Reinhart & Reuland (1991; 1993) does not seem to fit the Japanese paradigm, each of the other two accounts of the effect of anaphor complexity appear to work for the Japanese data, given the approach to LD binding that they assume. However, yet another approach to LD binding has recently been proposed and supported, which is what I review in the next section.

2.2 Null mediator approach

An approach to LD binding that recent literature supports is what I would call *the null mediator approach* (Charnavel 2020a; b; Charnavel & Bryant 2023; Baker & Ikawa 2024). Baker & Ikawa (2024), in particular, argue for this approach based on the data of Japanese. According to this approach, there exists a null pro within the same local domain as the anaphor. This null pro can be coindexed with an NP in a higher clause and bind the anaphor following Condition A. Therefore, in an example of the form in (10a), there is a null pro in a high position within the embedded clause as depicted in (10b). This pro can be coindexed with an argument from higher clauses, *John*, and bind the anaphor. Given that the pro and the anaphor are in the same clause, this binding relationship does not violate Condition A, similarly to the binding relationship

between *Bill* and the anaphor. I assume that complement clauses can optionally contain this mediating pro (see also Nishigauchi 2014).

(10) a. John$_i$ said [Bill$_j$ is blaming self$_{i/j}$].
b. [John$_i$ said [$_{CP}$ pro$_i$ Bill$_j$ is blaming self$_{i/j}$]

When juxtaposed with the approaches to LD binding adopted by the studies reviewed in the previous section, the null mediator approach presents certain advantages. Foremost among these is its ability to effectively capture the resemblance between LD anaphors and logophoric pronouns in African languages. It has long been observed that LD anaphors share similarities with logophoric prnouns in their selection of antecedents (Kuno 1987; Sells 1987; Oshima 2004; Charnavel 2020a; b; Baker & Ikawa 2024). For example, Baker & Ikawa (2024) compare the distribution of potential antecedents for LD anaphors in Japanese and logophoric pronouns in Ibibio and demonstrate that the choice of antecedent shows the same pattern for LD anaphors in complement clauses and logophoric pronouns: in addition to the matrix agentive subject, the matrix source phrases are potential antecedents (11a and 12a). On the other hand, the matrix goal arguments are not ((11b) and (12b)).[7]

(11) Ibibio (Baker & Ikawa 2024: 3)
a. Okon a-ke-kop a-to Emem [ke imọ i-ma-i-dia nsa-akʌk].
Okon 3SG-PST-hear 3SG-from Emem that LOG 3SG-PST-3SG-win lottery
'Okon$_i$ heard from Emem$_k$ [that he$_{i,k}$ won the lottery].'
b. Okon á-ké-dọ̀kkọ̀ Edem [ké Emem í-maá-ghá ímọ̀].
Okon 3SG-PST-tell Edem that Emem 3SG-like-NEG LOG
'Okon$_i$ told Edem$_k$ [that Emem does not like him$_{i,*k}$].'

(12) Japanese (Baker & Ikawa, 2024: 3; originally Nishigauchi, 2014: 190–191)
a. Keizi-wa sono seizika-kara [booryokudan-ga zibun-o
dectective-TOP that politician-from gangsters-NOM self-ACC
odositeiru-koto-o] kiita.
is.blackmailing-C-ACC heard
'The detective$_i$ heard from the politician$_k$ [that gangsters are blackmailing zibun$_{i,k}$].'
b. Keizi-wa sono seizika-ni [booryokudan-ga zibun-o sagasiteiru-koto-o]
dectective-TOP the politician-DAT gangsters-NOM self-ACC is.searching-C-ACC
osieta.
told
'The detective$_i$ told the politician$_k$ [that gangsters are searching for zibun$_{i,*k}$].'

[7] LD anaphors show broader distribution than logophoric pronouns, appearing in relative clauses, adverbial clauses, and matrix clauses in certain contexts. Refer to Baker & Ikawa (2024) for how the null mediator approach accounts for this difference.

Notably, for *zibun*, this characteristic distribution of the antecedent is only visible in LD binding, and not in local binding. The locally bound *zibun* (and *zibun-zisin*) are generally subject-oriented, as noted in Section 1 and, hence, cannot be bound by the source phrase as shown in (13) (see also Oshima 2004). See, for example, the contrast in (13). While *zibun* in an embedded clause can be LD bound by the matrix source *Taroo* in (13a), it is not possible for *zibun* to be bound by the local source argument in a matrix clause in (13b).

(13) a. Hanako-wa Taroo-kara [zibun-ga yuusyoo-sita-to] kiita.
Hanako-TOP Taroo-from self-NOM victory-did-that heard
'Hanako$_i$ heard from Taroo$_j$ [that zibun$_{i/j}$ won].'

b. Hanako-wa Taroo-kara zibun-no yuusyoo-o kiita.
Hanako-TOP Taroo-from self-GEN victory-ACC heard
'Hanako$_i$ heard from Taroo$_j$ about zibun$_{i/*j}$'s victory.'

The null mediator approach is inherently crafted to capture this similarity between LD binding and logophoricity, and as such, provides a straightforward explanation for it. Logophoric pronouns have frequently been argued to have a left peripheral null pro (or an operator) as its antecedent (Koopman & Sportiche 1989; Adesola 2006). Such a view is motivated by the observation that logophoric pronouns in numerous languages are licensed solely under (a certain set of) complementizers (Koopman & Sportiche 1989; Clements 1975). For example, the Ibibio sentence in (14) from Baker & Ikawa (2024) shows that its logophoric pronoun *imo* is licensed in the complement clause but not in the matrix clause, as shown in (14). The idea that the logophoric pronouns needs to be bound by a null pro introduced by in clause periphery captures this restriction.

(14) Emem a-ma-a-dọkkọ eka ọmọ/*imọ [ke imọ i-ma-i-dep ebot].
Emem 3.SG-PST-3.SG-tell mother his/*LOG that LOG 3.LOG-PST-3.LOG-buy goat
'Emem$_i$ told his$_i$ mother [that he$_i$ bought a goat].' (Baker & Ikawa 2024: 10)

In such null pro approaches to logophors, the choice of the apparent antecedent for a logophoric pronoun in (11) is hence contingent upon the choice of the referent of this pro. Crucially, works such as Sundaresan (2012) and Nishigauchi (2014) employ such a null pro approach to LD anaphors to capture the parallel pattern in antecedent choice between the two constructions. The null mediator approach is an extension of this idea to capture the apparent violation of Condition A (Charnavel 2020a; b), with a slight change in the position of pro to an A-position (Nishigauchi 2014; Charnavel 2020a; b; Baker & Ikawa 2024). Thus, within the null mediator approach, one can posit that the referent of pro is determined by the same mechanism as the pro involved in

logophors, thereby accounting for the analogous pattern in the choice of the apparent antecedent demonstrated in (11)–(12).[8]

On the other hand, the movement approach and relativized Condition A approach do not easily capture the similarity between LD anaphors and logophoric pronouns. Note first that logophoric pronouns are pronouns, as opposed to anaphors. For example, Baker & Ikawa (2024) give the example in (15), where a logophor *imo* cannot be locally A-bound. In such a context, an anaphoric form *idem-imo* needs to be used.

(15) *Okon a-ke-bo [ke imọ/anye i/a-m-i/a-kpi imọ].
Okon 3.SG-PST-say that LOG/he 3.LOG/3.SG-PERF-3.LOG/3.SG-cut LOG
'Okon$_i$ said [that he$_i$ cut him$_i$.]' (Baker & Ikawa 2024: 6)

Now recall that the core component of the movement approach is the movement of anaphors to the same locality domain as their antecedents, where it can be bound by the antecedent following Condition A. A similar mechanism cannot be involved in the derivation of sentences with logophoric pronouns, if logophoric pronouns are pronouns and hence, do not follow Condition A. Thus, there is no place in the movement analysis for accommodating the similarity between LD anaphors and logophoric pronouns. For the same reason, the relativized Condition A approach (whatever form it takes) is not compatible with the logophoric paradigm either.[9]

Another problem for Progovac's version of the relativized Condition A approach also comes from the example in (12). As (12a) shows, it has been pointed out that an LD antecedent for *zibun* does not have to be a subject (Oshima 2004; Nishigauchi 2014; Baker & Ikawa 2024). However, in Progovac (1993), the LD binding is achieved by binding by Agr which can be anaphoric to a higher Agr. As the index on Agr comes from its agreement with the subject, this anlaysis of LD binding predicts that only the subjects can be the apparent antecedents for LD binding. Given that the source phrase is not in a position to agree with Agr (or T in the current term), Progovac's approach does not expect a non-subject to be an LD antecedent.

Overall, the null mediator approach seems to hold more promise than the other approaches in explaining the behavior of LD bound anaphors. However, simultaneously, the null mediator approach does not straightforwardly anticipate the differences among anaphors concerning LD binding. First of all, if there exists a local mediator of LD binding that can bind anaphors in

[8] Relatedly, it has often been discussed that logophoric pronouns and LD anaphors bear a similar perspectival effect in their intepretations (Sells 1987; Anand 2006; Charnavel 2020a; b, a.o.). Some implementations of the null mediator approach (Charnavel 2020a; b; Charnavel & Bryant 2023) are designed to capture it as well, while other implementations (Baker & Ikawa 2024) are not. See also Section 3.3.2 and fn. 15 for related discussions.

[9] The approach to LD binding by Reinhart & Reuland (1991; 1993), which I claimed above to be unextendable to the Japanese paradigm, stands a better chance of capturing this similarity: their mechanism for LD binding, characterized by syntactically unconstrained discourse binding, is not regulated by Condition A (although the availability of such mechanism may still be constrained by Condition A). In fact, they call the mechanism for LD binding *logophoric*. However, they still fail to answer the inherent question why anaphors, when Condition A is irrelevant, show the constraint on the antecedent choice that is shared by certain pronouns in other languages.

accordance with Condition A, why do some anaphors disallow LD binding, failing to be bound by it? If there can be a local pro that is coindexed with a matrix argument and can bind the anaphor as depicted in (10b) above, then the straightforward prediction would be that every kind of anaphor should satisfy Condition A by being bound by it. One possibility that naturally arises here is that some anaphors are incompatible with binding by the null pro due to, for instance, their featural makeup. But such an approach is not available at least in Japanese, given the aforementioned observation that *zibun* and *zisin* respectively allow LD binding, while a complex anaphor that consists of them, *zibun-zisin*, does not. So, why is it that the complexity of anaphors that distinguishes anaphors that can be bound by the mediator from those that cannot in Japanese?

It is important to note that the explanations of the effect of complexity provided by the movement approach and relativized Condition A approach cannot be adjusted or expanded to align with the null mediator approach. Firstly, while analyses rooted in the movement approach argue that the complexity of an anaphor hinders its movement, thereby leading to the absence of LD binding, the null mediator approach cannot adopt this kind of idea, given that it does not posit the movement of anaphors. Similarly, the analysis presented by Progovac (1993) based on the relativized Condition A approach to LD binding is also not feasible. The critical factor in Progovac (1993) in terms of the analysis of the effect of complexity is the head status of the binder Agr in LD binding. Since the null pro in the null mediator approach is not a head, the concept of relativizing the antecedent based on the head/phrase status of the anaphor does not align with the null mediator approach. Consequently, a new explanation must be provided within the framework of the null mediator approach to elucidate why certain anaphors, particularly complex ones, fail to undergo LD binding and this is the objective pursued by this paper.

3 Proposal

So far, I have established the question this paper deals with: why does anaphor complexity affect the availability of LD binding, as repeated in (16), especially given the null mediator approach to LD binding? Now, I will undertake the analysis of this effect of anaphor complexity in Japanese.

(16) a. John-ga [Bill-ga Mike-ni zibun-no koto-o hanasita-to] itta.
John-NOM Bill-NOM Mike-DAt self-GEN matter-ACC told-that said
'John$_i$ said that Bill$_j$ told Mike about zibun$_{i/j}$.'

b. John-ga [Bill-ga Mike-ni {zibun-zisin/kare-zisin}-no koto-o hanasita-to] itta.
John-NOM Bill-NOM Mike-DAT self-GEN matter-ACC told-that said
'John$_i$ said that Bill$_j$ told Mike about {zibun-zisin$_{?*i/j}$/kare-zisin$_{?*i/j}$}.'

(Katada 1991: 289)

I propose that, given the null mediator approach to LD binding, this correlation follows from the internal structures of these anaphors and the version of Phase Impenetrability Condition (PIC) in Chomsky (2001). To begin, in Section 3.1, I argue that it is the syntactic complexity that matters for the availability of LD binding, and I delve into the internal structures of these anaphors. Subsequently, in Section 3.2, I introduce the assumption about the binding domain defined based on PIC. Section 3.3 outlines the fundamental proposal concerning the correlation between the anaphor complexity and the (un)availability of LD binding. Finally, in Section 3.4, I confirm additional predictions stemming from the proposal concerning the anaphors located in embedded subject positions.

3.1 Internal structure of the anaphors

Based on the data like (16), I have so far discussed that the anaphor complexity impacts the availability of LD binding. But what kind of complexity is it that exactly matters here? In the Japanese paradigm, it can be straightforwardly observed that not just any kind of complexity matters. While I have referred to *zibun* as a "simplex" anaphor, this "simplex" anaphor can be further decomposed into *zi* and *bun*: previous studies such as Tsujimura & Aikawa (1999) and Kishida & Sato (2012) have discussed cases where the morpheme *zi* appears in verbs such as *zi-satsu-suru* 'kill-oneself' and *zi-baku-suru* 'explode onself'. The morpheme *bun* is used by itself with the meaning "part", as shown in (17) (Komatsu & Suzuki 2011).

(17) watasi-no bun
1.SG-GEN part
'my part'

Then what exactly is the notion of complexity that differentiates *zibun* from *zibun-zisin*? I claim that it is the syntactic complexity that matters here. This view is aligned to their behaviors with respect to the plural marker *-tati*. This plural marker can occur in the middle of the complex anaphor *zibun-zisin*, resulting in *zibun-tati-zisin* "oneselves" (Noguchi 2020). Under the well-accepted assumption that *-tati* syntactically composes with a nominal (Kurafuji 1999; Nakanishi & Tomioka 2004; Ueda & Haraguchi 2008; Tatsumi 2017), this observation suggests that *zibun* and *zisin* in *zibun-zisin* are syntactically composed with each other.[10] Notice further that *tati* cannot occur in between *zi* and *bun* (**zi-tati-bun*). I consider *zibun* to be formed by the root merger

[10] One might wonder whether the pluralized form *zibun-tati-zisin* is truly an instance of the complex anaphor that this paper is concerned about, and not the intensified form of a pluralized simplex anaphor (See Sect 1 above). I mentioned above that the two kinds of *zibun-zisin* can be distinguished based on its accent: the former bears a single accent, while the latter has two separate accents for *zibun* and *zisin*. By applying this accent test, we can see that the *tati* pluralized form, in fact, has a complex anaphor use. Similarly to the form without *-tati*, the pluralized form in *tati* can have two versions, a single accent version *zibun-tati-zi'sin* and the separate accent version *zibu'n-tati-zi'sin*. The availability of the single accent version suggests that *zibun-tati-zisin* is possible as a complex anaphor.

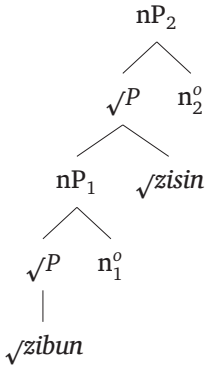
between $\sqrt{zi}$ and $\sqrt{bun}$, resulting in $\sqrt{zibun}$. The complexity derived from root merger does not affect the availability of LD binding while syntactic complexity does.

If it is the *syntactic* complexity within anaphors that plays a crucial role in terms of LD binding, the next question is as follows: what exactly are the syntactic structures internal to the Japanese anaphors? Again, the behavior of *-tati* is telling in this regard. Previous studies on this suffix have proposed a structure where this suffix merges with a nominal projection, not a head (Kurafuji 2004; Ueda & Haraguchi 2008, a.o.). For instance, consider the expression *gakusei-tati* "student-pl", where the plural marker *tati* is attached to the noun *student*. The structure of *gakusei-tati* is generally considered to be (18), although the exact identity of the heads X and Y varies among analyses as well as the exact kind of interpretation it bears, which do not concern the current argumentation.

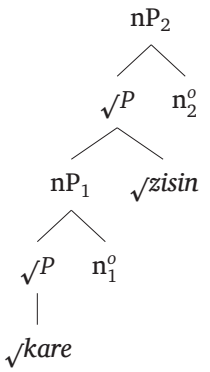
(18) $[_{XP}\ [_{YP}$ gakusei] $[_{X}$-tati]]

Now recall that the suffix *-tati* can attach to the first element *zibun* in the complex anaphor *zibun-zisin*, resulting in *zibun-tati-zisin*. This suggests that the first element *zibun* in the complex anaphor *zibun-zisin* has a phrasal status before it composes with the second element *zisin*. Therefore, I propose that the complex anaphor *zibun-zisin* and *kare-zisin* have structures in (19) and (20) respectively, whereas the simplex anaphor *zibun* or *zisin* has a structure in (21).

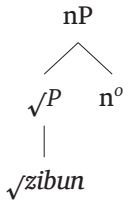
(19)



(20)



(21)



In the structure for the complex anaphor *zibun-zisin* in (19), the first element *zibun* by itself forms an nP. This nP further merges with $\sqrt{}$*zisin* and the entire complex is categorized again as nP by n^o. Following Marantz (2007), I consider the categorizing head n^o to be phasal. Given that there are two nPs in this structure, I refer to the inner nP as nP_1 and the outer nP as nP_2 just for conveninence. I also propose a parallel structure for *kare-zisin*, as shown in (20). In contrast, the simplex anaphors have one layer of nP as exhibited in (21). Recall that complex anaphor has a single accent as a whole (see Section 1). I consider such compound accent to be derived from the structures in (19) and (20) by the head movement of $\sqrt{}$*zibun* or $\sqrt{}$*kare* to n^o_2 at PF. I assume that head-movement at PF does not affect binding relationship and, therefore, will not discuss this movement in the rest of this paper.

Building upon the perspective that Japanese generally lacks D projections (Fukui 1986; Hoji 1998, a.o.), I posit that nP instead of DP forms a full anaphor or a full pronoun in Japanese. This assumption is supported by the observation that Japanese anaphors can be modified by adjectives (or nominal adjectives) as illustrated in (22a) (also see Noguchi (1997) and Kim & Yoon (2008)). The same is true for the pronoun *kare*, as shown in (22b).

(22) a. Tanaka-wa bukiyoona zibun/zisin/zibun-zisin/kare-zisin-o haziteiru.
Tanaka-TOP clumsy self-ACC be.ashamed.of
'Tanaka is ashamed of clumsy self.'

b. Hanako-wa kawaisoona kare-o tasukete-age-ta.
Hanako-TOP poor he-ACC save-BEN-PAST
'Hanako saved poor him.'

At this point, it is important to highlight the distinction between the structure in (21), which contains only one layer of nP, and the structures presented in (19) and (20), which feature two layers of nP. Considering that nP already represents a complete anaphor or pronoun, this implies that complex anaphors possess a structure wherein a simplex anaphor *zibun* or a pronoun like *kare* has an extra nP layer over it.[11] Note that, under the above-mentioned assumption that the categorizer head n^o is phasal, this extra layer introduces a phase boundary, which becomes crucial

[11] See also Jayaseelan (1996) and Reuland (2001) for the intuition that complex anaphors involve an extra "shield" from the application of binding conditions, although they apply the idea to account for the fact that the complex anaphors do not obey Condition B, not LD binding of anaphors.

in the subsequent section. Given that nP_1 by itself already constitutes the simplex anaphor *zibun*, I consider that nP_1 and nP_2 in (19) both serve as anaphors and each of them needs to enter into binding relationship (c-command + coindexation) with its antecedent following Condition A.[12]

3.2 Binding Condition and the phase

Recall that the fundamental premise of the null mediator approach is that all the anaphors, including those appearing to undergo LD binding, adhere to Condition A. As my analysis is grounded in the null mediator approach, it is crucial to establish the definition of the binding domain before delving into the discussion of the avaiability of LD binding within this framework. This section is dedicated to accomplishing this objective.

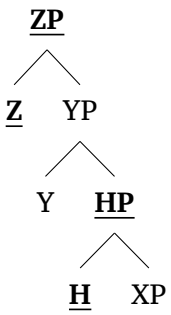
While various notions of locality have been proposed as candidates for binding domains, such as the Specified Subject Condition and/or Tensed-S Condition, many recent works try to reduce the binding domain to the phase-based locality (Lee-Schoenfeld 2008; Quicoli 2008; Hicks 2009; Safir 2014; Despić 2015; Charnavel & Sportiche 2016, a.o.). In this context, Condition A can be defined as a requirement that an anaphor must have an antecedent accessible under the Phase Impenetrability Condition. Drawing from these studies, I will adopt a phase-based definition of the binding domain, especially due to its appeal in not necessitating stipulation of a locality domain defined specifically for binding. Incidentally, various studies have implemented this idea in different ways. For instance, Hicks (2009) claims that the binder and the anaphor form an Agree relationship, which is restricted by the phase-based locality. On the other hand, Safir (2014) claims that anaphor morphology remains underspecified until it gets bound: only if it gets bound locally, the anaphor acquires *self* morphology. For the purpose of this discussion, I will abstract from the specifics of these different implementations. What becomes pivotal in the rest of this paper is the concept that the binding domain is defined based on the PIC within Narrow Syntax.

The subsequent issue is the exact definition of the PIC. What I claim to be at work here is the version of the PIC in Chomsky (2001), which is defined as shown in (23). According to this definition, XP in (24), which is in the HP phase, becomes inaccessible once the next phase head Z is merged into the structure. Note that XP still remains accessible when the elements in YP is merged into the structure, even though YP is outside HP.

(23) **Phase Impenetrability Condition** (Chomsky 2001: 14)
The domain of H [= a phase head] is not accessible to operations at ZP [= the next phase]; only H and its edge are accessible to such operations.

[12] Note that I need to prevent nP_1 and nP_2 from having distinct antecedents. I tentatively assume that the index on $zibun_{nP1}$ percolates to nP_2.

(24)



Adopting this definition of the PIC, the strict definition of Condition A now looks like (25).

(25) Condition A based on the PIC in (23):
An anaphor has to be bound before it gets c-commanded by two phasal heads.

Thus, if XP in (24) is an anaphor, it has to be bound before the merger of Z.

At this point, one may question the justification for adopting the version of the PIC in (23), especially given that previous studies that have proposed the phase-based approach to Condition A (Lee-Schoenfeld 2008; Hicks 2009; Safir 2014; Charnavel & Sportiche 2016; Saito 2017) assume implicitly or explicitly the stronger version of PIC as defined in (26) by Chomsky (2000), instead of the version in (23). The crucial difference between the definitions in (23) and (26) lies in the fact that, under the latter formulation, XP in (24) becomes inaccessible once the HP is complete, making it impossible for an element in YP to access XP.

(26) Phase Impenetrability Condition (A stronger version, (Chomsky 2000: 108))
In phase α with head H, the domain of H is not accessible to operations outside α only H and its edge are accessible to such operations.

In many of the previous studies on binding, it is not explicitly argued which version of the PIC is more preferred in capturing binding. Does the choice make a crucial difference in capturing the canonical local binding phenomena? When the anaphor is contained within a Voi(ce)P, which I assume to be the phase, this choice does not affect the range of potential antecedents. The version of the PIC in (26) confines the potential binders to the subject, which is base-generated within VoiP. The version of the PIC in (23) expands the domain to the projection just beneath the phasal C head, but this expansion does not add any new canonical arguments as potential binders (apart from the null pro postulated by the null mediator approach, which I discuss below). The choice becomes more substantial in other cases, especially when the anaphor occupies a subject position and, therefore, is positioned above the VoiP phase. In Section 3.4 below, I will argue that (23) in fact better captures the behaviors of anaphors in such cases.

To add one more comment on this choice, within the framework of the null mediator approach to LD binding, an LD anaphor must fall within the same domain as the mediating pro. Therefore, if we assume that the mediating pro occupies a position higher than TP as illustrated in (27b),

Condition A formulated based on the stronger version of the PIC in (26) becomes incompatible with the idea that the anaphor in the object position can be bound by the mediating pro (at least unless one stipulates that the object covertly moves to the edge of VoiP): in (27b), the anaphor *self* resides within the VoiP phase, while the pro is outside of it.

(27) a. John$_i$ said [Bill is blaming self$_i$].
b. John$_i$ said [$_{CP}$ pro$_i$ Bill$_j$ [$_{VoiP}$ blamed self$_{i/j}$]]

One can circumvent this problem for the Condition A based on (26) by assuming that the mediating pro is in the edge of every phase, as opposed to just in a clause periphery (Charnavel 2020a; b). Under such assumption, the structure for (27a) would look like (28), where an additional pro appears inside VoiP.

(28) John$_i$ said [$_{CP}$ pro$_i$ Bill$_j$ [$_{VoiP}$ pro$_i$ t_j blamed self$_{i/j}$]]

However, recall that one prominent strength of the null mediator approach is its ability to capture the similarity between LD anaphors and logophoric pronouns in African languages. In terms of the licensing of logophoric pronouns, it has been pointed out that the involvement of CP is crucial: as shown in (29), only the embedded CP, but not the embedded DP, licenses the use of a logophoric pronoun within it. This observation aligns with the idea that only CP serves as the locus of the pro capable of binding logophoric pronouns.

(29) a. Okon i-kit-te n-dudue eka ọmọ/*imọ.
Okon 3.SG-see-NEG NMLZ-commit.fault mother his/*LOG
'Okon$_i$ does not see his$_i$ mother's mistake/fault.'

b. Okon i-kit-te ke eka imọ a-ma-a-due.
Okon 3.SG-see-NEG that mother LOG 3.SG-PST-3.SG-commit.fault
'Okon$_i$ does not see that his$_i$ mother committed a fault.' (Baker & Ikawa 2024: 10)

Thus, the postulation of the mediating pro in every phase to make it compatible with the Condition A can make the mechanism of LD bound anaphors and logophors less alike and diminish the strength of the null mediator approach.

With these considerations as a background, I will proceed with the definition of Condition A based on the version of the PIC in (23). I will now enter into the analysis of the interaction between anaphor complexity and the (un)availability of LD binding.

3.3 Analysis

Now that I have examined the internal structures of the anaphors and set up theoretical assumptions, I return to the contrast in (30). The pattern is that the simplex anaphor *zibun* or *zisin* allows LD binding by *John*, while the complex anaphor *zibun-zisin* or *kare-zisin* cannot. I

claim that this pattern straightforwardly follows from the internal structures and the definition of Condition A set up in the previous two sections.

(30) a. John-wa [Bill-ga {zibun-o/zisin-o} semeteiru-to] itta.
John-TOP Bill-NOM self-ACC is.blaming-that said
'John$_i$ said [Bill$_j$ is blaming {zibun$_{i,j}$/zisin$_{i,j}$}].'

b. John-wa [Bill-ga {zibun-zisin/kare-zisin}-o semeteiru-to] itta.
John-TOP Bill-NOM self-self/him-self-ACC is.blaming-that said
'John$_i$ said [Bill$_j$ is blaming {zibun-zisin$_{?*i,j}$/kare-zisin$_{?*i,j}$}].'

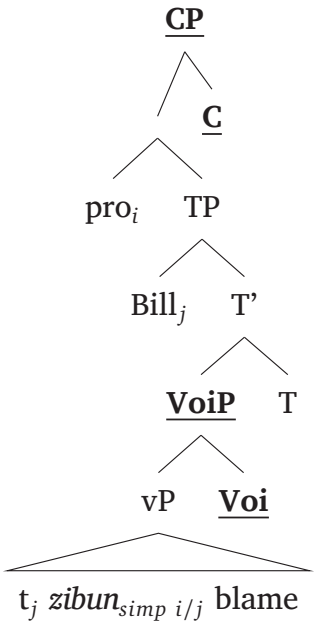
I start from the analysis of *zibun-zisin* in contrast with simplex anaphors, and later deal with *kare-zisin*.

3.3.1 *Zibun* and *zibun-zisin*

As discussed in Section 2, the null mediator approach proposes the existence of a mediating pro around the left periphery of a clause, allowing it to locally bind an anaphor in the same clause. I have already argued that this assumption accounts for the resemblance between LD bound anaphors and logophoric pronouns, which are licensed by a null pro in CP. Note, however, following Baker & Ikawa (2024), I adopt the view that the exact position of this pro is somewhere high in the TP space, slightly lower than C (see also Nishigauchi (2014) and Charnavel (2020a; b) for a similar view). Baker & Ikawa contend that, since logophors are inherently pronouns which do not allow an overt co-referent c-commanding DP in the same clause (see (15) above), the relationship between the null pro and the logophoric pronouns should not involve A-binding (i.e., binding from an A-position). This implies that the null pro responsible for licensing logophoric pronouns should occupy an A'-position in the CP space. In contrast, the mediating pro for LD anaphors, by definition, should be capable of A-binding the anaphor and thus should be in A-position. Note that this difference between the pro for LD anaphors and the pro for logophoric pronouns does not weaken the efficacy of the null mediator approach in capturing the similarity between the two phenomena concerning the choice of the apparent antecedent, at least under the implementation by Baker & Ikawa (2024): they claim that null elements situated around the left periphery of a clause, whether they are PROs, pros in an A'-position for logophoric pronouns, or pros in an A-position for LD anaphors, are equally subject to obligatory control by an argument of the embedding V (or a head in the extended projection of the embedding V). The controller of the pro here serves as the apparent antecedent, and the specific argument controlling the null pro depends on the thematic role of the pro. Thus, under their assumption that the pro for LD anaphors and the pro for logophoric pronouns have the same thematic role, this analysis naturally expects a shared pattern in the choice of the antecedent between the two phenomena.

Given these considerations, for the sentence featuring a simplex anaphor *zibun* in (30a), the structure would look like (31) (The structure for *zisin* would be the same with a different root). The phase heads and their projections are underlined and bold-faced. I assume that the phase is introduced by the C head and the Voi head, as opposed to the v head, and the subject NP is base-generated in Spec vP, positioned below the phasal Voi head (as proposed by Collins (2005); Baltin (2012)).

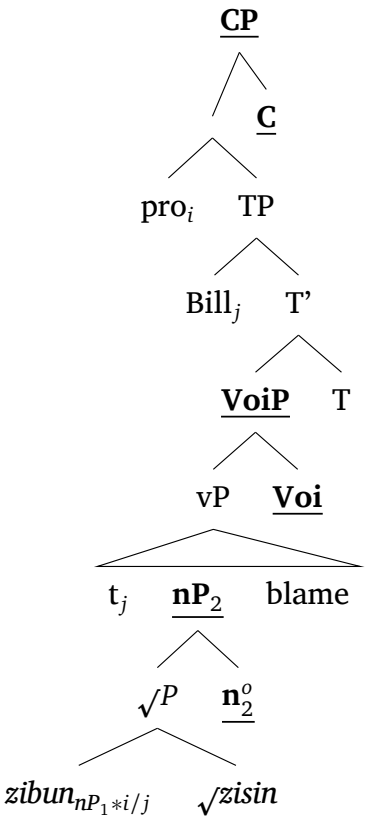
(31) John$_i$ said



Here, I notate the simplex anaphor as *zibun*$_{simp}$ and avoid complicating the tree with the full structure of the anaphor ([nP [$_{\sqrt{}}$*P* [$_{\sqrt{}}$*zibun*]] [n^o]]). Now, the observation that simplex anaphors allow LD-binding (i.e. binding by the mediating pro) follows from this structure. Recall that Condition A, as defined by the weaker version of the PIC, states that an anaphor has to find its antecedent before the merger of the second phase head. Put differently, the anaphor *zibun*$_{simp}$ can find its antecedent until the phasal head C is merged. This means that the mediating pro, as well as the subject *Bill*, is a potential binder for *zibun*$_{simp}$. Crucially, the presence of VoiP boundary does not block the binding relationship between pro and *zibun*$_{simp}$.

On the other hand, the sentence in (30b) with the complex anaphor *zibun-zisin* has the structure in (32). Again, I do not spell out the full detailed structure for the first element in *zibun-zisin* and simply notate it as *zibun*$_{\text{nP1}}$, in order to avoid complicating the tree with the full structure of the anaphor.

(32) John$_i$ said



Recall that the first element *zibun*$_{nP1}$ itself is an anaphor that has to follow Condition A. However, in comparison to *zibun*$_{simp}$ in (31), it now has one extra phasal projection above it, namely, nP$_2$. Thus, following Condition A as defined by the weaker verion of the PIC, it has to find its antecedent before the merger of the Voi head. That is, what is above the Voi head cannot be the antecedent for *zibun*$_{nP1}$. This does not rule out the possibility of the subject *Bill* binding *zibun*$_{nP1}$, given that the subject *Bill* is base-generated in Spec vP. Note that the phase boundary nP$_2$ does not prevent this binding relationship, given the current assumption that Condition A is defined based on the weaker version of the PIC from Chomsky (2001). However, crucially, this makes it impossible for the mediating pro to serve as the antecedent for *zibun*$_{nP1}$, which implies that the complex anaphor cannot be bound by the mediating pro. Recall that, according to the null mediator approach, what seems like LD binding occurs because the mediating pro which is coindexed with an NP in a higher clause binds the anaphor. Consequently, the unavailability of pro as a binder directly explains why LD binding is not possible for the complex anaphor *zibun-zisin*.

Note that this phasal analysis is only possible under the version of PIC as repeated in (33), rather than the version in (34).

(33) **Phase Impenetrability Condition** (The version adopted here (Chomsky 2001: 14))
The domain of H [= a phase head] is not accessible to operations at ZP [= the next phase]; only H and its edge are accessible to such operations.

(34) **Phase Impenetrability Condition** (The stronger version *not* adopted here (Chomsky 2000: 108))
In phase *α* with head H, the domain of H is not accessible to operations outside *α* only H and its edge are accessible to such operations.

This is because, if one adopts the version of PIC in (34), the first element of the complex anaphor *zibun-zisin* would not be able to be bound by anything. The binding domain for $zibun_{nP1}$ in (32) would be closed off by the nP_2 and it is incorrectly predicted that $zibun_{nP1}$ cannot be bound by the local subject either.

To add one further note regarding the DP phase, as mentioned above, I proceed with the assumption that Japanese lacks a D projection. This means that, even when anaphors are embedded within a nominal phrase, there is no DP phase that would impede the binding relationship between the anaphor and a binder outside the nominal phrase. It is thus expected that anaphors embedded within an object nominal phrase, for example, retain all binding possibilities, similar to anaphors appearing independently in the object position. This prediction is confirmed by the data in (35). Here, similarly to the examples above, *zibun* can take either a local antecedent *Bill* or an LD antecedent *John*, while *zibun-zisin* can take only a local antecedent.

(35) John-wa [Bill-ga {zibun/zibun-zisin}-no oya-o semeta-to] itta.
John-TOP Bill-NOM self-GEN parent-ACC blamed-that said
'John$_i$ said that Bill$_j$ blamed {zibun$_{i/j}$'s/zibun-zisin$_{*i/j}$'s} parent.'

Relevantly, in contrast with the data in (35), Aikawa (1993) observes that the LD-binding in (36b), where *zibun-zisin* is embedded inside the object, is rather improved compared with (36a), where it is located in the object position. The judgements in (36) are from Aikawa (1993). Such an improvement, if existent, is not expected under the current analysis (no matter whether the DP phase exist or not).

(36) a. John-ga Bill-ni [Mike-ga zibun-zisin-o semeta-to] itta.
John-NOM Bill-DAT Mike-NOM self-self-ACC blamed-that said
'John$_i$ said to Bill that Mike$_j$ blamed zibun-zisin$_{?*i/j}$.'

b. John-ga Bill-ni [Mike-ga zibun-zisin-no ronbun-o hihan-sita-to] itta.
John-NOM Bill-DAT Mike-NOM self-self-NOM paper-ACC criticize-did-that said
'John$_i$ said to Bill that Mike$_j$ criticized zibun-zisin$_{?i/j}$'s paper.' (Aikawa 1993: 100)

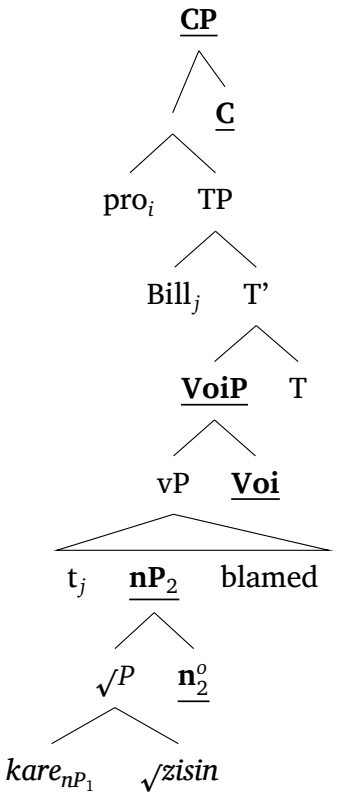
However, the difference between (36a) and (36b) is not clear to me or my informant: these examples both seem to allow local binding and disallow LD binding. Mihara & Hiraiwa (2006: 87) also report that *zibun-zisin* embedded within the object does not allow LD binding, in line with our judgement. Then why is there such variation of judgments regarding *zibun-zisin* embedded within a nominal phrase? One possibility is that the *zibun-zisin* = *John* reading, which Aikawa (1993) gets for (36b), is the reading of *zibun-zisin* as an intensified simplex anaphor, as discussed in Section 1 (Hara 2001; 2002; Mihara & Hiraiwa 2006; Kishida 2011). There could be something in (36b) that pragmatically triggers contrastive or emphatic reading for Aikawa, causing unconscious shift from the complex anaphor use of *zibun-zisin* to the intensified simplex anaphor use in judging (36b). If that is the case, (36b) is not an instance of LD binding of a complex anaphor that is of interest to us. Another possibility is that (36b) is in fact an instance of LD binding of complex anpahors. Instead, there is something more to be said regarding the grammar of possessive constructions and this additional component makes it easier for some speakers to get LD binding of *zibun-zisin* (see also Oshima (2004), for example, for the idea that possessive anaphors show peculiar behaviors in other respects). To fully distinguish among these (and other) possibilities would require further investigation into the possessive constructions and the behaviors of anaphors in them. I thus leave the investigation for future studies and continue to deal with anaphors in argument positions.

Thus far, I have discussed how the availability of LD binding of *zibun* in contrast to the unavailability of LD binding of *zibun-zisin* follows from the null mediator approach to LD binding. In the next section, I will move on to deriving the local nature of *kare-zisin*.

3.3.2 On *kare-zisin*

The account so far has attributed the lack of the LD binding interpretation of the complex anaphor *zibun-zisin* to the anaphorhood of its first element *zibun*$_{\text{nP1}}$. Now, the obvious question is as follows: how can the behavior of another complex anaphor *kare-zisin* be captured? Recall that this anaphor behaves as a local anaphor similarly to *zibun-zisin*, as shown in (30b) above. However, this anaphor consists of a third person pronoun *kare* and *zisin*. That is, its first element is not an anaphor, and hence does not follow Condition A. Thus, even though *kare*$_{\text{nP1}}$ is separated from the mediating pro by two phase boundaries (VoiP and nP$_2$) in the structure in (37), that should not trigger Condition A violation in binding of *kare* by the pro, unlike what I proposed for (32). Then, what prevents *kare-zisin* from having a LD-bound reading?

(37) John$_i$ said



Note here that, even though its first element is not an anaphor, *kare-zisin* in its entirety is an anaphor and thus, follows Condition A. This implies that nP_2 has to find its antecedent before the second next phase head, C, gets merged. This limits the possible antecedents of *kare-zisin* to the mediating pro or the local subject. Thus, it is not possible for *kare-zisin* to be directly bound from outside the clause, similarly to *zibun*. Then, the question boils down to why *kare-zisin* cannot be bound by the mediating pro.

I propose that it is yet another property of the pronoun *kare* that prevents binding by the mediating pro. Yashima (2015a; b) proposes that the 3rd person pronoun *kare* (or *kanozyo*, its feminine form) is an epithet and shows the property *anti-logophoricity*. The literature has claimed that these pronouns cannot have bound variable reading, as shown in (38a) (Kitagawa 1981; Katada 1991; Noguchi 1997). However, Yashima points out that this generalization is incorrect and *kare* can undergo variable binding in some contexts, as shown in (38b). He claims that what distinguishes (38a) from (38b) is whether *kare* is in the attitude context of its antecedent. In (38a), *kare* is in the complement of the attitude verb *omow* "think", which is the attitude domain of *dono gakusei*. In contrast, *kare* in (38b) is not in the attitude context of its antecedent.

Thus, Yashima concludes that *kare* can be variable bound, but it cannot be bound by an attitude holder.[13]

(38) a.?*dono gakusei$_i$-mo [Hanako-ga kare$_i$-o tasukeru-to] omotteiru.
every student-PART Hanako-NOM 3.SG.M-ACC help-that thinks
'Every student$_i$ thinks that Hanako will help him$_i$.'

b. dono nooberusyoo zyusyoo-sakka$_i$-ga kare$_i$-no kuruma-de kita-no?
which Nobel.Prize winning-author-NOM 3.SG.M-GEN car-with came-q?
'Which Nobel Prize winning author came in his car?' (Yashima 2015b: 1425)

Yashima accounts for this generalization by proposing that third person pronouns in Japanese are epithets. Epithets, in general, are claimed to exhibit anti-logophoric properties (Dubinsky & Hamilton 1998). For example, Dubinsky & Hamilton (1998) claim that (39a) is not acceptable because the epithet *the idiot* falls within the attitude domain of John, its antecedent. Note that it is not the c-command by *John* (i.e. Condition C violation), that degrades the example in (39a): the example in (39b) shows that *the idiot* can be licensed in the c-command domain of *John*, as long as it is not in the attitude domain of *John*.

(39) a. *John$_i$ thinks that I admire the idiot$_i$.
(Dubinsky & Hamilton 1998: 686, originally from Postal (1972))

b. John$_i$ ran over a man who was trying to give the idiot$_i$ directions.
(Dubinsky & Hamilton 1998: 687)

Yashima claims that *kare* is an epithet and hence, cannot take the attitude holder as its antecedent.

Now getting back to LD binding and *kare-zisin*, it has been pointed out by various studies that LD binding, in general, bears some perspectival interpretation (Sells 1987; Kuno 1987; 1996; Sundaresan 2012; Nishigauchi 2014; Charnavel 2020a; b). For example, Charnavel (2020a; b) contends that the contexts that license LD binding in French overlap with those governing other perspectival phenomena, including epithets. Likewise, in Japanese, LD binding has frequently been argued to involve a perspectival effect. For example, LD binding is suggested to at least favor contexts where the antecedent is aware of the event described in the clause containing *zibun*,

[13] Note that (i) is acceptable, where *kare* refers to the attitude holder Taroo. Yashima claims that, in sentences like (i), there is a null referential pro which is coreferential with *Taroo* and it is accompanied by an appositive use of *kare* as shown in (ii). Such option is not available in cases like (38a), as the antecedent is not referential.

(i) Taroo-wa Hanako-ga kare-o uttaeru-to omotteiru.
Taroo-TOP Hanako-NOM 3.SG.M-ACC sue-that think
'Taroo$_i$ thinks Hanako will sue him$_i$.' (Yashima 2015b: 1432)

(ii) [$_{DP}$ pro [$_{AppositiveP}$ kare/kanozyo (=epithet phrase)]] (Yashima 2015b: 1433)

although instances that do not necessitate an awareness condition have also been reported.[14] Oshima (2004), for example, observes that the use of *zibun* in (40) is judged false in a non-*de se* context where *John* is amnestic and is not aware that the person Mary hates is identical with John himself.

(40) John$_i$-wa [Mary-ga zibun$_i$-o nikundeiru-to] omotteiru.
John-TOP Mary-NOM self-ACC hates-that believes
'John$_i$ believes that Mary hates zibun$_i$.' (Oshima 2004: 3)

One way to incorporate such a relationship between LD binding and the perspectival effect into the null mediator approach is by associating perspectival semantics with the pro.[15] That is, this pro is what defines the perspective holder in that clause. Charnavel (2020a; b), for example, proposes that the head that introduces pro (Op) has a first person perspectival semantics as shown in (41b). This semantics ensures that the referent of *pro*, that is the antecedent of LD binding, is understood to be the attitude holder in its domain in examples like (40).

(41) a. [pro$_{log\text{-}i}$ [Op$_{log}$ [α … exempt anapho$_i$…]]]
b. [[Op$_{log}$]] = $\lambda\alpha.\lambda x.$ α from x's first person perspective (Charnavel 2020b: 697)

According to this line of analysis, if *kare*, an epithet according to Yashima (2015b), avoids being bound by the attitude holder, then it should not be bindable by the mediating pro, which defines the attitude holder. Since what can be a binder for *kare-zisin* under Condition A is *pro* or the

[14] The LD bound *zibun* in the following example is reported to allow non-*de se* interpretation, for example. This (partly) motivated Baker & Ikawa (2024) to dissociate the *de se* effect from LD binding (see fn.15 below).

(i) (Context: Amnesic David, unknowingly reading his own biography, becomes fond of a female character, Mary. In a scene of the book, the hero of the book (David) saves her from death.)
David-wa [zibun-ga Mary-o sukutte-kure-ta-to] omotteiru.
David-TOP self-NOM Mary-ACC save-BEN-PST-that thinks
'David believes that self saved Mary.' (Oshima 2004: (10))

However, note that this example includes *zibun* in an embedded subject position, unlike the example in (40), where *zibun* is located in an object position. As discussed later, the current proposal in fact predicts that the perspectival interpretation is not obligatory for *zibun* in a subject position, in contrast with *zibun* in an object position. Thus, according to the current proposal, the existence of (i) does not deny the absence of *de se* effect with *zibun* in genenral. See Section 3.4 for details.

[15] Not all research advocating the null mediator approach actively associates the perspectival effect with the pro. For example, Baker & Ikawa (2024) report various cases where elements other than attitude holders can be the antecedent for logophoric pronouns and LD bound anaphors. Partially motivated by these observations, they claim that the referent of pro is chosen syntactically based on control theory, as briefly discussed above. However, they explicitly note that such an approach is not incompatible with the idea that pro carries additional perspective-related semantics.

local subject, this property of *kare* naturally limits the possible binder to the local subject, thus deriving the locality requirement of *kare-zisin*.[16]

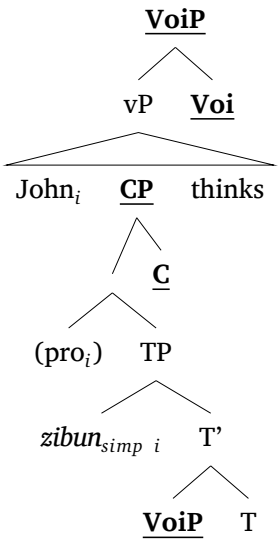
Thus, I have derived the correlation between the complexity of the anaphor and the availability of LD binding. Importantly, this explanation straightforwaradly follows from the internal structure of the anaphors and the binding condition defined based on the PIC, both of which are independently justified as discussed in Section 3.1 and 3.2. In the next section, I will demonstrate that further predictions arising from this account are borne out.

3.4 Further predictions

One essential component of the phase-based account so far was the presence of the VoiP phase boundary: the phasal Voi, combined with the nP_2 phase in the complex anaphor, prevents the first element in *zibun-zisin*, $zibun_{nP1}$, from being bound by the mediating pro. It is then expected that the behavior of the anaphors will vary when the Voi phase is absent between the anaphor and the mediating pro. This prediction can readily be examined by looking at the behavior of anaphors in the subject position, assuming that the subject is in Spec TP. More specifically, there are three predictions: one is for simplex anaphors, another is for *zibun-zisin*, and the third is for *kare-zisin*. Let me examine these predictions one by one.

First, when a simplex anaphor *zibun* or *zisin* is in Spec TP, it is predicted that these anaphors should allow binding by a matrix argument without mediation. The structure would look like (42).

(42)



[16] I mentioned in fn. 13 that the use of *kare* with a referential antecedent is derived from the null pronoun + appositive structure. Such a structure is not available when *kare* forms a part of the complex anaphor *kare-zisin*: if the first element of the complex anaphor had the appositive structure [pro, *kare*], then *kare* in an appositive position should not be able to achieve a compound status with *zisin* via head movement.

This structure shows that *zibun* should now be able to find its antecedent until the matrix Voi head is merged following Condition A: given the version of the PIC from Chomsky (2001), $zibun_{simp}$ can access elements higher than the first phase head above it, namely C, until the second phase head (the matrix Voi) is merged. As an implication, *zibun* should now be able to be directly bound by the matrix subject *John* even without the presence of pro. This is in contrast to the structure for $zibun_{simp}$ in the embedded object position in Section 3.3 above, where binding by a matrix argument needed to be mediated by the mediating pro.

Does the availability of direct binding by a matrix argument make a difference from an empirical point of view? Interestingly, the literature has reported an observation that verifies this prediction.[17] Abe (2014) reports that the subject *zibun* and the object *zibun* show slightly different interpretations, when they are coindexed with the matrix subject. He reports that when *zibun* is in the object position, binding by the matrix subject requires a *de se* reading, while a *de se* reading is not required when it is in the subject position. That is, in the indicated context, (43a) is acceptable while (43b) is not.[18]

(43) Context: Miyuki thinks that John is the best and Yoichi hates John. While Miyuki is not aware of it, John is, in fact, her father.

a. Miyuki-wa [zibun-no titioya-ga saikoo-da-to] omotteiru.
Miyuki-TOP self-GEN father-NOM best-COP-that think
'Miyuki$_i$ thinks that zibun's$_i$ father is the best.'

b. #Miyuki-wa [Yoichi-ga zibun-no titioya-o kiratteiru-to] omotteiru.
Miyuki-TOP Yoichi-NOM self-GEN father-ACC hate-that think
'Miyuki$_i$ thinks that Yoichi hates zibun's$_i$ father.' (Abe 2014: 173)

As mentioned in Section 3.3.2, associating *pro* with some perspectival semantics is one way of accounting for the *de se* effect in the null mediator approach. This account predicts that the *de se* effect appears exactly when *zibun* is bound by the *pro*, while the *de se* effect would disappear when the binding does not have to involve *pro*. Now recall that when the simplex anaphor occurs in the subject position, it should be able to access the matrix argument directly in the absence of *pro*, while there is no such possibility when the simplex anaphor is in the object position. This predicts that the simplex anaphor in the subject position should be bindable by the matrix

[17] Here, the prediction of the current account is the same as the definition of binding domain based on the Specified Subject Condition. But see the discussion on *zibun-zisin* below, which differentiates the current account from the prediction of the Specified Subject Condition.

[18] But see Baker & Ikawa (2024) for the difficulty of getting reliable *de se* judgments in general. Given that my informant agrees with the judgments in (43b) from Abe (2014), I proceed with the data in (43b) at least for now.

argument without any perspectival effect, whereas the object should not, and this prediction is precisely borne out by the findings in (43).[19]

Similar support comes from *zibun* in a subject position in a relative clause. In a relative clause, LD bound *zibun* is known to be sensitive not to *de se* perspective, but to empathy (Oshima 2004; 2007). That is, the referent of LD bound *zibun* in a relative clause has to be the one the speaker empathizes with. One way this constraint surfaces is the inability of *zibun* to cooccur with a first person pronoun as demonstrated in (44) (Kuno 1996; Oshima 2004; 2007). Following Charnavel (2020a; b), I posit that this empathy effect also arises from the perspectival semantics associated with the null pro.[20]

(44) *Taroo-wa [boku-ga zibun-ni miseta syasin]-o yabutte-simat-ta.
Taroo-TOP 1SG-NOM self-DAT showed picture-ACC tear.up-EVAL-PST
'Taroo$_i$ tore up a picture which I showed to zibun$_i$.'

Now, the current account expects that, when *zibun* appears in a subject position inside a relative clause modifying the object, such an empathy effect disappears: again, *zibun* can directly access the matrix subject without the mediation by *pro* given the structure in (45). This is borne out as shown in (46).

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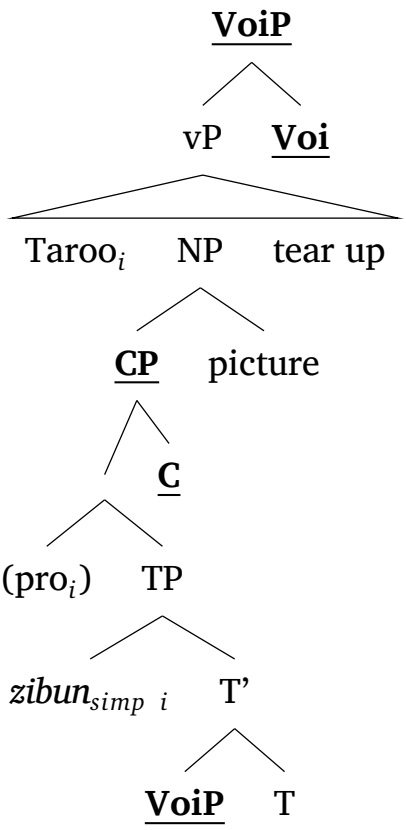
[19] Baker & Ikawa (2024: 8) report the observation in (i) which shows that the LD-bound *zibun* in the subject position and LD-bound *zibun* in the object position have to refer to the same entity. That is, there is no reading where zibun-1 = Hanako and zibun2 = Taroo or vice-versa.

(i) Taroo-wa [Hanako-ga [zibun$_1$-no yuuzin-ga zibun$_2$-o semete-i-ta-to] it-ta-to] omot-ta.
Taroo-TOP Hanako-NOM self-GEN friend-NOM self-ACC blame-AUX-PST-C say-PST-C think-PST
'Taroo thinks that Hanako said that zibun1's friend was blaming zibun2. (# if zibun1 = Hanako and zibun2 = Taroo (or zibun1 = Taroo and zibun2 = Hanako))'

They account for this observation by arguing that there is only one local pro and only the referent of the sole pro can be the possible binder for both occurrences of *zibun* if they undergo LD binding. However, if *zibun* in the subject position can directly refer to the matrix subject without the mediating pro, then why is it not possible for zibun1 to be directly bound by *Hanako* with *zibun2* being the local pro referring to Taroo? I tentatively propose that *pro* is optional and, when existent, introduces another layer of phase around the TP-CP area. This extra phase blocks even the subject *zibun* from directly accessing the matrix argument. It is not entirely a new idea that the left periphery might contain more than one phase boundary (Ambar 2003; Kidwai 2010). Notice that, in (i), there has to be a pro, so that the object *zibun* can be bound by it. This means that there is an additional phase boundary above the pro, which blocks the relationship between the matrix arguments and the *zibun* inside the subject, as shown in (i).

[20] There remains the issue of how to let the perspectival effect of pro become sensitive to different concepts depending on whether it occurs in a complement cluase or a relative clause. Since this matter is not exclusive to the current proposal, and the distinction between LD binding into a relative clause and LD binding into a complement clause is not the primary focus of this paper, I will not delve further into this aspect here.

(45)



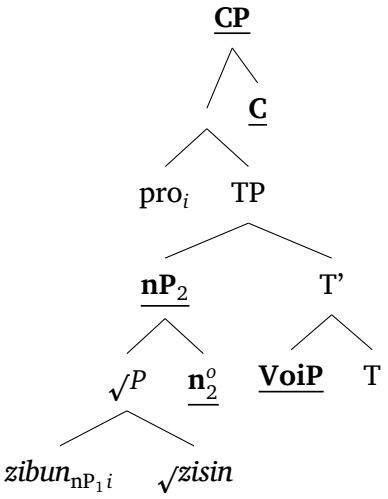
(46) Taroo-wa [zibun-ga boku-ni miseta syasin]-o yabutte-simat-ta.
Taroo-TOP self-NOM 1SG-DAT showed picture-ACC tear.up-EVAL-PST
'Taroo$_i$ tore up the picture that zibun$_i$ showed to me.'

So far, I have demonstrated how a simplex anaphor behaves when it occurs in a subject position. What happens when the complex anaphor *zibun-zisin* occurs in the subject position? In fact, as shown in (47), the subject *zibun-zisin* can be bound by the matrix subject (see also Katada (1991: 289) for a similar judgement).

(47) Hanako-wa Taroo-kara [zibun-zisin-ga yuusyoosita-to] kiita.
Hanako-TOP Taroo-from self-self-NOM won-that heard
'Hanako$_i$ heard from Taroo$_j$ that self$_{i/j}$ won.'

This is exactly what the current proposal predicts: the structure up until the matrix VoiP would look like (48).

(48) Hanako$_i$ heard from Taroo



Crucially, there is only one phase boundary nP$_2$ between the mediating pro and *zibun*$_{nP1}$. Thus, nothing prevents the first element *zibun*$_{nP1}$ from being bound by the mediating pro following Condition A. Hence, the current account correctly predicts that LD binding of *zibun-zisin* should become possible in the subject position.

One might suspect that *zibun-zisin* is simply directly bound by the matrix subjects rather than being bound by the mediating pro, which is indeed possible under the binding domain defined by the Specified Subject Condition (Chomsky 1973). Nonetheless, there is evidence suggesting that the binding here is mediated by the pro, as predicted by the current definition of the PIC. As discussed in Section 2, the antecedent for LD binding exhibits different distribution compared to the antecedent for local reflexive binding. More specifically, locally bound *zibun* or *zibun-zisin* cannot be bound by a non-subject, including the source phrase. The relevant example is repeated in (49). *Zibun* or *zibun-zisin* cannot be directly bound by the local non-subject phrase *Taroo*.

(49) Hanako-wa Taroo-kara zibun/zibun-zisin-no yuusyoo-o kii-ta.
Hanako-TOP Taroo-from self-GEN victory-ACC heard
'Hanako$_i$ heard {zibun/zibun-zisin}$_{i/*j}$'s victory from Taroo$_j$.'

Now notice that, in (47), *zibun-zisin* = Taroo reading is also possible in addition to *zibun-zisin* = Hanako reading. This implies that the binding in (47) displays the characteristics of LD binding rather than local binding in terms of the choice of its antecedent. Note further that not every non-subject matrix argument can bind *zibun-zisin* in the subject position: the matrix goal argument cannot.

(50) Hanako-wa John-ni [zibun-zisin-ga yuusyoosita-to] tutaeta.
Hanako-TOP John-DAT self-self-NOM won-that told
'Hanako$_i$ told John$_j$ that zibun-zisin$_{i/*j}$ won.'

As discussed in Section 2 with (12b), this is also the pattern exhibited by LD binding of *zibun* in the object position. Since the choice of antecedent is determined by the referent of pro under the null mediator approach (refer to Section 2), the pattern of antecedent choice exhibited by *zibun-zisin* in a subject position can be explained by assuming that what binds *zibun-zisin* here is the mediating pro, similar to other instances of LD binding. This implies that *zibun-zisin* in the subject position can in fact be bound by the pro.

While I have shown so far that the complex anaphor can be bound by pro, using the possibility of LD binding by the non-subject, I have yet to confirm whether it is impossible at all for *zibun-zisin* to be bound by the matrix subject without mediation by pro. Unlike the simplex anaphors, *zibun-zisin* should not be able to directly access the matrix arguments: given the structure in (48) above, there are two phase boundaries, the nP_2 and the CP, between the first element $zibun_{nP1}$ and the matrix arguments. Since binding by pro enforces the perspectival effect, as we have seen, I can confirm this prediction using this effect. Starting with the cases with *zibun-zisin* in complement clauses, the prediction is that the non-*de se* reading in (51) is not possible. The judgment is subtle, but the prediction holds true. An informant who accepted the non-*de se* reading in (43a) judged the non-*de se* reading in (51) to be possible, but crucially reported that it requires contrastive reading unlike (43a). Recall that *zibun-zisin* can be either the intensified form of the simplex anaphor *zibun* or the true complex anaphor *zibun-zisin*, with the former resulting in the contrastive reading (see Section 1). The observation that the non-*de se* reading becomes possible only in the contrastive reading suggests that complex anaphor *zibun-zisin*, which is our focus here, does not allow non-*de se* reading, as predicted by the current analysis.

(51) Context: Miyuki thinks that John is the best. While Miyuki is not aware of it, John is in fact her father.
#Miyuki-wa [zibun-zisin-no titioya-ga saikoo-da-to] omotteiru.
Miyuki-TOP self-GEN father-NOM best-COP-that think
'Miyuki$_i$ thinks that zibun-zisin's$_i$ father is the best #(not anyone else's father),'

Similarly, *zibun-zisin* in a subject position of a relative clause is predicted to fail to cooccur with a first person pronoun, due to the obligatory perspectival (empathy-locus) interpretation. This is borne out in (52): the sentence with the first person pronoun is not allowed without a contrastive reading.

(52) #Taroo-wa [zibun-zisin-ga boku-ni miseta syasin]-o yabutte-simat-ta.
Taroo-TOP self-NOM 1SG-DAT showed picture-ACC tear.up-EVAL-PST
'Taroo$_i$ tore up the picture that zibun-zisin$_i$ showed to me.'

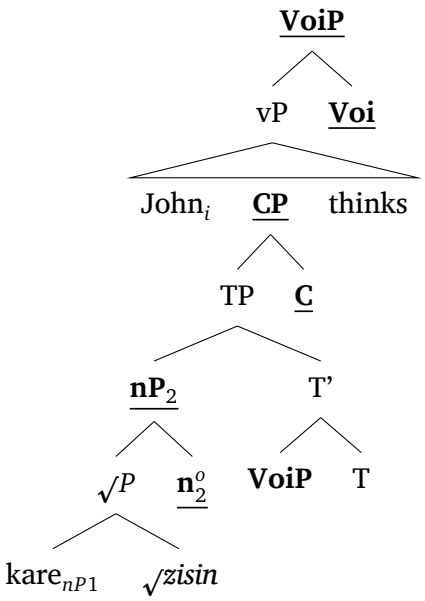
Thus, the current proposal correctly predicts the behavior of *zibun-zisin* in the subject position.

Finally, let me turn to the complex anaphor with a pronoun, *kare-zisin*. Recall that this anaphor must inherently adhere to the same locality requirement as the simplex anaphors: its

first element is not an anaphor and therefore does not follow Condition A. The difference from the simplex anaphors is that the first element of *kare-zisin*, *kare*, avoids being bound by the mediating pro due to its anti-logophoricity. I explained earlier that the absence of LD binding for *kare-zisin* in the object position stems from this inability to be bound by pro.

Now, we have observed that *zibun* in a subject position can be directly bound by a matrix clause without the mediation by pro, following Condition A. This suggests that Condition A should similarly permit *kare-zisin* to be directly bound by the matrix arguments once it occupies the subject position. Importantly, the anti-logophoric property of *kare* does not prevent such a binding relationship, as mediating pro is not involved. The structure envisioned here is depicted in (53).

(53)



Here, the whole anaphor *kare-zisin* needs to find its antecedent prior to the merger of the second phase head, which is the matrix Voi. This means that a matrix argument should be able to be its antecedent without the mediation by pro. This prediction is confirmed by previous studies. Katada (1991) prodvides the example in (54).[21]

[21] In Section 3.3.2, I explained the behavior of *kare-zisin* by attributing anti-logophoricity to it under the assumption that *kare* is an epithet. At this point, however, I must point out that the first element of *kare-zisin* is not exactly the same element as the pronoun-epithet *kare*: if the requirement on *kare* is the ban of binding by the mediating pro and (54) is possible because of the optionality of *pro*, why then does the binding of the epithet *kare* not become available in (38) (repeated in (i))? If the structure where the embedded phrase does not contain pro is optionally available, such a structure would similarly license the variable binding in (38) as well.

(i) ?*dono gakusei$_i$-mo [Hanako-ga kare$_i$-o tasukeru-to] omotteiru.
every student-PART Hanako-NOM 3.SG.M-ACC help-that thinks
'Every student$_i$ thinks that Hanako will help him$_i$.'

(54) John-ga Bill-ni kare-zisin-ga katta-to itta.
John-NOM Bill-DAT 3.SG.M-self-NOM won-that said
'John$_i$ said to Bill$_j$ that kare-zisin$_{i/j}$ won.' (Katada 1991: 289)

In this example, *kare-zisin* is bindable by the matrix arguments, *John* or *Bill*. Especially notable here is the possibility of binding by *Bill*. Recall that LD binding mediated by pro does not allow the matrix goal argument to be the surface antecedent (see Section 1, (12b)). This means that *kare-zisin*, when interpreted as referring to *Bill*, is directly bound by the matrix dative goal argument *Bill*. Given that *kare-zisin*, unlike other anaphors, does not show subject-orientation, the non-subject status does not prevent *Bill* from binding it.

Overall, the current proposal correctly predicts how the behavior of each of the anaphors changes when they are in the subject position. It is important to note that the detailed differences in antecedent choices among the three anaphors in the subject position cannot be captured merely by asserting that the embedded subject position falls within the same binding domain as the matrix arguments (cf. the Specified Subject Condition). Rather, the internal structure of the anaphors, the PIC-based binding domain, and the null mediator approach together derive the intricate differences among these anaphors.

Notice also that the discussion in this section provides additional evidence supporting the adoption of the version of the PIC repeated in (55).

(55) **Phase Impenetrability Condition** (The version adopted here (Chomsky 2001: 14))
The domain of H [= a phase head] is not accessible to operations at ZP [= the next phase]; only H and its edge are accessible to such operations.

Temporarily setting aside the possibility of binding by pro and the existence of complex anaphors, Condition A, as defined according to the version of the PIC in (55), and Condition A, as defined based on the stronger version in Chomsky (2000), yield different predictions regarding an anaphor in a subject position, as depicted in (56).

(56) [Voi [matrix-NP [$_{\underline{\text{CP}}}$ [$_{\text{TP}}$ *self* [$_{\underline{\text{VoiP}}}$ …]]]

An anaphor can be bound by the matrix arguments in accordance with Condition A based on (55). On the other hand, the stronger version of the PIC predicts that the anaphor cannot be

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Given that the pronoun *kare* is an epithet by assumption, and epithets generally require some perspective holders as their evaluators (cf. Dubinsky & Hamilton (1998)), I tentatively propose that the presence of the pronoun *kare* that appears by itself (i.e., without *zisin*) requires the presence of the pro that introduces the perspectival holder. In a scenario where this pro happens to be co-indexed with the intended antecedent, this results in a prohibited structure where the epithet is bound by the pro.

On the other hand, I speculate that *kare* in *kare-zisin* is in a sense lexicalized and has lost its core epithetic characteristics: it no longer requires the presence of the pro (i.e., the evaluator). Instead, it only retains the ban on binding by pro. Further investigation into this topic is left for future studies.

directly bound by the matrix arguments. As we have seen that *zibun* and *kare-zisin* can be directly bound by the matrix arguments (i.e., without the mediation by pro), at least the Japanese data clearly prefer Condition A defined based on the weaker version of the PIC.[22] Thus, the current discussion motivates the adoption of the weaker version of the PIC in (55).

4 Implication for the typology

The correlation between complexity of anaphors and the unavailability of LD binding has been extensively discussed from a typological perspective: it has commonly been proposed that across languages, complex anaphors typically exhibit local binding while simplex anaphors tend to allow LD binding (Faltz 1985; Pica 1987; Cole et al. 1990; Progovac 1993; Cole & Sung 1994, a.o.). At the same time, however, numerous studies have also noted counter-examples to this typological correlation (Huang 1996; 2000; Safir 2004; Charnavel 2020a; b). While the primary focus of the current paper is on examining the correlation between anaphor complexity and the absence of LD binding within Japanese, it is a natural extension of the current proposal to ask what it predicts about the typology. In this section, I briefly explore how this proposal correctly predicts the findings from previous studies concerning the typology of the relationship between anaphor complexity and LD binding.

The connection between anaphor complexity and (un)availability of LD binding has been already noted in Faltz (1985), Pica (1987) and their followers (Cole et al. 1990; Progovac 1993; Cole & Sung 1994, a.o.). The strongest form of this generalization would be something like "simplex anaphors always allow LD binding and complex anaphors are always local," which obviously does not hold. For example, Huang (1996) points out that a complex anaphor *diri-nya* allow LD binding in Malay as shown in (57).[23]

(57) Farida mengadu bahawa Ali mengecam dirinya.
Farida complain that Ali criticize self-3.SG
'Farida$_i$ complained that Ali$_j$ criticized self$_{i/j}$.' (Huang 1996: 834)

[22] At this point, one might wonder how this extends to the definition of Condition A in other languages. Notably, it has been pointed out that, at least in some languages, anaphors in the subject position cannot be bound by the matrix arguments, with the Tensed-S Condition strictly enforced. For example, Charnavel & Sportiche (2016: 45,64) observe that the French anaphors with inanimate antecedents, which are ensured to be local anaphors, cannot be bound from outside the TP even when they occupy subject positions. So, how would the current account explain such cross-linguistic variation? One possibility to explore would be that there is an extra layer of phase around CP in French. For example, in fn.19 above, I hinted at the possibility that the presence of pro introduces an extra phase around the left periphery. If French is a language that forces the presence of pro in any attitude context, then French might always have an extra phase boundary. Alternatively, one might be able to associate the presence of extra phase with the presence of ϕ-agreement (Yang 1983; Saito 2017).

[23] But refer to Cole & Hermon (2005) for the claim that the Malay complex anaphors is not a true counterexample.

Given the existence of such counterexamples, Haspelmath (2008) proposes a weaker version of this correlation, given in (58). Note that this version does not assert that complex LD anaphors cannot exist, nor does it claim that there cannot be simplex local anaphors, thereby capturing the existence of what look like counter-examples to the strongest generalization: it only says that when a language has both types of anaphors and they differ in complexity, the more complex ones are local. Haspelmath (2008) presents **Table 1** as evidence in support of this universal. Notice that the local reflexives and long-distance reflexives in **Table 1** are all morphologically related to each other. Therefore I assume that this universal is intended to be about languages that have *morphologically-related* local and LD anaphors, although Haspelmath (2008) is not explicit about this point.

(58) Haspelmath (2008: Universal 7)
If a language has different reflexive pronouns in local contexts and long-distance contexts, the local reflexive pronoun is at least as complex phonologically as the long-distance reflexive.

	LOCAL REFLEXIVE	**LONG-DISTANCE REFLEXIVE**
Mandarin Chinese	(ta) zìji	zìji
Icelandic	sjálfan sig	sig
Dutch	zichzelf	zich
Telugu	tanu tanu	tanu
Bagvalal	e-b-da	e-b
Malay	diri-nya	diri-nya
English	him-self	him-self

Table 1: Local reflexives and long-distance reflexives (Haspelmath 2008: 58).

The current proposal correctly predicts Haspelmath's version of the generalization. Under the current proposal, an anaphor in a language L will be long-distance if it satisfies all of the following three conditions.

(59) a. the language L can introduce a mediating pro in an A-position,
b. the anaphor is compatible with binding by the pro, and
c. the entire anaphor does not have a structure where an anaphor has an extra phase over it.

The first condition states that there needs to be a mediating pro in the language L and it needs to occupy an A-position to locally bind the anaphor. Note that not all languages have such a mediating pro in an A-position. For example, as discussed in Baker & Ikawa (2024), Ibibio, an

African language that they analyze, has a pro in the left periphery and this is the binder for the logophoric pronoun. Crucially, however, this pro is not in an A-position, given the pronominal status of the logophoric pronoun (see also the discussion in 2.2 above). The second condition states that the anaphor must be compatible with binding by the pro. Recall that, in analyzing Japanese *kare-zisin*, I proposed that this anaphor is incompatible with binding by the mediating pro due to the anti-logophoricity introduced by *kare*. Such incompatibility would result in the failure of LD binding mediated by the pro. Finally, the third condition directly reflects my core proposal on the distinction between *zibun* and *zibun-zisin*. We saw that *zibun-zisin* has an extra layer of phasal nP over the anaphor *zibun*, and this prevents binding by pro (when the anaphor is in the object position). This condition is automatically fulfilled when the anaphor is simplex. Note, however, that it does not follow from this condition that complex anaphors cannot be long-distance. If a complex anaphor does not contain an anaphor inside it (e.g. an anaphor consisting of a pronoun + non-anaphoric element), then this condition is satisfied. Even when a complex anaphor comprises an anaphor and something else, this condition can still be satisfied as long as it has a structure where there is no extra phasal boundary over the comprised anaphor. For example, the complex anaphor can have a structure like $[_{YP}$ [XP] Y], where XP is non-anaphoric and an anaphoric element Y projects and heads the entire anaphor.

The conditions in (59) straightforwardly derive Haspelmath's generalization in (58). To begin with, these conditions correctly predict that not every simplex anaphor is long-distance, nor is every complex anaphor necessarily local. The first and the second conditions operate independently of anaphor complexity, allowing for the possibility of simplex anaphors being local due to their failure to satisfy these conditions. While anaphor complexity influences the third condition, complexity does not automatically preclude the satisfaction of this condition, as I have already argued. This means that complex anaphors may fulfill all the conditions and consequently be long-distance.

Crucially, however, the current proposal does not predict anything arbitrarily. It correctly imposes the restriction as stated in the universal in (58). To see this point, consider a language L has an anaphor of the form *X* and a more complex anaphor, *X* + *α*. Firstly, suppose that *X* is a long-distance anaphor. By assumption, this means that *X* in L satisfies all the three conditions in (58). That is, L has a mediating pro in A-position, X has nothing that prevents binding by the pro, and X does not have a structure where an anaphor is embedded inside an extra phasal layer. This does not ensure that *X* + *α* satisfies all the three conditions. It will satisfy the first condition, since it pertains to the language L, not the anaphor itself. However, it will not necessarily fulfill the second and the third ones. Regarding the second condition, *α* can introduce incompatibility with the pro. Concerning the third condition, the combination of X and *α* can potentially give rise to a structure in which the anaphor X has an extra phasal layer over it, as I proposed in the case of *zibun-zisin*.

Conversely, suppose that $X + \alpha$ is a long-distance anaphor. By assumption, this means that $X + \alpha$ satisfies all the three conditions: the language L has a mediating pro, neither X nor α introduces incompatibility with pro, and $X + \alpha$ does not have a structure where the anaphor X is not embedded under an extra phasal layer. Crucially, this entails that the three conditions are also satisified for the anaphor X: the language L has a mediating pro, X does not introduce incompatibility with the pro, and X alone should not have a problematic structure, since it should have less structure than $X + \alpha$. Thus, it necessarily follows that X is also long-distance. When combined, these considerations derive the observation in (58) that the local anaphor is at least as complex as the LD anaphor: it is possible that X is an LD anaphor and $X + \alpha$ is local, but it is not possible that $X + \alpha$ is an LD anaphor and X is local.

Therefore, the current proposal successfully explains the universal as formulated by Haspelmath (2008), while also accounting for the cases that are regarded as counter-examples to the stronger generalization about the correlation. Naturally, more detailed investigations of individual languages in the future would be beneficial to confirm if the typological predictions of the current proposal hold true in each specific case. Nonetheless, the discussions presented in this section, at the very least, suggest that the current proposal is heading in the right direction from a typological standpoint.

5 Conclusion

As previous studies have noted, the complexity of an anaphor is a determining factor in the availability of LD binding of it in Japanese. This observation is, at a first glance, problematic to the null mediator approach to LD binding: why can the mediating pro not bind a certain set of anaphors first of all, and why is it the complexity that matters? In this paper, I have shown that the null mediator approach, in fact, straightforwardly accounts for the effect of complexity when combined with a detailed analysis of the anaphor's internal structure and Condition A defined based on the weaker version of the PIC (Chomsky 2001). Moreover, I have demonstrated that the nuanced differences in behaviors among anaphors and across different structural positions are correctly predicted by the current proposal. These results provide additional validation for the null mediator approach.

Notably, according to the null mediator approach, the question of why some anaphors allow LD binding and some do not is not unique to Japanese but applies to any language with both types of anaphors. Although I have primarily focused on Japanese data in this paper, I have also demonstrated that the current proposal holds promise for extension to other languages by correctly predicting the typological pattern, as outlined by Haspelmath (2008).

Abbreviations

TOP = topic, NOM = nominative, ACC = accusative, DAT = dative, GEN = genitive, LOG = logophor, SG = singular, M = masuculine, 1 = first person, 3 = third person, PST = past, PERF = perfect, NEG = negation, NMLZ = nominalizer, Q = question particle, COP = copula, PART = particle

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Competing interests

The author has no competing interests to declare.

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