ABSTRACT

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This thesis examines reflexive pronouns, such as Icelandic *sig* (Cf. Thráinsson 2007), which may be bound from outside of an infinitive clause (which I call MD "medium distance" binding) in addition to being bound locally. I propose that such reflexives are linked to their antecedents via sisterhood followed by movement: the reflexive and antecedent are first merged together as sisters, and the antecedent subsequently moves to receive its first theta-role, as schematized below:

1. He ordered Harold to shave ~~he~~+sig

This links the properties of bound simplex reflexives to the properties of movement. I argue that reflexives such as *sig* must be bound within the first finite clause because finite CP is a spell-out domain and its escape hatch is inaccessible to A-movement. Furthermore, I derive the subject-orientation of *sig* and other simplex reflexives from merge-over-move, combined with a numeration divided into phases including vP. Since

the antecedent is moving into its first theta-role, and merge is preferable to move, the antecedent will end up in the highest position in the phase: that is, the subject.

I then examine long-distance (LD) uses of *sig* as well as Chinese *ziji*, Japanese *zibun*, and Kannada *tannu*. I propose that in such cases the reflexive still has a double, which is not the antecedent but a null element, possibly an operator. It undergoes A' movement to a position in the left periphery of a finite clause, associated with point-of-view (with a divided left periphery as in Speas 2004)—and this operator is in turn associated with an antecedent either outside the finite clause, or outside the sentence entirely. This accounts for the observation that LD reflexives often must refer to POV holders (Sells 1987). Evidence for LD reflexives being mediated by an A' position comes from the interaction of binding with wh-movement in Kannada (Lidz 2008), and is one way of describing where blocking effects do and do not occur in Chinese (Anand 2006). Furthermore, in Japanese there are sometimes overt morphemes, potentially left-periphery heads, that indicate POV and can co-occur with the use of LD reflexives (Nishigauchi 2005, 2010).

A MOVEMENT ACCOUNT OF LONG-DISTANCE REFLEXIVES

By

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Chapter 1: Introduction

This thesis examines reflexive pronouns that can take antecedents outside of their immediate clause. I argue that such pronouns are related to their antecedents by sisterhood, followed by movement of the antecedent. In this introduction I first discuss the class of pronouns that I will be considering for the rest of the thesis (section 1.1), and then present a brief overview of my analysis (section 1.2).

1.1 The pronouns

This thesis addresses a class of pronouns that have been termed long-distance reflexives. These are pronouns that are like local reflexives (e.g. English *himself*) in some ways: they require antecedents (usually), and allow local binding—like local reflexives, and unlike non-reflexive pronouns. For instance, Icelandic *sig* patterns with English *himself* in (1) and (2) below.

1. a. Egill$_i$ rakaði sig$_{i/*j}$. (Icelandic)
   Egil shaved REFL
   b. Egill$_i$ rakaði hann$_{*i/j}$.
   Egil shaved him [Thráinsson 2007 ex. 9.1b, a]
2. a. John$_i$ shaved himself$_{i/*j}$.
   b. John$_i$ shaved him$_{*i/j}$.

However, unlike *himself*, and other reflexives that (mostly) obey "Condition A" (Chomsky 1981), these reflexives may take an antecedent outside of their immediate governing category.

I will distinguish between two different types of long-distance use of reflexives. Some of the reflexives I consider, particularly Icelandic *sig*, have what I'll call "medium-distance" (MD) readings in which they allow binding from outside on an infinitive clause, such as a control or ECM clause.

3. a. Pétur$_i$ bað Jens$_j$ um [PRO$_j$ að raka sig$_{i/j}$]

Peter$_i$ asked Jens$_j$ to shave sig$_{i/j}$

b. Anna$_i$ telur þig hafa svikið sig$_i$

Anna believes you (Acc) have (Inf) betrayed self [Thráinsson 1991: 51]

Other reflexives (including *sig*, but also Chinese *ziji*, Japanese *zibun*, and Kannada *tannu*) have uses in which they may take an antecedent from outside of one or more finite clauses.

4. Lisi$_i$ shuo [Zhangsan chang piping ziji$_i$] (Mandarin)

Lisi say Zhangsan often criticize self

'Lisi$_i$ says that Zhangsan often criticizes him$_i$."

[Huang and Liu 2001: 156. ex. 35a]

5. Taroo-ga Ziroo$_i$-ni [$_S$ Hanako-ga zibun$_i$-o nikunde-iru to] itta (Japanese)

Taro-Nom Ziro-Dat Hanako-Nom self-Acc hate Comp said

'Taro said to Ziro$_i$ that: 'Hanako hates me$_i$.''

[Aikawa 1999:171, from Kuno 1973]

6. raama$_i$ [taanu$_{i,*j}$ tumba jaaNa anta] heeLuttaane (Kannada)

Rama self very clever COMP says

'Rama$_i$ says that self$_{i,*j}$ is very clever.' [Amritavalli 2000 ex. 9]

Even though some of the same reflexives may be used with either medium-distance or long-distance antecedents, I will argue that the properties of these uses are different. I will argue that local and medium-distance binding of a reflexive such as *sig* are established in the same way: the antecedent starts out as a sister to the reflexive and moves to its surface position. In contrast, I will argue that long-distance uses of reflexives including *sig* are mediated by a left-periphery position associated with point-of-view. However, my accounts of long-distance and medium distance reflexives will not be entirely disjoint.

Some of the reflexives I examine, including Icelandic *sig*, have been described in the literature as "simplex expression" (SE) reflexives (Reinhart and Reuland 1991). I will sometimes use this terminology as well. As Reinhart and Reuland note, these SE reflexives are often morphologically simpler than other reflexive pronouns in the same language. Many times, these SE reflexives can be used along with another morpheme, analogous to English "self", as in Icelandic *sjálfan sig* (self SE). In this respect, they

resemble ordinary pronouns, which may also be used along with *self* (English *himself*, Icelandic *hann sjálfan*—literally him+self).

For some linguists, the morphologically simple nature of these reflexives is important to explaining their movement properties. For example, Pica (1985, 1987), writes that reflexives such as *sig* may take antecedents outside their immediate clause because they undergo head movement that brings them near to their antecedents: this head movement requires that they be heads, which *sig* is but *sjálfan sig* is not. Reuland (2001a,b), meanwhile, argues that SE reflexives are noteworthy for having fewer syntactic features than ordinary pronouns in the same language. For instance, Icelandic *sig* is mandatorily third-person, but does not have number or gender. Reuland's account relies the fact that *sig* lacks inflection for number to explain how it differs in use from other Icelandic pronouns, such as *hann* 'him' (3msg). For me, although I will use the term SE reflexive to refer to this class of reflexives, I want to note that my analysis of them differs from Reinhart and Reuland's. In particular, I remain agnostic on how important the morphological simplicity of these pronouns is to their ability to be used long-distance. Furthermore, at least one of the reflexives that I want to account for, (Kannada *tannu*, has a plural form, *taavu*, so my analysis cannot rely on underspecification for number features (Amritavalli 2000).

Additionally, in classifying reflexives that have long-distance uses, many linguists have noted subcategorizational and semantic constraints on the *local* uses of the same words. For example, some reflexives with LD uses can only be coargument-bound when the predicate in question is particularly well-suited to reflexive meanings. In Kannada, for instance, verbs may be made lexically reflexive by the addition of an extra morpheme.

The reflexive *tannu*, which also has LD readings, can be bound locally if used with a reflexive-marked verb, but not with its non-reflexive-marked counterpart. In contrast, the morphologically complex form of *tannu*, which does not allow LD readings, may be used locally without the reflexive morpheme on the verb.

7. a. *Hari tann-annu nooD-id-a

Hari self-ACC see-PST-3SM

Hari saw himself.

b. Hari tann-annu nooDi-du-koND-a

Hari self-ACC see-PP-REFL.PST-3SM

Hari saw himself.

c. Hari tann-annu-taane nooD-id-a

Hari self-ACC-self see-PST-3SM

Hari saw himself. [Lidz 2001 ex. 18]

Lidz analyzes the restrictions on these uses of *tannu* as going along with semantic differences between *tannu* and the complex form of *tannu*. There are interesting interpretive differences between (7b) and (7c). Notably, (7c) allows 'near-reflexive' readings in which the object and subject of 'see' are not quite the same person: for instance, (7c) could mean that Hari saw literally saw himself (as in a reflection), or more loosely that Hari saw a representation of himself, such as a statue of himself. In contrast, (7b) requires a "true-reflexive" interpretation: it works if Hari saw his own reflection, but not if he saw a statue. Similar verb restrictions and interpretive differences have been found for the simplex vs. complex forms of reflexives in other languages, such as for

instance Dutch *zich* compared to Dutch *zichzelf* (see for instance Reinhart and Reuland 1993).

Although it is true that a variety of simplex LD reflexives show near-reflexivity, I will not be using it as one of the diagnostics connecting all of the reflexives I am considering. As Lidz notes, not all LD reflexives require true-reflexive interpretations. Chinese *ziji*, for example, allows both local and LD readings—but in its local readings it may be used with any verb and it allows for near-reflexive interpretations.

8. Mao Tse Tung ba ziji qiangbi le
   Mao Tse Tung BA self shoot ASP
   'Mao Tse Tung shot himself (=statue or Mao) [Lidz 2001 ex. 24]

Because I am pursuing a unified account of how reflexives like *tannu* and *ziji* come by their long-distance interpretations, I will not be directly linking true-reflexivity and LD binding.

For the purposes of this dissertation, then, I will assume that when a relation is established between a reflexive and its antecedent, that the relation may not be one of complete identity. However, I will further assume that in languages where the complex reflexive allows near-reflexive interpretations whereas the simplex reflexive does not, that this is because the meaning of the SE reflexive (established in a sisterhood relation with the antecedent) can itself be further modified by another morpheme such as *–self*.

I should now address one last point of terminology. When reflexives such as those in (4**)** are bound from outside a finite clause, it has been noted that their antecedents

tend to be associated with point-of-view holders such as, for example, an understood speaker. In this respect, the LD reflexives I am looking at resemble a class of pronouns known as logophors, used in many African languages. I will be looking at one such logophor, *n*-pronouns in Abe, which (on some uses) have to refer to the embedded speaker.

9. a. yapi$_i$ hE kO O$_j$/n$_{i,(j)}$ ye sE (Abe)

Yapi said *kO* he is handsome

b. yapi$_i$ hE kO f wu O$_j$/n$_{i,(j)}$

Yapi said *kO* you saw him

c. yapi$_i$ hE kO f bO wu ye O$_j$/n$_{i,(j)}$ ye sE

Yapi said *kO* you take see *ye* he is handsome

[Koopman and Sportiche 1989 ex. 64]

Logophors such as Abe n-pronouns have often been compared to the long-distance uses of reflexives such as *sig*, *ziji*, and *zibun*, which have similar discourse restrictions. In fact, I will sometimes use the term "logophoric" to refer to LD uses of reflexives when the antecedent's speech or thoughts are being represented (following Oshima 2004, 2006, 2007). However, a difference between African logophors and long-distance reflexives is that the logophors do not also act as local reflexives.

In my eventual analysis of LD reflexives, I will say that they are related to their antecedents via an intermediary in an A' position. I will also present arguments that logophors also have A' dependencies (providing evidence from Koopman and Sportiche

1989 for Abe). However, I propose that the two types of pronoun are not related to their antecedents in the same way. LD reflexives are related to an A' binder that begins its derivational life as the reflexive's sister, whereas for logophors I propose that the A' binder is base-generated in the higher position.

1.2 My analysis: an overview

In the first part of this thesis, I describe the basic properties of SE reflexives, focusing on Icelandic *sig*, and argue that SE reflexives are related to their antecedents by movement. This is in the tradition of a large body of syntactic theory that seeks to link the properties of movement to the properties of binding, either by treating movement as creating traces subject to binding theory (Chomsky 1981), or by treating binding as actually a type of movement. It is this second account that I will be pursuing. Specifically, I argue that the antecedents of SE reflexives enter the derivation as sisters to the reflexive, and then move to receive theta-role and case. In this respect, my account resembles Hornstein's 2000 and Zwart's 2002 accounts of local reflexives—or Kayne's 2002 account of pronoun binding generally. I, however, apply this style of movement account to a different type of pronoun: SE reflexives.

SE reflexives have a number of properties that, I propose, are easily explained by a movement account. They are subject-oriented, which I attribute to Merge-over-Move, combined with a numeration divided into phases. Furthermore, SE reflexives may be bound from outside their immediate clause (if their immediate clause is nonfinite). This I attribute to the spell-out properties of clauses: if finite clauses but not infinitives are spell-out domains, then movement out of an infinitive clause may take place where movement out of a finite clause would be ruled out. Additionally, I contrast the properties of SE

reflexive binding with those of control (as I am assuming a Movement Theory of Control in the style of Hornstein 1999). Crucially, I argue, movement of an NP that has not yet received a theta-role is not subject to A-minimality, accounting for the difference between control (movement of the controller from one theta-position to another) and SE reflexives (movement of the antecedent into its *first* theta position).

In the second part of this thesis, I look at "long-distance" (LD) reflexives, including long-distance uses of Icelandic *sig*, but also Japanese *zibun*, Chinese *ziji*, and Kannada *tannu*. These LD uses of reflexives differ from their more local uses in ways that make me conclude that they do not involve antecedent movement directly. LD reflexives may take an antecedent from outside of their clause or even from outside of the sentence. Furthermore, there are discourse-pragmatic restrictions on "LD" uses of reflexives—broadly, they must refer to some understood point-of-view holder. I argue that the relation between LD and local uses of the same reflexive, such as *sig*, is not entirely accidental—but that LD reflexives are not related directly to their antecedents by sisterhood and movement. Instead, LD reflexives take as a sister some kind of null element which moves to an A' position associated with point-of-view (that is, I assume a divided left-periphery along the lines of Speas 2004, but assume additionally that the null sister of a reflexive may move into this left periphery). In turn, this null element is related to the reflexive's "antecedent" by the same process as whatever underlies Non-obligatory control (in this, I follow Nishigauchi 2005, 2010).

Thus, in my theory it is not accidental that long distance reflexives often take the same form as more local SE reflexives: both are pronouns that enter the derivation merged with a sister from which they get their reference. However, it is also not

accidental that their properties differ. Local and MD uses of such reflexives involve direct movement of the antecedent to its theta position, whereas LD reflexives are related to their antecedents via an intermediary associated with point-of-view.

Chapter 2: SE reflexives and movement

2.1 Movement and Binding

There are many similarities between syntactic movement and binding of pronouns. In particular, both movement and binding require c-command, and both movement and binding are subject to various locality restrictions.

Consequently, many accounts of movement and binding have sought to link the properties of both to a single cause. Some accounts have proposed that traces of movement are subject to binding constraints. For example, in early versions of Government and Binding Theory, traces of A-movement are subject to Binding Condition A,[1] just like local reflexives such as English "himself" (Chomsky 1981). The locality requirement on A-movement is exactly the locality requirement on reflexives. A-movement is locally bounded precisely because A-traces have binding domains. Locality constraints on movement are a subtype of locality constraints on binding.

An alternative approach to treating movement as binding is to treat binding as movement. There are two major classes of account in which binding may be treated as a type of movement. First, it could be that a bound element (particularly a locally bound element, such as a reflexive of some sort) must move to a position near its antecedent.

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[1] Here is the version of Condition A given in Chomsky 1981.

i. An anaphor is bound in its governing category. (Section 3.2.3, ex. 12A)

ii. Governing category: β is a governing category for α if and only if β is the minimal category containing α, a governor of α, and a SUBJECT accessible to α.

iii. Definition of accessible:

a. $*[_{\gamma} \ldots \delta \ldots]$, where γ and δ bear the same index. (Section 3.2.3, ex. 73)

b. α is accessible to β iff β is in the c-command domain of α and assignment to β of the index of α would not violate [(a)]. (Section 3.2.3, ex. 74)

Lebeaux (1983) and Chomsky (1986) have accounts in which a reflexive such as English "himself" must move (covertly) near to its antecedent so that the antecedent may check a feature of the reflexive, as schematized in (10).

10. John_i likes himself_i
[+F] [~~F~~]

Because the reflexive has an unchecked feature, it must move near a DP antecedent. This movement happens covertly, but since the movement is locally bounded, then even the surface position of the reflexive cannot be too much lower than that of its antecedent.

There is also another type of movement account. Instead of the bound element moving near to its antecedent, it is possible that the antecedent starts near the bound element and moves away from it. Various accounts of this sort have been proposed for different types of bound element. For instance, Hornstein (2001) and Zwart (2002) both have accounts in which the antecedent of a local reflexive moves from the position of the reflexive into its own theta position. Kayne 2002 has proposed something similar, but for bound pronouns. (I discuss Kayne's and Zwart's accounts further in section 2.4.) My proposal is of a similar nature to these accounts, but I apply it to a different type of bound element: SE reflexives.

2.2 SE reflexives

In this thesis, I propose a movement analysis of SE reflexives, exemplified by Icelandic *sig* or Dutch *zich* (I take the term "SE reflexive" from Reinhart and Reuland

1991, 1993). These types of reflexive are monomorphemic, lacking a cognate of the *self* morpheme on English *himself*, although they may also appear as a subcomponent of complex reflexives such as Icelandic *sjálfan sig*, Dutch *zichzelf*. They also lack various phi-features that are visible on other pronouns in the language: for instance, *sig* and *zich* are third person, but unspecified for number and gender. Moreover, they do not need to be bound as locally as, for instance, English *himself,* but they must take an antecedent within the first finite clause.

Several accounts (including Pica (1985, 1987)**,** Reinhart and Reuland (1991, 1993) and Reuland (2001a,b)) have proposed that SE reflexives are related to their antecedents by movement of the reflexive to a position near to the antecedent. I propose the reverse: the antecedent starts out as a sister to the reflexive, and then moves away.

For the most part, SE reflexives must be bound within the finite clause. I attempt to assimilate such uses of SE reflexives to A-movement, though some differences arise (see section 2.5). My claim is that an SE reflexive is actually a separate DP, which, like all other argument DPs, requires a theta-role and a case of its own. However, what makes the SE reflexive special, I propose, is that it additionally requires a merged DP (at least in its local and MD uses). This merged DP, the antecedent, receives neither a theta-role nor a case in its base position. However, by stipulation, the SE reflexive becomes related to its sister in some way that causes their references to co-vary.[2]

[2] As I discussed in the introduction, the relationship between a reflexive and its antecedent can be more nuanced than one of complete identity, particularly with the addition of another morpheme such as Icelandic *sjálfan*. I assume that in such instances, the SE reflexive (ie, *sig*) and its antecedent still have some kind of identity or near-identity relationship, but that the other morpheme (ie, *sjálfan*) modifies the meaning of the entire DP (*sjálfan sig*).

For example, consider the reading of (11) in which *Pétur* is the antecedent of the SE reflexive.[3]

11. Pétur$_i$ bað Jens$_j$ um [PRO$_j$ að raka sig$_{i/j}$] [Icelandic]
Peter$_i$ asked Jens$_j$ to shave sig$_{i/j}$ (Thráinsson 1991: 51)

I assume that *Pétur* and *sig* start off as a single unit.

12. [$_{DP}$ [$_{DP}$Pétur] sig]

I propose that in this configuration, *Pétur* and *sig* are covalued. However, *Pétur* does not receive a theta-role or case along with *sig*, since both head separate DPs. Instead, *Pétur* moves into its theta position, becoming the object of 'ask'. Constraints on this movement are the real source of apparent binding constraints applying to SE reflexives. The rest of this chapter fleshes out a movement account of SE reflexives in their locally bounded uses, focusing on Icelandic *sig*.

However, many SE reflexives, including *sig*, can also be used in a way that is not obviously locally bounded. For instance, Icelandic *sig*, in addition to locally-bounded uses (within the first finite clause), may also take an antecedent from outside of a subjunctive clause. I propose that in this case, as well as for similar uses of reflexives in other languages, the reflexive is related to its antecedent via an intermediary in an A' position, rather than through A-movement of the antecedent to a theta position. I will

[3] This infinitival clause is introduced by a preposition—a phenomenon that is much more common in Icelandic than in English. See Thráinsson 2007 for further examples.

give an account of long-distance uses of *sig* and other reflexives in chapter 3. Meanwhile, however, I will briefly describe the difference between these two uses of *sig*, so as to be clear about what kinds of binding I treat as local.

2.3 Icelandic sig

In describing the properties of reflexives, I will be using Icelandic *sig* as my point of departure. *Sig* is an example of what Reinhart and Reuland (1991, 1993) call an SE ('simplex expression') reflexive. Like other SE reflexives, *sig* can be bound from outside of an infinitive clause, and also has to be bound by a subject. However, *sig* is an interesting example of an SE reflexive in that it can be used in a second kind of non-local binding. That is, *sig* also has "logophoric" uses in which it may take an antecedent from outside of a finite (usually subjunctive) clause, or even from outside the entire sentence. These two uses of *sig* have different properties, as I discuss below.

I will call a reflexive "medium distance" (MD) if it can take an antecedent from outside of an infinitival clause. Icelandic *sig* (dative *sér*, genitive *sín*) is an example. *Sig*, which is third-person but not marked for gender or number, can be bound from outside of infinitival clauses. including object-control infinitivals (13a) and ECM infinitivals (13b).

13. a. Pétur$_i$ bað Jens$_j$ um [PRO$_j$ að raka sig$_{i/j}$]

Peter$_i$ asked Jens$_j$ to shave sig$_{i/j}$

b. Anna$_i$ telur þig hafa svikið sig$_i$

Anna believes you (Acc) have (Inf) betrayed self (Thráinsson 1991: 51)

Thus, *sig* may be considered long-distance in that it can take an antecedent from farther away than local reflexives like English *himself* or *herself*.

14. a. Peter$_i$ asked John$_j$ to shave himself$_{*i/j}$.

b. *Anna believes you to have betrayed herself.

However, *sig* may not be bound from outside a finite indicative clause.[4]

15. Jón$_i$ veit [að María elskar *sig$_i$/hann$_i$]

John knows (ind) that Mary loves (ind) *SELF/him

'John$_i$ knows that Mary loves him$_i$.'

(Sigurðsson 1990 ex. 4, from Thráinsson 1976, 1979, 1990)

I propose that when *sig* is bound within the first finite clause, that it is related to its antecedent by A-movement. However, following Sigurðsson 1990 and Thráinsson 1976, 1979, 1990, I assume that when *sig*'s antecedent is outside a finite clause, *sig* is used logophorically. For my account of logophors see chapter 3. Logophoric uses of *sig* often, but not always, occur in subjunctive clauses.

[4] Some of the sentences I quote used boldface, rather than indexing, to indicate intended coreference. For consistency, I have changed all sentences to use indices to indicate coreference. By this, I do not mean to make any claim that indices are present in the grammar.

2.3.1 Properties of local and MD *sig*

When *sig* is in an embedded infinitival clause, it may be bound either by the local subject, or by the subject of the finite clause. For instance, (16) is ambiguous: either *hann* ('he') or *Haraldi* ('Harold') may be the antecedent of *sig*.

16. Hann$_i$ skipaði Haraldi$_j$ að raka sig$_{i/j}$ [Icelandic]
    He$_i$ ordered Harold$_j$ to shave sig$_{i/j}$ (Maling 1986 ex. 15)

Whenever it is bound within the first finite clause, *sig* is in complementary distribution with pronouns. For example, in (17), *sig* can corefer with the matrix subject, 'Harold.' The pronoun *hann* cannot.[5]

17. Haraldur$_j$ skipaði mér$_i$ [PRO$_i$ að raka sig$_j$/*hann$_j$].
    Harold ordered me to shave sig$_j$/*him$_j$. [Maling 1986 ex. 14a]

Additionally, when *sig* is bound locally or from outside an infinitival, it is "subject-oriented": its antecedent must be a subject. When a pronoun corefers with a non-

[5] I must note that Icelandic is relatively unusual in having this kind of complementarity. Other languages, even closely related ones, allow the reflexive to be in free variation with pronouns when it is bound from outside an infinitival. For example, the Danish reflexive *sig* may be bound from outside an infinitival (i), but so can a pronominal like *hende* 'her' (ii).

(i) Peter$_i$ bad Jens$_j$ om [PRO$_j$ at barbere sig$_{i/j}$]
    Peter asked Jens to shave sig (Thráinsson 1991 ex. 4b)

(ii) Susan$_i$ bad mig$_j$ om [PRO$_j$ at ringe til hende$_i$]
    Susan asked me to call her (Thráinsson 1991 ex. 12b)

subject, then a non-reflexive pronoun should be used, rather than *sig*. This is true whether it is the local object (18a), or a long-distance object (18b).

18. a. Við töluðum við Jón$_i$ um vandamál hans$_i$/*sín$_i$.

We talked to John about problems his/*refl

'We talked to John about his problems.' [Maling 1986 ex. 6b]

b. Ég$_j$ lofaði Haraldi$_i$ [PRO$_j$ að raka hann$_i$/*sig$_i$].

I promised Harold to shave him/*refl [Maling 1986 ex. 11a]

By saying that *sig* is "subject-oriented," I do not mean that *sig*'s antecedent must be in Spec, IP or have nominative Case. First, *sig* may take an antecedent subject that has quirky Case, dative rather than nominative.

19. Henni$_i$ þykir hárið á sér$_i$ ljótt

her(dat) thinks hair on sig(dat) ugly

'She finds her hair ugly' (Kjartan Ottósson, p.c.)

Additionally, there are certain types of object which *sig* may take as an antecedent, though notably in such cases, the pronoun could also be used. For example, in (20), *sig* may be bound by the object of 'show,' although a pronoun could have been used in its place. This contrasts with the subject, *Jón*, which may bind *sig* but not a pronoun.

20. Jón$_i$ syndi Haraldi$_j$ föt á sig$_i$/sig$_j$/*hann$_i$/hann$_j$

John showed Harold clothes for sig$_i$/sig$_j$/ *him$_i$/him$_j$

'John$_i$ showed Harold$_j$ clothes for himself$_i$/himself$_j$/ him$_i$/ him$_j$.'

(Thráinsson 1991 ex. 10b)

Given sentences like (20), it is apparent that *sig* need not always be bound by the subject of a full clause. I discuss such examples further in section 2.6.3.

2.3.2 *Sig* as a sub-part of a complex reflexive

Not only does Icelandic have *sig* as a free morpheme, but *sig* may also be used as part of the complex reflexive *sjálfan sig* (where *sjálfan* is a cognate of English *self*). Like *sig*, *sjálfan sig* is subject-oriented. In (21a-b), *sjálfan sig* is bound by the local subject. In fact, with many predicates, *sjálfan sig* is the preferred form when binding is local. However, *sig* is still fully or marginally acceptable with local binding.

21. a. Jón lamdi ?sig/sjálfan sig

John hit ?sig/ self sig

'John hit himself.'

b. Jón hatar sig/ sjálfan sig

John hates sig/self sig

'John hates himself.' (Kjartan Ottósson, p.c.)

However, in (22), neither *sig* nor *sjálfan sig* may be bound by the object, *Jón*, so the form *hann sjálfan* has to be used instead.

22. Ég talaði við Jón$_i$ um [hann sjálfan]$_i$/*[sjálfan sig]$_i$/*sig$_i$/*hann$_i$

I talked with John about him self / * self sig /*sig/ *him

(Kjartan Ottósson, p.c.)

Sig is subject-oriented whether or not it is used with *sjálfan.*

Unlike *sig*, *sjálfan sig* generally has to be locally bound. In (23), if the reflexive's antecedent is the subject of the embedded clause (controlled by *Ara*), then the reflexive may be either *sig* or *sjálfan sig* (although *sjálfan sig* is preferred). If the matrix subject, *Jon*, is the antecedent, then only *sig* is possible.

23. Jon$_i$ bað Ara$_j$ að horfa á sig$_{i/j}$/sjálfan sig$_{i/*j}$

Jon$_i$ asked Ari$_j$ to watch sig$_{i/j}$/sjálfan sig$_{i/*j}$ (Kjartan Ottósson, p.c.)

The use of *sjálfan* must usually, though not always, go along with local binding.[6]

In many languages, the "self" form is required for most locally bound reflexives. The only exceptions are predicates that may be seen as "inherently reflexive," such as "be ashamed," or (on one of its readings) "wash." Dutch is such a language: the form with a "self" morpheme, *zichzelf*, is used with non-inherently-reflexive predicates such as

[6] Strangely, if John is the antecedent in (23), the term *hann sjálfan* may also be used (Kjartan Ottósson, p.c.). It does indicate that the use of *sjálfan* is not limited to local binding, though it also indicates that even Icelandic *sig* and *hann* are not in completely complementary distribution. I have no explanation for this.

"hates," but not with inherently reflexive predicates such as "be ashamed." With ambiguous predicates such as "wash," either form may be used.

24. a. Max$_i$ haat zichzelf$_i$/*zich$_i$ (Dutch)

Max hates SELF/*SE

'Max hates himself.'

b. Max$_i$ schaamt zich$_i$/*zichzelf$_i$

Max shames SE/*SELF

'Max is ashamed.'

c. Max$_i$ wast zich$_i$/zichzelf$_i$

Max washes SE/SELF

'Max washes himself.' (Reinhart and Reuland 1993 ex. 17)

In Icelandic, however, it is fairly easy for *sig* to be bound locally even without the *sjálfan*: in (21a-b), *sig* may be used even with the non-reflexive predicates 'hit' (marginally) and 'hate' (where it is fully acceptable).

At any rate, in some languages, with some predicates, locally-bound *sig* or its cognates must occur along with a "self"-like morpheme such as *sjálfan* (Icelandic) or *zelf* (Dutch).[7] However, regardless of the presence or absence of this morpheme, *sig* and its

[7] There is additionally some evidence that 'self' and cognates may be used with long-distance antecedents. Geurts (2004) notes that Dutch *zichzelf* may be used contrastively with a long-distance antecedent. For example, the matrix subject *zij* may be the antecedent of *zichzelf* in the embedded clause.

colleagues are subject-oriented, and are in complementary distribution with pronominals when bound locally. While there is much to say about *sjálfan*, *zelf*, and related forms (see for instance Reinhart and Reuland 1991, Reuland 2001b), I will assume that *sig* and its antecedent are related by A-movement regardless of whether or not *sig* is used with *sjálfan*. I make the simplifying (though maybe incorrect) assumption that *sig* establishes a relation with its antecedent in the same way whether or not *sjálfan* is present. To the extent that *sjálfan sig* and *sig* are interpretively different, I assume that this is because *sjálfan* modifies the meaning of the overall NP *sjálfan sig*, not that *sig* and the antecedent are related in a fundamentally different way.

2.3.3 Logophoric uses of *sig*

When *sig* occurs inside a finite subjunctive clause, it may corefer with a DP that is outside that clause. In (25), for instance, *Jón* and *sig* may co-refer.

(i) Zij$_1$ wilde hem$_2$ niet voor zich$_{1/*2}$/ zichzelf$_{1,2}$ laten werken.
(Dutch)
She$_1$ wanted him$_2$ not for REFL let work.
'She didn't want to let him work for her/himself.'

Geurts proposes that the more surprising a given coindexation is, the more likely it is for *zichzelf* rather than *zich* to be used.
Bergeton (2004) makes similar observations for Danish. In (ii), it is generally unacceptable to index *Peter* with *ham selv* 'him self.'

(ii) Peter$_i$ vil giftes med en kvinde som er stolt af ham$_i$/*ham$_i$ selv
(Danish)
Peter wants to marry (passive) with a woman who is proud of him/*himself.

However, such uses become acceptable when *ham selv* is used contrastively (ie, to mean that *Jon* wants to marry a woman who is proud of *himself*, not of his father.

I will assume, then, that morphemes like *zelf* and *selv* do not always require local binding at all. They may sometimes be used (with pronouns or with SE reflexives) when bound from outside a clause.

25. **Jón** segir [að María elski **sig/hann**]

John says (ind) that Mary loves (subj) self/him

'John$_i$ says that Mary loves him$_i$.'

(Sigurðsson 1990 ex. 4, from Thráinsson 1976, 1979, 1990)

However, Thráinsson (1976, 1979, 1990) and Sigurðsson (1990) have argued that such uses of *sig* are logophoric. That is, *sig* does not need to have a locally-bounded syntactic relation with its antecedent; instead, *sig* corefers with a DP which is prominent in the discourse. Logophoric *sig* does not require a c-commanding antecedent at all (although it may have one, as in (25)). However, there are discourse restrictions on when it may be used.

There are several reasons for thinking that when *sig* takes an antecedent outside of a finite clause, this is due to a different grammatical process than when *sig* takes a local or MD antecedent. First, the pronoun *hann* 'him' may be used in place of *sig* in (25)—unlike when *sig* is bound from outside an embedded infinitival, where only *sig* and not *hann* may be used. In this respect, when *sig* takes an antecedent from outside a finite clause, it resembles a pronoun more than a syntactic reflexive.

Additionally, *sig* may occasionally be used without any antecedent in the sentence. For example, in indirect literary discourse, which uses the subjunctive mood, *sig* may get its reference from a DP in an earlier sentence.

26. *Formaðurinn varð óskaplega reiður. Tillagan væri svívirðileg og*
the chairman became furiously angry. the proposal was(subj) outrageous and
*væri henni beint gegn **sér** persónulega. **Sér** væri*
was(subj) it aimed against **sig(dative)** personally. **Sig(dative)** was(subj)
sama…
indifferent… (Sigurðsson 1990 ex. 22)

The two uses of *sér* in (26) refer to the chairman, but neither has a syntactic antecedent within its sentence. This suggests that when *sig* is inside a subjunctive clause, it need not form any kind of syntactic relation with its (overt) antecedent, on the assumption that syntactic relations are bounded by sentences.[8]

As noted, most logophoric uses of *sig* are in subjunctive clauses. However, logophoric uses of *sig* are only indirectly dependent on subjunctive mood. What is crucial is that logophoric *sig* must refer to someone whose point-of-view is represented, roughly. As long as this condition is met, *sig* can take an antecedent outside of even an indicative finite clause. Sigurðsson (1990: 313) notes that in Old Icelandic, verbs of saying would take indicative complements, not subjunctives. Nevertheless, long-distance uses of reflexives could occur within these embedded indicative clauses. The same is true of Faroese, a modern relative of Icelandic that has no subjunctive mood. Finally,

[8] In chapter 2, I argue that logophoric uses of reflexives such as *sig* are not syntactically free-- they have syntactic relationships with null A' elements of some sort. This is similar to Nishigauchi's (2005, 2010) account of Japanese *zibun* and to Kayne's 2002 account of pronouns with cross-sentential reference.

there are some speakers of Modern Icelandic who do allow LD reflexives in indicative finite clauses, as in (27).[9]

27. María veit að Jón fyrirlítur sig/hana. [Icelandic]

Mary knows that John despises (ind) SELF/her. (Sigurðsson 1990:333, ex. 68a.)

Even though these speakers allow the use of LD *sig* with the indicative, they have semantic restrictions on its use. When (27) is used with reflexive *sig*, they prefer to interpret the verb *veit* 'know' in the sense of "be certain of"—thus the complement clause is describing Mary's thoughts, but not necessarily the external speaker's (for instance, it is possible for a speaker to believe that Mary is certain of something but that Mary is mistaken). In contrast, when a pronoun is used, the preferred reading of *veit* is the factive "be aware of," indicating that the speaker thinks the embedded proposition is true. When *sig* takes an antecedent outside of a finite clause, it must refer to a perspective holder: this, rather than subjunctive mood, is what is necessary for its use (Sigurðsson 1990).

I should note that there is nothing wrong with a 'logophoric' reflexive being interpreted as a bound variable, when it has an antecedent that c-commands it. For example, the elided part of (28) permits a 'sloppy' reading in which *sig* acts like a bound variable, as well as a 'strict' reading in which *sig* always refers to Peter.

[9] Thráinsson 2007 notes that he has had trouble finding such speakers but that it hasn't been widely investigated.

28. Jón sagði að þú hefðir svikið hann/sig] og Pétur gerði það líka

John said that you had betrayed him/refl and Peter did so too

(= ‘Peter$_j$ said that you had betrayed him$_j$’, or ‘Peter said that you had betrayed John’) (Thráinsson 1991 ex. 31b-c)

In this respect, logophoric *sig* acts just like a non-reflexive pronoun, which also allows a strict or sloppy reading here. In fact, interestingly enough, even when *sig* is bound from outside an infinitive, it allows strict as well as sloppy readings.

29. Jón$_i$ skipaði prófessornum$_j$ [að PRO$_j$ fella$_{inf}$ sig$_i$ á prófinu] og Ari gerði það líka

John ordered the professor to fail SIG on the test and Ari did so too

a. =Ari ordered the professor to fail Ari on the test.

b. =Ari ordered the professor to fail John on the test.

(Reuland 2001a fn. 8 ex. (ii))

Thus, allowing but not requiring strict readings is not enough to distinguish logophoric *sig* from MD *sig*.[10]

[10] Locally bound *sig* apparently does require sloppy readings, however. Reuland (2001a) speculates that this may be due to properties of the predicate rather than of *sig*.

(i) Jón rakaði sig$_i$ og Pétur$_j$ gerði það líka
John shaved SIG and Peter did so too (≠Peter shaved John)
(Reuland 2001a fn. 8 (i))

If locally bound *sig* requires the inherently reflexive form of ‘shave’ (analogous to English ‘shave’ with no overt object), then sloppy readings would follow just as they do in English (‘John shaved and Peter did too’ cannot mean Peter shaved John).

Nonetheless, in what follows, I assume that when *sig* takes an antecedent from outside of a finite clause, subjunctive or otherwise, it is being used logophorically. I propose that MD or local *sig* are related to their antecedent by sisterhood followed by A-movement, whereas logophoric *sig* is not the sister of its antecedent (though I posit that even logophoric *sig* has a sister, which undergoes A' movement; see chapter 3). The differing properties of local/MD and logophoric *sig* follow from differing constraints on A and A' movement, coupled with differing conditions in which A' movement is even motivated.

2.4 Doubling and antecedent movement

I propose that an SE reflexive starts out in a sisterhood (or a head-specifier) relation with its antecedent.

30. $[_{DP}\ [_{DP}\text{John}]\ \text{sig}]$

I propose that sig and words of its type are special in that they require an antecedent to covalue them, and that they have this covaluation take place in a configuration of sisterhood. I am agnostic, however, about how exactly the covaluation takes place—except to note that not only does *sig*'s sister covalue *sig* in this configuration, but it does not have to get a theta-role of its own, yet. Subsequently, the antecedent has to move in order to get a theta-role and case.

My account bears strong similarities to those of Kayne 2002 and Zwart 2002. Both of these accounts also involve proforms of some sort starting out in a double with

their antecedents, although each account proposes a different set of proforms for which doubling applies. For Kayne, all pronouns start out in a double, so that, for instance, the sentence in (31) has the derivation in (32).

31. John thinks he is smart. (Kayne 2002 ex. 2)

32. thinks [John he] is smart →

$John_i$ thinks [t_i he] is smart (Kayne 2002 ex. 6)

For Zwart, only local anaphors do (such as English *himself*, Dutch *zichzelf*).

33. loves <John himself>

34. John loves <<John> himself> (Zwart 2002 p.271)

I actually differ from both of these accounts in assuming that SE reflexives such as Icelandic *sig*, Dutch *zich*, are the only proforms with doubles – though they may have doubles whether or not they occur with an associated *self*-like element, as in *sjálfan sig* or *zichzelf*. All three doubling accounts share several desirable properties.

First, as Zwart notes, if an anaphor and antecedent begin their derivational life together, then it means that coreference between an anaphor and its antecedent (or in Kayne's account, between *any* pronoun and its antecedent) is established in an extremely local relation, sisterhood. This ties NP coreference together with other aspects of grammar that are also thought to be extremely locally bounded. Theta-role assignment is also argued to take place under sisterhood: an internal argument gets its theta role directly

from the verb, while an external argument gets its theta-role from a larger constituent containing both the verb and the internal argument. Likewise, if feature checking (such as case checking) takes place in a specifier-head configuration, then this is akin to sisterhood.[11] Although the specifier is not literally the sister of the head, it is the sister of a projection of the head. For instance, nominative case is checked by Tº on a DP in Spec, TP: but that means that DP's sister is a projection of Tº, so DP and Tº are in something like a sisterhood relation. Proforms are associated with their antecedents, then, in much the same way that other grammatical relations come about.[12]

Additionally, starting a proform with its antecedent means that various binding conditions can be assimilated to constraints on movement. Since the antecedent and the proform start out as a unit, the antecedent must move to its ultimate landing site. This means that where movement is impossible, binding should be impossible as well.

For instance, in Zwart's system, the c-command requirement of Condition A follows directly from the Extension Condition.

35. *John's mother loves himself (Zwart ex. 31b)

36. [('s) mother] [loves [<John> himself]]

[11] Of course, this only works *if* feature checking requires a specifier-head relationship. If features may be valued by long-distance Agree, without overt or covert movement into a specifier-head configuration, this would not be the case.

[12] This is also true for reflexive movement approaches such as Hornstein (2000), in which there is antecedent movement but no doubling.

If a moving element can only merge with the root of the tree containing it, then (35) would be ungrammatical because there will be no way to merge *John* in the correct place in (36).

The Extension Condition does not entirely guarantee that a moved element will c-command the position it moved from, because sometimes an element can employ some form of Sideward Movement (Nunes 2001). This must be ruled out for the movement here, or else possessor antecedents would falsely be allowed. For instance, if *John* could be merged into a different tree than the one it is a part of, then it would be possible to copy *John*, merge it with *('s) mother*, and then merge *John's mother* back into the tree it started from. This would incorrectly allow *John* to be the antecedent of *himself* even though c-command does not hold. For Zwart's account (and mine) to work, sideward movement in sentences like (35) must not be permitted. I will borrow some potential explanations for this from the literature on the Movement Theory of Control.[13] Boeckx and Hornstein (2004) cite two potential reasons why sideward movement into a DP possessor position might not be possible in sentences such as (37).

37. *John's friends prefer [~~John~~ to behave himself]

One possibility is that the possessor DP (*John*) must act as a predicate rather than an argument, giving a theta-role to the possessed DP (*friends*) (as in Kayne 1994). If an NP cannot be both a predicate and an argument, this would prevent it from also being an

[13] For more on the Movement Theory of Control, see section 2.5.2.

argument of *behave*.[14] Another possibility is that possessors may be adjuncts (as in Tellier 1990, for some possessors, and also Safir 1999). If movement to an adjunct position is not allowed, then it follows that movement to a possessor position would not be allowed. I am agnostic as to which, if either, of these explanations is applicable—but crucially I assume that something must rule out sideward movement to a possessor position. Once this is done, the Extension Condition can account for the c-command requirement.

The locality requirements of binding can also be made to follow from locality requirements on movement (at least in Zwart's system). Since the antecedent is moving to a theta-position and then a case-position, it is undergoing a type of A-movement. Just as A-movement is rather locally bounded, so is reflexive binding, ruling out "long distance" instances of both.

38. *John believes that we expect himself to kiss Mary

39. * John seems (that) will kiss Mary [Zwart ex. 37a-b]

I elaborate on this below.

Notice that the anaphor and antecedent can also be related by movement without making reference to doubling. It would also follow from an account such as Lidz and Idsardi 1998, in which there is only one moving NP, and the reflexive is how the lower copy is spelled out.

[14] I will have to assume that the predicate-argument relationship between *John* and *friends*, if such a relationship exists, is different from whatever happens between *sig*'s antecedent and *sig* causing them to become covalued. Certainly I do not want to say the antecedent is a predicate since it also is an argument higher up.

40. John likes <John>

41. John likes himself.

In many respects, these types of account are simply notational variants of each other (though there are other differences unrelated to doubling). One key difference, however, is that in a non-doubling account (or in some doubling accounts, such as Hornstein 2000, where *John* is merged with *self*), the moving NP receives two theta-roles. That is, the antecedent NP is also the direct recipient of the theta-role of the reflexive. For Zwart's account, however, each NP receives only a single theta-role: the anaphor gets its theta-role as the object of 'likes' and the antecedent as the subject.

Like Hornstein, I will assume that it is possible for a single NP to receive multiple theta-roles in the course of a derivation; for instance, I adopt Hornstein's (1999) view of the movement theory of control (also see Lidz and Idsardi 1998) and assume that, indeed, it involves the movement of a single NP.

42. John tried <John> to sleep.

However, I will crucially adopt Zwart's view that the reflexive and its antecedent form a double.

43. A reflexive and its antecedent are merged as sisters. The antecedent needs to move to get its first theta-role.

This has the consequence that a reflexive's antecedent, unlike a control NP, does not receive any theta-role until after movement, a property I will use in future sections to derive differences between SE reflexives and control NPs.

One reason why Zwart limits his movement account to local reflexives, excluding bound pronouns, is that bound pronouns in many languages bear the same morphological form as deictic pronouns. This suggests that bound and deictic pronouns must be similar enough (and different enough from reflexives) that it would make sense for them to pattern together in many languages; consequently, it makes sense to think that all and only reflexives involve doubling. (In fact, for Zwart, the reflexive form of a pronoun is simply how a pronoun is spelled out when it starts its derivational life as the sister to another NP—so if bound pronouns had doubles, they would have had to take the form of reflexives too.)

Since I am trying to describe SE reflexives, then, I will need to account for the fact that many SE reflexives have the same form (cross-linguistically) as logophoric reflexives, which can be used with antecedents that are outside the local clause or altogether outside the sentence. For example, Icelandic *sig* has medium-distance uses, but may also take an antecedent from outside the finite clause (44), or even from outside the sentence (45), as long as certain pragmatic conditions are met.

44. **Jón** segir [að María elski **sig/hann**]

John says (ind) that Mary loves (subj) self/him

'John$_i$ says that Mary loves him$_i$.'

(Sigurðsson 1990 ex. 4, from Thráinsson 1976, 1979, 1990)

45. *Formaðurinn varð óskaplega reiður. Tillagan væri svívirðileg og*

the chairman became furiously angry. the proposal was(subj) outrageous and

*væri henni beint gegn **sér** persónulega. **Sér** væri*

was(subj) it aimed against **sig(dative)** personally. **Sig(dative)** was(subj)

sama…

indifferent… (Sigurðsson 1990 ex. 22)

(The properties of logophoric *sig* differ from those of reflexive *sig* in ways that I discussed in section 2.3.3 above, but the fact still remains that they have the same morphological form.) To explain this, I will still assume that all uses of *sig* start out with a double, even when *sig* is being used in a 'logophoric' way. However, I'll assume that logophoric *sig* has a double which does not require theta and case, but which instead moves to an A'-position of some kind, probably associated with point-of-view. This will end up resembling Nishigauchi's (2005, 2010) account of Japanese *zibun*. See chapter 3 for the details.

2.5 An overview of A-movement

There is a relatively local relationship between *sig* and its antecedent: except when used logophorically, *sig* must be bound within the first finite clause. I derive this locality from the proposal that *sig*'s antecedent moves away from *sig*. This movement appears to be A-movement, as it involves an NP moving into an A-position. Since A-movement is locally bounded, so is the movement of *sig*'s antecedent. In fact, though, I will argue that there are key differences between the movement of *sig*'s antecedent and other instances of A-movement. Before looking at the unique behavior of *sig*'s antecedent, I will discuss the more typical behavior of other A-moving NPs.

2.5.1 Minimality in A-movement to a case position

I begin with standard examples in which an NP receives one theta-role and one case, and moves from its theta to its case position. Such A-movement is found in unaccusatives, passives, and subject-to-subject raising, and more generally in any movement of an NP from a theta to a case position. Secondly, I discuss the phenomenon of obligatory control, which I will consider to be another instance of A-movement (following Hornstein 1999, Lidz and Idsardi 1998, Polinsky and Potsdam 2002). Obligatory control, unlike the previously mentioned types, involves movement from one theta position to another, followed by movement to a case position. I will discuss this in section 2.5.2 below.

A-positions are positions where an NP receives either a theta-role or a case (or both, in accounts where that is possible).[15] For instance, in a passive like (46), *John* gets its patient theta-role as the sister of the verb *arrest*, but it gets nominative case as the specifier of finite T°; thus both of these positions are A-positions. For the moment I abstract away from the vP projection.

46. John was arrested.

47. [$_{TP}$ John [$_{T^o}$ was] [$_{VP}$ arrested ~~John~~]]
[~~nom~~] [~~nom~~]

The dependency between Spec, TP and Comp, VP can be modeled in terms of movement: *John* is first merged with *arrest*, and then moves (or re-merges) to become the sister of T', the specifier of T°. This movement is driven by a need for *John* to check nominative case, or else (in approaches in which checking may happen covertly or via Agree) to satisfy an EPP feature. Had *John* instead had an accusative case feature, this could not have been checked at all, since passive *arrested* lacks a corresponding case feature. Thus the sentence would have crashed, since all DPs are required to have case and case must be checked.

Similar examples of A-movement occur in subject-to-subject raising. We find that the subject of a nonfinite clause may move to a higher subject position in order to check nominative case. (Assuming the EPP, it also moves through the embedded Spec, TP position, as I discuss below.)

[15] If we assume that all IPs must have specifiers, even when I° is nonfinite and does not assign case, then Spec, IP is also always an A position.

48. John seems to like cheese.

49. $[_{TP}$ John T^{o}_{fin} $[_{VP}$ seems $[_{TP\text{-}fin}$ ~~John~~ to $[_{VP}$ ~~John~~ like cheese]]

Here, *John* gets only one theta-role: that of the liker of cheese. However, as *John* cannot get nominative case in the embedded clause (which is nonfinite), it must move to the matrix spec, TP to get nominative case from finite T^{o}.

It is possible that A-movement may go through intermediate positions where neither theta-roles nor case are assigned. For instance, consider what would happen if we combined a passive with subject-to-subject raising.

50. John seems to be liked.

51. $[_{TP}$ John T^{o} $[_{VP}$ seems $[_{TP\text{-}fin}$ ~~John~~ to $[_{VP}$ be liked ~~John~~]]

If we assume the Extended Projection Principle (EPP), that all subject (Spec, TP) positions must be filled, then we may posit that there can be movement through a nonfinite subject position even when this position does not assign case (presumably to satisfy an EPP feature). So in the above example, *John* receives neither its theta role nor its case in the specifier of the nonfinite T^{o}, but still moves through this position.

Thus far, I have considered examples where an NP cannot check case in its "canonical" position, either because the ability to check accusative case has been lost (in a passive), or the ability to check nominative case has been lost (in a nonfinite TP). In fact, though, A-movement takes place more generally than that. I assume that no NP may

check a theta-role and a (structural) case with the same head. That is, *every* NP must undergo A-movement from a theta- to a case position.

For subjects, this is the predicate-internal subject hypothesis. Even a 'canonical' subject, an NP that has the external theta-role and checks nominative case, does not receive case in the same projection in which it receives a theta role. Following the vP hypothesis **(**as in Hale and Keyser 1993, Chomsky 1995**)**, I assume that the subject receives its theta-role in the specifier of vP (rather than directly in VP). The subject then, (in finite clauses) moves Spec, TP to check nominative case against Tº.

52. $[_{TP}$ John T^o $[_{vP}$ John v^o [likes bananas]]
[~~nom~~] [~~nom~~]

One type of evidence that can be marshaled in favor of the predicate-internal subject hypothesis is that there may be idiom chunks made up of the subject and predicate, but not the tense. Consider the following paradigm.

53. All hell broke loose.

54. All hell is breaking loose.

55. All hell will break loose.

These are not sentences about a literal escape by hell's inhabitants: rather, they mean something like "many frightening things happened at once." Thus, the subject ("all hell") and the predicate ("break loose") may reasonably be considered to be part of the idiom. However, since changing the tense does not change the idiomatic reading of the sentence,

T° must not be part of the idiom. If idioms are stored in the lexicon as constituents, then that means there must be a constituent containing the subject and predicate, but not the tense.

This would have been a problem if the subject receives its theta-role in Spec, TP. Here, no constituent contains "all hell" that does not also contain tense.

56. [$_{TP}$ All hell [$_{T°}$ will] [$_{VP}$ break loose]]

Ergo, this provides evidence that the subject is indeed first merged to a position below that in which T° is merged. Since T° is the head that checks nominative case, then as long as checking takes place in a spec-head configuration, it must be that nominative subjects must move to their case position from a lower theta-position.

Just as I assume NPs move to check *nominative* case, I will likewise assume that NPs must move to check structural accusative case as well. This will be true both for NPs in canonical 'object' position and for subjects of infinitives that check case "exceptionally" with a higher verb.

First let us look at NPs that are sisters to verbs. These NPs get theta-roles from the verb, in a sisterhood relation. However, it has been argued that they must subsequently move to a higher position. Consider (57). Let us assume for now that the prepositional phrase is adjoined to VP.

57. Mary [$_{VP}$ [$_{VP}$ entertained **the men]** [$_{PP}$ during *each other*'s vacations]]

(Hornstein, Nunes and Grohmann 2005, who take it from Lasnik and Saito 1991)

Here, *the men* may be the antecedent for the reciprocal *each other*. This is interesting because *each other* normally requires a c-commanding antecedent.

58. *The boys'$_i$ mother loved each other$_i$.

Assuming *each other* requires a c-commanding antecedent, then it appears that *the men* should have to c-command *each other*. This is, however, not the case if the object remains in Spec, VP, as indicated in (57).

Note that the same facts hold for other phenomena that apparently rely on c-command. A negative quantifier in object position can license an NPI in an adjunct to the VP, as in (59).

59. Mary won **none of the awards** during *any* of the contests. (Lasnik and Saito 1991)

And we see Condition C effects when an object is meant to corefer with a full NP in an adjunct to VP.

60. Mary likes **him$_i$** more than *John*$_{*i}$ does. (Postal 1974)

This is what we would expect if the object c-commands into the adjunct of VP. However, if the object is the sister of V^o, we would *not* expect it to c-command into the VP adjunct. The structure in (57) cannot be the whole story.

Let's assume instead that the accusative object of a verb does not remain in Spec, VP: instead, it moves to a higher position. In particular, let's assume that the object moves into Spec, vP, and let's motivate this movement for case-checking reasons. Instead of saying that V^o checks accusative case, let accusative case be checked by a higher head such as v^o. Objects move to Spec, vP to check accusative case.

So, for (57), "the men" is first merged as sister of V^o, and subsequently merges into Spec, vP. From this position, it c-commands the VP and its adjunct.

61. Mary [$_{vP}$ the men v^o [$_{VP}$ [$_{VP}$ entertained ~~the men]~~ [$_{PP}$ during each other's vacations]]

Since *the men* c-commands into the PP, it can be the antecedent for *each other*. The other examples follow the same logic.

A further concern remains: if (61) is the structure that feeds PF output, it appears that the verb ought be linearized to the right of the object, in contrast to the actual word order observed in English. I will have to assume either that the lower copy of the object is what gets pronounced, or that the verb has subsequently moved to a position higher than the object (as in Koizumi 1993, 1995).

Accusative case for canonical objects (sisters of VP) is assigned in Spec, vP. Moreover, the same sorts of arguments exist that "exceptional" accusative case is

assigned in Spec, vP as well. Consider (62) (from Lasnik and Saito 1991, Hornstein, Nunes and Grohmann 2005), in which *the defendants* may be the antecedent of *each other*.

62. The DA [$_{VP}$ [$_{VP}$ proved [$_{TP}$ **the defendants** to be guilty]] [$_{PP}$ during *each other*'s trials]].

The defendants here is the subject of a nonfinite clause, not normally a place where case can be checked. However, it has 'exceptional' accusative case, probably checked by the something in the matrix clause. Additionally, it is apparently able to c-command into an adjunct to the matrix VP. This suggests that once again, the NP has moved away from its theta-position into a higher position to receive case. And here, the higher position is all the way in the matrix clause. Once again, I'll assume *the defendants* checks accusative case with the matrix v^{o}, and that to check this case it must move to Spec, vP. From there it could successfully c-command *each other*. What is 'exceptional' about this case marking is not the configuration in which case is ultimately checked, but the fact that the accusative-marked NP was able to move to Spec, vP from a lower clause.

To sum up, I've argued that DPs must move away from their theta-positions to receive structural case: nominative case from Spec, TP, and accusative case from Spec, vP. This is what happens in traditional examples of A-movement (such as passives and raising), but also in ECM configurations and even with subjects and objects in their 'canonical' positions.

There are several assumptions that apply to every phenomenon considered so far. First, every NP with structural case must move, at the very least, from its theta to its case position. Second, every NP considered so far requires a theta-role and a case – and exactly one of each. Thirdly, every NP, when it is first merged, is merged into its theta-position. Finally, once an NP moves into its case position, no further A-movement occurs.

2.5.2 Movement from one theta position to another

I will now consider a different phenomenon that I will assimilate under the A-movement umbrella: obligatory control. I argue that obligatory control is consistent with most of the assumptions above. The only exception is that I assume (following Hornstein 2000) that NPs are able to get more than one theta-role in the course of a derivation.

Consider 'obligatory control' sentences such as:

63. John tried to leave.

64. Mary told John to leave.

In each of these sentences, John must be understood as the 'leaver.' However, there is an additional theta-role also associated with John: either the agent of 'try' or the patient of 'tell.'

Frequently, the fact that *John* evidently has two theta-roles is analyzed as indicating that the subject of the embedded clause is not literally *John*, but rather a null

proform, PRO. This PRO, in turn, is "controlled" by *John*, and thus they end up referring to the same person.

65. John tried [PRO to leave]

66. Mary told John [PRO to leave]

PRO, unlike other NPs, may end up as the specifier of nonfinite TP without violating the case filter, either because PRO does not require case at all, or because PRO receives a special case, called "null case," that is assigned by nonfinite Tº and is only available to PRO **(**Chomsky and Lasnik 1993**).**[16]

I will instead adopt the alternative "movement theory of control" approach as proposed in Hornstein 1999, Lidz and Idsardi 1998. This assumes that, in fact, *John* itself is the holder of both theta-roles in the sentences above; there is no PRO. Instead, *John* moves from one theta-position (patient of *leave*) to another (agent of *try* or patient of *tell*).[17] This is schematized below.

67. John tried [~~John~~ to leave]

68. Mary told John [~~John~~ to leave]

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[16] Here I show PRO as if it was first merged in Spec, TP, but the PRO approach is perfectly compatible with the predicate-internal subject hypothesis. We can say that PRO receives its theta-role in Spec, vP, and then moves to Spec, TP either to satisfy the EPP (if PRO has no case), or the case filter (if PRO has null case).

[17] If we assume the EPP, we can say that *John* moved through the nonfinite Spec, TP on its way up.

From its final theta-position, *John* moves to receive structural case, either nominative (in Spec, TP) or accusative (in Spec, vP). Thus the complete derivation is as follows:

69. [$_{TP}$ John T^o [$_{vP}$ ~~John~~ v^o [$_{VP}$ tried [$_{TP\text{-}fin}$ (~~John~~) to [~~John~~ v^o [$_{VP}$ leave]]]]]
[~~nom~~] [~~nom~~] theta: tryer theta: leaver

Control by an object follows a similar pattern: the NP gets its first theta-role in the embedded nonfinite clause, moves to a second theta-position in the finite clause, and finally moves to check case. Consider (68). I will assume, for the moment, that the verb 'tell' has two internal theta-roles, and that both are assigned in local positions: the embedded TP receives a theta-role as sister to V^o, and the NP object of 'tell' receives its theta role in Spec, VP. The derivation then proceeds as follows. First, as before, *John* is merged into a theta-position in the embedded Spec, vP, becoming the external argument of 'leave.' If we assume the EPP, *John* then moves to the embedded Spec, TP, but does not check case since T^o is nonfinite.

70. [$_{TP\text{-}fin}$ (John) to [~~John~~ v^o [$_{VP}$ leave]]
theta: leaver

Second, the verb *tell* is merged with its TP complement. *John* then moves to Spec, VP, receiving a second theta-role in this position.

71. [$_{VP}$ John tell [$_{TP\text{-}fin}$ (~~John~~) to [~~John~~ v^o [$_{VP}$ leave]]]
theta:tell-ee theta: leaver

Next, v^o is merged. The external argument of *tell* is merged into Spec, vP, receiving a theta-role, and *John* merges with the resulting structure to check accusative case against v^o. (The verb *tell* also undergoes movement to some other spec, XP, not shown, so that it ends up preceding the direct object—just as in my discussion of (61) above.)

72. [$_{vP}$ John Mary v^o [$_{VP}$ ~~John~~ tell [$_{TP\text{-}fin}$ (~~John~~) to [~~John~~ v^o [$_{VP}$
[~~acc~~] theta:teller [acc] theta: tell-ee theta: leaver
leave]]]

Finally Mary moves to Spec, TP to check nominative case.

Thus, obligatory control, like previous types of A-movement, involves an NP moving from a theta-position to a case position. In fact, both types of movement could even be said to have the same motivation: the need to check case. Moreover, the NP is first merged into a theta-position, and checks case exactly once. However, the movement involved (by hypothesis) in control differs from other types of A-movement in that the NP actually moves to a second theta-position on its way to its case position. That is, in the movement theory of control, NPs are merged into theta positions, but may receive further theta-roles later: not all theta-roles are assigned at first merge.

I will modify these assumptions just once more: to handle the relation between SE reflexives and their antecedents, I will assume that it is possible to merge an NP into a non-theta position, and subsequently move it to receive its first theta-role. However, before laying out this assumption, I consider one more commonality between control and other forms of A-movement: minimality.

2.5.3 Minimality in A-movement

A-movement is restricted. An NP may not move from any theta position[18] to any other theta or case position: instead, there appear to be locality requirements on this movement. For instance, the following sentence is not grammatical in English.

73. John T° seems that it was arrested ~~John~~
[case] [theta]

However, the reasons for its ungrammaticality do not follow from any of the assumptions I made above. *John* gets a theta-role as the sister of *arrest.* It moves to the matrix Spec, TP to check nominative case. The only other NP in the sentence is expletive "it", which does not require a theta-role, but checks nominative case in the embedded (finite) TP.

One way to account for this sort of locality requirement is to say that the problem is that *John* has moved too far. How is "too far" to be defined, though? I will adopt a variant of Relativized Minimality (which was first defined in Rizzi 1990). Roughly, an NP undergoing A-movement must move to the 'closest' c-commanding A-position, with some exceptions to be discussed below. If there is an A-position that c-commands the source of movement but is c-commanded by the target of movement, then the movement has violated minimality. The problem in (73) is then that the matrix Spec, TP is not the closest case position to the embedded comp, VP. *John*'s starting position, as object of *arrest*, is closer to the embedded Spec, TP than to the matrix Spec, TP: but expletive *it* checks nominative case in the embedded clause, and John only re-merges into the tree at

[18] I will discuss movement from *non*-theta to theta positions, below, where I will argue that it does not show the same A-minimality effects.

a later point in the derivation: as specifier of the matrix T°. John has 'skipped' a case position.[19]

There is an exception to this rule, however. Consider a basic SVO sentence.

74. Mary punched John.

I have assumed that the eventual subject, Mary, gets its external theta role in Spec, vP. I assume, furthermore, that the object, John, moves into a higher spec, vP in order to check accusative case.

75. [$_{vP}$ John Mary v° [$_{VP}$ punched ~~John~~]
[~~acc~~] theta: puncher ~~acc~~ theta: punchee

But here, *John* has skipped over one A-position (the one in which *Mary* gets its theta-role) in its movement to a higher A-position. In fact, another apparent minimality violation will occur when *Mary* moves to Spec, TP to check nominative case.

76. Mary T° [$_{vP}$ John Mary v° [$_{VP}$ punched ~~John~~]
[~~nom~~] [~~nom~~] [~~acc~~] theta: puncher ~~acc~~ theta: punchee

[19] In a later section I propose an independent rule blocking A-movement out of finite CPs. If such a rule holds, then it would be sufficient to rule out the movement of *John*, without reference to minimality. However, the relative grammaticality of (i) over (ii) suggests that A-movement over a case position is problematic even if it does not cross a finite clause boundary.
(i) (?)It was expected for Bill to be kissed.
(ii) *Bill was expected for it to be kissed.

Mary has moved over one A-position (that in which *John* checks accusative case) to reach a higher A-position (Spec, TP). There must be some exceptions to when minimality applies, or else this derivation will be ruled out.

This dilemma can be solved by assuming that two DPs in the same minimal XP are "equally high." That is, it is possible for an NP to A-move over an intervening A-position if either the source or the target of movement is in the same maximal projection as the intervening element. For example, *John* can move over *Mary* (in its theta-position) because the target of movement (in Spec, vP) is in the same XP as the intervener (also in Spec, vP). Likewise, *Mary* can move over *John* (in its case position) because the source of movement and the intervener are equidistant. (See Chomsky 1993 on "equidistance.")

In fact, this 'exception' to minimality may not be an exception at all, but rather an indication that c-command is not the correct index of 'closeness' between two positions. Hornstein (2008) argues that minimal distance, for movement, can be considered not in terms of number of dominating nodes, but in terms of number of dominating XP nodes. The path to or from two positions is the same if they are dominated by all the same XPs. This explains why it is possible to move to one Spec, vP position over another one: both are in the same minimal XP, so the path of movement is the same. It still does not explain why *Mary* can move all the way to Spec, TP to get case, rather than getting case from Spec, vP. For that, I assume that for some reason an NP cannot check case and theta against the same head[20].

[20] Abels 2003 says that there is a minimal distance for moves—that an NP cannot move within the same minimal projection. This, however, would still leave open the possibility that *Mary* could simply stay in its first-merge position and check accusative case. To rule out that possibility, I will say that that the v° needs to check case with *John* or else *John* would have to check case in Spec, TP, violating A-minimality. So for that reason, *Mary*

Notice that this variant of minimality still rules out various kinds of non-local A-movement, as we need it to. For example, 'Mary punched John' has to mean that Mary did the punching and John got punched. It cannot mean the reverse. This means that the following derivation needs to be illicit in some way.

77. Mary T^o [$_{vP}$ John John v^o [$_{VP}$ punched ~~Mary~~]
[~~nom~~] [~~nom~~] [~~acc~~] theta: puncher ~~acc~~ theta: punchee

If *Mary* is able to get a theta-role as sister to the verb, and then move to Spec, TP to check nominative case, and if John can get a theta-role and check accusative case against v^o, then it would falsely predict that 'Mary punched John' can mean 'John punched Mary.' Fortunately, this derivation will be ruled out by minimality, even as now stated. *Mary* now undergoes A-movement from comp of VP to Spec of TP, skipping A-positions in a closer projection (vP). This movement is correctly ruled out by minimality, even assuming that the two spec, vP positions are equidistant from all other positions. This is because the intervener (one of the specs, vP) and the source (comp, VP) are not equidistant from the target of movement (Spec, TP), nor are the intervener and the target of movement equidistant from the source. However, this derivation is also ruled out for another reason altogether: antilocality. If we assume that *John* cannot move within the vP (and that it cannot receive theta and check case in the same position), then the sentence is independently ruled out without resorting to minimality.

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will need to move to Spec, TP instead of checking case *in situ*. The reason why *Mary* is able to move over *John*, in a higher Spec, vP position, is that *Mary* cannot undergo a move within its own projection, so A-minimality does not apply.

Moreover, some other purported minimality violations may also be ruled out by other constraints. Consider my earlier evidence for minimality:

78. *John T° seems that it was arrested ~~John~~
[case] [theta]

This can be ruled out by minimality: *John* has moved over a closer A-position (embedded Spec, TP) to one that is farther away (matrix Spec, TP). However, this could also be ruled out if it were generally the case that A-movement cannot cross a tensed clause. (In fact, in later sections I will need to argue in favor of this approach.)

In spite of these concerns I will continue to assume that minimality constraints apply to A-moving NPs. Consider some evidence from Italian (the following examples are from Rizzi 1986, via Boeckx 2008 and Hartmann 2009). In Italian, the verb 'seem' may appear with a null subject and an overt experiencer.

79. Sembra (a Maria) che Gianni è stanco
seems (to Maria) that Gianni is tired
'It seems to Maria that Gianni is tired.'

As an alternative, 'seem' could also be used as a raising verb: an NP from the embedded clause (here, *Gianni*) can move to the matrix Spec, TP and check nominative case. However, such raising is not possible if there is an overt experiencer.

80. Gianni sembra (*a Maria) essere stanco

Gianni seems to Maria to.be tired

'Gianni seems to Maria to be tired.'

The ungrammaticality of raising over an experiencer could be explained by minimality: *Gianni* has skipped a more local case position (that of *a Maria*, assuming that *a* is acting as a case marker rather than a preposition) in order to get to a case position that is farther away (Spec, TP). This looks like a plausible minimality violation, although of course it leaves the question of why raising over an experiencer should be acceptable in the corresponding English sentence. Perhaps an explanation can be explored along the following lines: the Italian and English sentences have subtle structural differences such that the experiencer in Italian c-commands the embedded clause (and the source position of *Gianni*) while the experiencer in English does not. Further, if movement constraints are formulated in terms of paths (Hornstein 2008) rather than c-command, the object of a preposition is inside a projection (PP) which does not dominate the embedded clause, so its path of movement is not a subset of the path of movement from the embedded clause to the matrix subject.

In sum, then, I assume that an NP undergoing A-movement must move to the closest higher XP that has an A-position. This has the result that A-movement cannot 'skip' intervening A-positions unless they are in the same XP as the source or target of movement.

Obligatory control actually obeys a very similar locality restriction, as has been observed even in theories that do not treat control as movement. Rosenbaum (1967,

1970) proposed the Minimal Distance Principle: a controlled element is always controlled by the closest NP that neither dominates nor is dominated by the minimal clause containing it. (More recent variations of this might say it is controlled by the closest c-commanding NP). Either version of the MDP works with the fact that overwhelmingly often, when a control verb takes both a subject and an object DP, it is the object that controls the embedded subject[21]. In Rosenbaum's theory, PRO is always controlled by the closest c-commanding NP, where "closeness" is determined by counting how many branches in the structure separate PRO from the higher NP. In a theory of control as movement, the corresponding generalization must be that control DPs move to the closest possible position. Without sideward movement, this will be the closest c-commanding position, but "closeness" can be defined in terms of path: the set of XP nodes between the source and the target of movement (Hornstein 2008). In Hornstein's terms, one path is shorter than another if its set of XP nodes is a proper subset of the other's—with the

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[21] A possible exception to this generalization would be a verb like English *promise* (or its Icelandic equivalent, *lofaði* 'promised'). Many English speakers, though not all, allow "promise" to be used as a subject-control verb that also has a DP object.

(i) John promised Mary to help her out. (= John promised Mary for John to help her out)

However, children are late to acquire "subject-control" in verbs like promise (C. Chomsky 1969). Moreover, Dinkin (2006) finds that adults assign subject-control readings to 'promise' only 75% of the time. Hornstein 2000 suggests that this difficulty with subject-control *promise* is due to *Mary* not truly being the accusative object of *promise* at all, but the object of a null preposition. This unusual structure might make *promise* harder to learn. (See Larson 1991 has a similar account.)
If movement is calculated in terms of paths (as in Hornstein 2008), then sideward movement into the PP that becomes the object of *promise* does not compete with movement to the subject of *promise*, because the paths of movement are not subsets of each other (movement into PP has PP in its path; moving to subject has the matrix TP in its path). For this reason, the PP object would not prevent movement of the subject (Hornstein, p.c.). Of course, this still does not explain why *promise* is not ambiguous between subject- and object- control; the subject isn't an intervener for the object, either.

consequence that a c-commanding intervener would have a shorter path. If control is analyzed as movement, then the Minimal Distance Principle can be reanalyzed as a sub-type of Minimality: all A-movement must take the shortest path. It should not be possible to 'skip' over an A-position with a closer path, be it a theta- or a case-position.

To sum up, both control and other types of A-movement have a number of properties in common. Both types of movement start at a theta-position, and stop once they reach a case position[22]. It is not possible for an NP to get two cases. Finally, both control and A-movement obey Minimality. The only difference between the two is that in movement-as-control, the NP moves into a second theta-position, whereas in other sorts of A-movement the NP only has the theta-role it got by merging.

2.5.4 SE reflexives involve a type of A-movement

Returning at last to SE reflexives, I propose that SE reflexives start out in a doubling constituent with their antecedents. Unlike every other NP I have considered so far, I propose that the antecedent, when first merged with the reflexive, does not receive a theta-role. The antecedent must move into its first theta-position. In this section, I elucidate how *sig* works when it is locally bound. In the following section, I will harness

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[22] There are exceptions inasmuch as expletive NPs can get case without theta roles and arbitrary PRO can get theta roles without case. Arbitrary PRO may itself undergo movement, both in standard A-movement examples like passives or under the movement theory of control.

(i) [PRO being arrested ~~PRO]~~ is no fun.
(ii) [PRO trying [~~PRO~~ to cheat]] is a bad plan.

For other NPs, though, of the sort that require both theta and case, it holds of everything I have looked at so far that they merge into a theta position, may undergo movement through other A-positions, and stop A-moving when they first reach a case position.

the differences between the antecedents of SE reflexives (merged into a non-theta position) and other NPs to explain differences between controllers and SE reflexives in sentences with both.

First, here is a sentence in which *sig* is locally bound.

81. Jón rakaði sig.
John shaved SE
'John shaved (himself).'

The antecedent is the sister of *sig* or of a projection of *sig:* I schematize the relation below as one between a head and a specifier, but nothing rests on this.

82. $[_{DP}$ Jón $[_{D'}$ sig]]
John SE

In this position, I propose, *Jón* and *sig* become co-related. (I am neutral on the exact mechanic by which this is done, but it notably happens in the same kind of very local configuration in which, for other heads, feature checking and theta role assignment can occur.) Importantly, I propose that *Jón* does not receive any sort of a theta role. Even when the DP is merged with a theta-assigner, *Jón* does not receive a theta role. Only the DP containing it does.

83. rakaði [$_{DP}$ Jón [$_{D'}$ sig]]

shaved John SE
theta: shavee

Since *Jón* does not yet have a theta-role, it must receive one by moving into another theta-position. For example, *Jón* can move to Spec, vP to receive the verb's external theta-role.

84. Jón [$_{v'}$ v^{o}+rakaði [$_{VP}$ ~~rakaði~~ [$_{DP}$ ~~Jón~~ [$_{D'}$ sig]]]]
John shaved self
theta: shaver theta: shavee

As with control NPs, the antecedent of *sig* moves into a theta position. The only difference between this and control is that *sig*'s antecedent moves to get its first theta-role, whereas a control NP would have received its first theta-role when it was merged.

The rest of the derivation proceeds very normally. The object, *sig*, moves to Spec, vP to check accusative case against v^{o}. (Moving over *Jón* does not violate minimality, since it is in the same projection as the target of movement.)

85. [$_{vP}$ [$_{DP}$ ~~Jón~~ [$_{D'}$ sig]] Jón [$_{v'}$ v^{o}+rakaði [$_{VP}$ ~~rakaði~~ [$_{DP}$ ~~Jón [$_{D'}$ sig]~~]]]]
case: acc theta: shaver

Finally, *Jón* moves into spec, TP to check nominative case.[23]

[23] Since Icelandic has overt V→T movement (see Thráinsson 2007 for an overview) I also indicate the movement of the verb to T^{o}, deriving the correct word order of Subject-verb-object. However, the verb would have preceded the object (*sig*) even without V→T movement, as in sentences with a modal verb. Therefore I must additionally assume that

86. Jón T^o+ v^o+rakaði [$_{vP}$ [$_{DP}$ ~~Jón~~ [$_{D'}$ sig] ~~Jón~~ [$_{v'}$ ~~v^o+rakaði~~ [$_{VP}$ ~~rakaði~~ [$_{DP}$ ~~Jón [$_{D'}$ sig]~~]]]]]

case: acc theta: shaver

Thus, after the antecedent of *sig* has moved to receive its first theta-role, it moves again for case just like any other NP.

2.5.5 *Sig* and minimality

Looking at only same-clause uses of *sig*, there is nothing to disprove the idea that normal A-movement minimality constraints apply to *sig*'s antecedent. In the above derivation, for instance, *Jón* does not cross over any intervening NPs in its movement to its theta-position. However, when examining "medium-distance" movement of *sig*, this will not work. In this section, I argue that the movement of *sig* into its first theta-position must not have to obey the same minimality constraints as other kinds of A-movement. I use this to derive crucial differences between the movement of antecedents and the movement other NPs in the same sentence (such as controllers or ECM subjects).

Recall that *sig* can be bound from outside of a nonfinite clause. This can be an ECM clause, as in (87), or a control clause, as in (88).

87. Anna$_i$ telur þig hafa svikið sig$_i$

Anna believes you (Acc) have (Inf) betrayed self (Thráinsson 1991: 51)

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there is a projection between v^o and T^o to which the verb can move, although I gloss over it in the derivation above.

88. Pétur$_i$ bað Jens$_j$ um [PRO$_j$ að raka sig$_{i/j}$] [Icelandic]

Peter$_i$ asked Jens$_j$ P to shave sig$_{i/j}$

The medium-distance reading of (88), in which *Pétur* binds *sig*, will require movement of the antecedent that violates minimality. Basically, when *Pétur* moves into the matrix clause to get the external theta-role of 'ask', it will have to move over the position in which *Jens* gets its internal theta-role. Here is the derivation (for ease of explication I use the English glosses of individual words rather than the Icelandic).

In the embedded clause, 'Peter' and 'sig' start out as a unit, since Peter is the eventual antecedent of sig. The DP headed by *sig* gets the internal theta-role of shave. *Jens* gets the external theta-role of *shave*.

89. Jens v^o+shave [$_{VP}$ ~~shave~~ ~~[$_{DP}$Peter+sig]~~]

Next the DP headed by *sig* moves to Spec, vP over *Jens*. This is acceptable since both are in the same projection, vP.

90. [$_{vP}$ [$_{DP}$ Peter+sig] Jens v^o+shave [$_{VP}$ ~~shave~~ ~~[$_{DP}$ Peter+sig]~~]]

Since the embedded clause is nonfinite, nothing else gets case there. Let us assume for the moment that the Spec, TP position does not need to be filled, and skip ahead to the matrix clause. First, *Jens* will move to get the internal theta-role of 'ask'. I

assume that this happens in Spec, VP, and that the complement of the verb is the embedded clause.

91. [$_{VP}$ Jens asked ... [$_{vP}$ [Peter+sig] ~~Jens~~ v^{o}+shave [$_{VP}$ ~~shave~~ [~~Peter+sig~~]]]]
theta:askee

The minimality violation is what occurs next. Peter, the antecedent of *sig*, gets the external theta-role of 'ask', by moving to the matrix Spec, vP. The problem is that this movement crosses over *Jens* in the matrix Spec, VP. Since *Jens* is in a different projection than either the starting or the landing point of *Peter*, the movement violates minimality.

92. Peter v^{o}+asked [$_{VP}$ Jens ~~asked~~ ... [$_{vP}$ [Peter+sig] ~~Jens~~ v^{o}+shave [$_{VP}$ ~~shave~~ [~~Peter+sig~~]]]]
theta: asker

The rest of the derivation does not have any additional problems: Jens moves to Spec, vP to check accusative case, and subsequently Peter checks nominative case in Spec, TP. The key question for an account in which the antecedent moves, is why the movement in (92) is permitted. What I will ultimately propose is simply that movement of *sig*'s antecedent need not obey minimality.

Importantly, it does not work simply to change the A-movement constraints in general so that the movement in (92) is permitted. I will demonstrate some adjustments that could rule in the movement in (92), but I then reject them, because they overgeneralize. One way to rule in A-movement over the internal argument of 'ask'

would be to assume that it and the external argument of ‘ask’ are actually in the same XP. Then they would both be equidistant from the source of movement. This could be done by assuming that ‘ask’ assigns its two NP theta-roles in the same projection, for instance—here I use vP. Since both verbs would be moving from the same projection to the same projection, there would be no minimality violation.

93. Peter Jens v^o+asked [$_{VP}$ ~~asked~~ ... [$_{vP}$ [Peter+sig] ~~Jens~~ v^o+shave
theta:asker theta:askee

[$_{VP}$ ~~shave~~ [~~Peter+sig~~]]]]

(This would not really explain how *Jens* could get case, but perhaps something could assign inherent case to it.) This approach allows the correct reading of the sentence to be generated: ‘Peter’ could move over ‘Jens’ without violating minimality—in this derivation Peter ends up as the subject of ask and object of shave, while Jens is the object of ask and subject of shave. This provides a correct reading of the sentence.

However, I reject the approach because, while it generates the correct reading of the sentence, it also overgenerates. At the same time that the movement of the antecedent in (92) needs to be permitted to avoid undergeneration, the movement of the control NP needs to be restricted to avoid overgeneration. Consider the possible meanings of (88), repeated below.

94. Pétur$_i$ bað Jens$_j$ um [PRO$_j$ að raka sig$_{i/j}$] [Icelandic]

Peter$_i$ asked Jens$_j$ P to shave sig$_{i/j}$

This could mean either of the following:

95. Peter asked Jens for Jens to shave Peter. (MD reflexive)

96. Peter asked Jens for Jens to shave Jens. (local reflexive)

In both possible meanings, the subject of the embedded clause has to be controlled by the object of the matrix clause. That is, the following readings are not possible.

97. Peter asked Jens for Peter to shave Jens. (not a possible meaning of (94))

98. Peter asked Jens for Peter to shave Peter. (not a possible meaning of (94))

Even in places where the antecedent of the reflexive can apparently cheat minimality, the control NP must obey it.

To illustrate, I provide a derivation of the reading in (97). Note that this meaning is bad—but that the same changes I made to allow the derivation in (93) would also allow me to derive the meaning in (97). I demonstrate as follows. Here, the antecedent of *sig* is meant to be 'Jens', so *Jens* and *sig* start out as a unit. *Sig* receives the internal theta-role of 'shave'. 'Peter' is meant to be the shaver, so it starts out in Spec, vP and receives the external theta-role of the verb. Next, the NP headed by *sig* moves to Spec, vP to get accusative case.

99. $[_{vP}$ [Jens+sig] ~~Peter~~ v^{o}+shave $[_{VP}$ ~~shave~~ [~~Jens+sig~~]]]

Skipping ahead a few steps, since ‘Jens’ is meant to be the object of ‘ask’, it moves to receive an internal theta-role. As before, I have modified things to assume that ‘ask’ assigns both subject and theta-roles in the same projection. There is no problem letting *Jens* move to become the object of ‘ask’ in vP.

100. Jens v^{o}+asked [$_{VP}$ ~~asked~~ ... [$_{vP}$ [~~Jens~~+sig] Peter v^{o}+shave
theta:askee

[$_{VP}$ ~~shave~~ [~~Jens+sig~~]]]]

Likewise, there is no problem moving Peter to become the subject of ‘ask’, also in vP. (The reason this is not a problem is that I assumed the two theta roles were assigned in the same place—an assumption I made to let me get the valid derivation in (93).)

101. Peter Jens v^{o}+asked [$_{VP}$ ~~asked~~ ... [$_{vP}$ [~~Jens~~+sig] Peter v^{o}+shave
[$_{VP}$ theta:asker theta:askee

[$_{VP}$ ~~shave~~ [~~Jens+sig~~]]]

The problem is that I now appear to have given a valid derivation for the sentence with the meaning in (97). However, (97) is not actually a valid reading of (94). By changing minimality rules in order to make (92) acceptable, I inadvertently also made a bad reading acceptable, overgenerating.

The problem is that the same movement—or at least, movement from the same projection (embedded vP), to the same projection (matrix vP), over an intervener in the same third projection (matrix VP or matrix vP, depending on whether you adopt the

change I considered)—must be permissible for the antecedent of *sig*, but impermissible for a control DP. No matter how the minimality constraints are altered, they seem doomed to either overgeneralize by allowing overlong movements of the controller, or undergeneralize by not allowing long movements of the reflexive's antecedent. Notably, the control DP seems to obey something like the Minimal Distance Principle—but the reflexive's antecedent does not. Consequently, I reject the changes I considered to the structure of 'ask'. It would still be a minimality violation, I argue, to move something over the object of 'ask' to become the subject of 'ask'.

Nonetheless, I assume that the movement in (92), even though it would violate A-minimality, is acceptable.

102. Peter v°+asked [$_{VP}$ Jens ~~asked~~ ... [$_{vP}$ [Peter+sig] ~~Jens~~ v°+shave [$_{VP}$ ~~shave~~ [~~Peter+sig~~]]]]
theta: asker

Although I lack a deep explanation for this, I can at least propose a relevant difference. Following Hornstein 2000, I assume that the control DP receives two theta roles. It is merged into a theta-position, and then moves to a second theta-position. In contrast, the antecedent of *sig* is not merged into a theta-position; it only gets a theta-role after movement. In the permissible movement in (102), a DP is moving to receive its first theta-role, and can violate minimality in the process. On the other hand, control obeys the Minimal Distance Principle, which I have already analyzed as meaning that movement to a second theta-position does have to obey minimality. Therefore, I propose that minimality (at least minimality as applies to A-movement) only applies after an NP has a theta role. Before that, an NP is permitted to move over A-positions with impunity.

This makes the prediction that once *sig*'s antecedent has moved into a theta-position, it must subsequently obey minimality restrictions. The prediction is borne out. Consider the local reading of (94): *sig* has a local antecedent, *Jens*. *Jens* is the subject of the embedded clause, so it receives a theta-role in the embedded Spec, vP.

103. [$_{vP}$ Jens v^{o} [$_{VP}$ shave [~~Jens~~ +sig]]]
theta: shaver

104. [$_{vP}$ [~~Jens~~+sig] Jens v^{o} [$_{VP}$ shave [~~Jens +sig~~]]]
acc

From here, *Jens* can move to the matrix object position. This does not violate minimality, since the only NP it crosses is the NP headed by *sig*, but that is in the same vP projection as the source of movement. Once it has its first theta role, the antecedent of a reflexive can subsequently move to a second theta-position like any control DP.

However, the reading in (98) is not permitted. That is, if *Peter* is the local antecedent of *sig*, it may not move from its first theta-position (in embedded Spec, vP) to a second theta-position in matrix Spec, vP. Here is the problem step. As of the point in (105), the NP headed by *sig* has received theta-role and case. 'Peter', the antecedent of *sig*, has received its first theta-role in the embedded Spec, vP, but still lacks case. Now, the matrix verb has been merged, and it has assigned its internal theta-role to a new NP, 'Jens'.

105. [$_{VP}$ Jens ask … [$_{vP}$ [~~Peter~~+sig] Peter v^{o} [$_{VP}$ shave [~~Peter +sig~~]]]]
askee acc shaver shavee

The problem is that 'Peter' cannot move over 'Jens' into Spec, VP without violating minimality. That is, (98) can be ruled out under the assumption that the antecedent of *sig* obeys minimality at the point in which it receives its first theta-role. Only DPs with no theta-role can skip over A-positions.

106. Exception to Minimality

Until it has received a theta-role, a DP does not need to obey A-minimality.

I intend this to be a universal principle, not a parameter unique to Icelandic. In any language, if a DP can be first merged into a non-theta position, my account predicts (106) to hold.

2.6 Deriving the properties of **sig** *through movement constraints*

In the preceding section, I proposed that the antecedent of *sig* starts out in a double with *sig*, and then undergoes something akin to A-movement to get to its first theta-position. However, unlike with other instances of A-movement, the antecedent of *sig* is able to skip over intervening A-positions—by hypothesis, as a consequence of lacking a theta-role. Until it gets a theta-role, *sig*'s antecedent need not obey minimality. Nevertheless, I will propose that there are other constraints on movement that do end up affecting *sig*'s antecedent even before it reaches a theta-position.

Two of the salient properties of *sig* are that it may not be bound from outside a finite CP (except in logophoric uses), and that it is subject oriented. I argue that both of these properties result from movement constraints. *Sig* may not be bound from outside of

a finite CP because finite CP is a spell-out domain, and *sig*'s antecedent may not A-move through the Spec, CP escape hatch because Spec, CP is not an A-position. Meanwhile, *sig* must be bound by a subject due to an interaction between the Merge over Move economy condition and the nature of the numeration. I discuss these in turn below.

2.6.1 Deriving the locality of *sig:* spell-out domains

Minimality constraints do not explain why *sig* cannot be bound outside of an indicative finite clause, such as (107).

107. Jón$_i$ veit [að María elskar *sig$_i$/hann$_i$]

John knows (ind) that Mary loves (ind) *SELF/him

'John$_i$ knows that Mary loves him$_i$.'

(Sigurðsson 1990 ex. 4, from Thráinsson 1976, 1979, 1990

For *Jón* to be the antecedent of *sig*, *Jón* would have had to move over other NPs in A-positions, such as *María* in the embedded Spec, TP. However, I have already assumed that skipping over such positions is acceptable, since A-minimality does not apply to NPs without theta-roles.

To rule out sentences like (107), I assume (following Uriagereka 1999, Chomsky 2001) that the sentence is divided into Spell-out domains, and I assume that these spell-out domains include finite but not nonfinite CP. When a finite CP is formed, and before any subsequent head is projected, the complement of the CP (finite TP) is spelled out. At this point, nothing further may move out of TP.

For anything to move out of a finite CP, then, it must be able to 'escape' the complement TP before it is spelled out: that is, it will have to adjoin to the C° head (only possible if it is also a head) or else move to the specifier of CP. For example, in (107), for *Jón* to move out of the embedded finite clause, it will need to move through the embedded Spec, CP. Let us assume that the specifier of finite CP is necessarily an A'-position. If so, movement is ruled out by the prohibition on improper movement (Chomsky 1973): A' movement followed by A movement is not permissible, so *Jón* may not move to an A' position before getting a theta role and checking case. Consequently, *Jón* will be trapped inside the embedded clause. Since *Jón* cannot move high enough to get a theta-role, the derivation crashes.

Such a constraint might appear to predict, incorrectly, that *sig* may never take an antecedent outside a finite clause. This is not entirely accurate, since *sig* may take an antecedent from outside of a finite *subjunctive* clause.

108. **Jón** segir [að María elski **sig/hann**]
John says (ind) that Mary loves (subj) self/him
'John$_i$ says that Mary loves him$_i$.'
(Sigurðsson 1990 ex. 4, from Thráinsson 1976, 1979, 1990)

If *Jón* is forbidden to move through Spec, CP, how is this possible? One option would be to treat Icelandic subjunctives as if they were infinitives, at least for movement purposes—for instance, one could say that subjunctive CPs are not spell-out domains. However, *sig* in subjunctive CPs certainly shows different properties than more local uses

of *sig*: the antecedent must be the POV holder of the embedded clause, for instance, and additionally, a standard pronoun could have been used in the place of *sig*. A second option would be to say that logophoric uses of *sig*, such as in (108), simply do not involve movement at all.

I will explore an alternative approach. As I discuss in chapter 3 of this work, there is evidence linking long-distance reflexives to the presence of something in the left periphery of the clause, possibly in a position associated with POV. I propose that when *sig* is used logophorically, its sister, rather than being a regular DP, is something capable of A'-movement to this left-periphery position.[24] It might for instance be an operator that is controlled by the antecedent. Thus *sig* in its logophoric use would show some similarity to MD *sig* in that both have a sister that moves, but would differ in the nature of what that sister is. I will assume that the feature inducing A' movement of the operator is (usually) only present in subjunctive clauses, so that the operator cannot be used in an indicative finite clause.

2.6.2 Deriving the subject-orientation of *sig*

SE reflexives such as *sig* are generally subject-oriented; that is, they require an antecedent that is a subject. This is true of both local and MD binding of *sig*.[25] *Sig* cannot be bound by the object of a higher clause unless the antecedent is also the subject of the embedded clause (as with object-control verbs, for instance). Additionally, when *sig* or *sjálfan sig* is bound in its own clause, it must be bound by the subject rather than

[24] Kayne 2002 claims something similar in his movement account of pronoun binding, though he believes this occurs with all pronouns, not just SE reflexives, and it is not specifically movement via Spec, CP that matters for him.
[25] For more on the subject-orientation of logophors, see section 3.3.5.

by the object. As it happens, MD binding by an object will generally be ruled out by the Extension Condition, as I demonstrate below. However, I will propose further constraints to explain why binding by an object in the same clause is forbidden.

Notice that generally, if a verb takes an embedded nonfinite clause and also takes an NP object, then its object will control the subject of the embedded clause. For these sentences, even if *sig*'s antecedent is in a surface object position, it is the underlying subject of the embedded clause as well.

109. Pétur$_i$ bað Jens$_j$ [$_{PP}$ um [$_{CP[-fin]}$ að ~~Jens~~ raka sig$_{i/j}$]] [Icelandic]

Peter$_i$ asked Jens$_j$ P to shave sig$_{i/j}$

Here, *Jens* is not only the object of 'ask' but also the subject of 'shave' (in a control-theory-of-movement account) or the controller of the subject (otherwise). Thus, if *sig* means *Jens* it is bound by a subject—the subject of the embedded clause—and is subject-oriented.

The main exception to this would be with 'promise'-type verbs, which may take an object that does *not* control the subject of the embedded clause. The object of a 'promise'-type verb may not be the antecedent of an embedded reflexive.

110. Ég$_j$ lofaði Haraldi$_i$ [PRO$_j$ að raka hann$_i$/*sig$_i$].

I promised Harold to shave him/*refl (Maling 1986 ex. 14a)

In the discussion on A-movement above, I noted that *promise*-type verbs are problematic for many accounts of control, including the movement theory of control, even before reflexives are added into the discussion. The matrix subject (*ég*- 'I') seems to have moved over the matrix object (*Haraldi*- 'Harold), violating minimality.[26] To account for this, I assume (following Larson 1991, Hornstein 2001**)** that the object of *promise* (and of ditransitive subject-control verbs in other languages) is actually the complement of a null preposition. Other than sideward movement, the movement of *ég* to this matrix object position is unavailable because the object of *promise* (and of its Icelandic equivalent) is not directly merged with the root of the tree. (Also, for some reason, sideward movement is forbidden.) Consequently, movement from the embedded clause into this position is forbidden by the Extension Condition. I schematize this below.

111. promised [Prep I] [~~I~~ to shave him]

X

Since the Extension Condition should also apply to movement of the antecedent of the reflexive, that will be sufficient to explain the ungrammaticality of (110). Moving *anything* in the embedded clause into the matrix object position will be a problem.

112. I promised [Prep Harold] [~~I~~ to shave ~~Harold~~+sig]

X

[26] Although Maling assumes that the subject of a control verb is PRO, as indicated in the example above, I of course analyze control as movement of the controller from the subject of the embedded clause.

Haraldi could not move from the embedded clause to become the object of 'promise' because again, it would violate the Extension Condition.[27]

Some problems with local object binding of *sig* may follow from the same principle—but not all. For example, if the would-be binder of *sig* is inside a prepositional phrase, then the antecedent of *sig* could not have moved to that position.

113. Við töluðum við Jón_i um vandamál hans_i/*sín_i.

We talked to John about problems his/*refl

'We talked to John about his problems.' (Maling 1986 ex. 6b)

Jón's theta-position is the sister to a preposition, so if *Jón* is the antecedent of the reflexive, it would have to merge with the preposition rather than merging directly with the root of the tree containing *sig*. Assuming such sideward movement is not allowed, the Extension Condition rules out the movement of *Jón* into its theta-position, explaining why *Jón* cannot be the antecedent of *sig*.

However, in at least some examples, a verb may take two objects with no apparent prepositional case-marker.

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[27] As noted above in footnote 7, this account of *promise*-type verbs has to assume that Sideward Movement as in (Nunes 2001) is not an available option. Interestingly, some verbs with PP objects do have object-control (Howard Lasnik, p.c.), but *promise* does not.

(i) I_1 said to John_2 $\text{PRO}_{*1/2}$ to leave.

I will simply assume that whatever rules out A-movement into the PP object of *promise* does so both for moving controllers and moving SE-reflexives.

114. Jón$_i$ syndi Haraldi$_j$ föt á sig$_i$/sig$_j$/*hann$_i$/hann$_j$

John showed Harold clothes for sig$_i$/sig$_j$/ *him$_i$/him$_j$

'John$_i$ showed Harold$_j$ clothes for himself$_i$/himself$_j$/ him$_i$/ him$_j$.'

(Thráinsson 1991 ex. 10b)

According to Thráinsson (1991, 2007), at least some speakers accept object binding in this sentence. However, the object may also bind a pronoun instead. Given that in most local and SE uses of *sig*, it appears in complementary distribution with the pronoun, this is noteworthy. I take the presence of the pronoun as indicating that the sentence is ambiguous between a derivation in which the reflexive is possible, and a derivation in which it is not: to anticipate what I say below, there will be different numerations for the two possibilities. At any rate, other Icelandic speakers may disallow object binding altogether. In such cases, something new must be added to my grammatical model in order to rule out binding of *sig*.

I propose that the ungrammaticality of binding by objects follows from an economy condition, Merge over Move (from Chomsky 1995). When it is locally possible either to merge a new DP, or to move a DP from earlier in the tree, then it is preferable to merge a new DP. Being an economy condition, it will only apply when either possibility will have led to a convergent derivation. If merging instead of moving leads to a crashed derivation, then moving can be done instead.

Consider the derivation of (114) schematized below. Here is a derivation in which 'Harold' is the intended antecedent of *sig*.

115. show [clothes for [Harold + sig]]

At this point, 'show' still has an internal theta-role to assign. (I assume for now that it is assigned in Spec, VP, although a more complicated structure might actually be necessary.) Either 'John' can be merged into this theta-position, or 'Harold' can be moved there. But if 'John' is merged, then 'Harold' can move into subject position, leading to a convergent (though unintended) derivation as schematized below.

116. Harold showed John clothes for [Harold+sig]

This means that at the point in (115), it is possible to merge a new DP and end up with a convergent derivation. Consequently, by Merge over Move, it should be impossible to get the object binding interpretation of (114).

Merge over Move then works very well at explaining why object binding is not permitted in single-clause sentences, to the extent that object binding is actually not permitted. However, it may actually work too well at this. First, since object binding in (114) is permitted by some speakers, there will need to be a way to avoid prohibiting it. Second, without further assumptions, Merge over Move will rule out binding of *sig* not only by objects, but also by embedded subjects. Consider the following.

117. Hann$_i$ skipaði Haraldi$_j$ að raka sig$_{i/j}$ [Icelandic]

He$_i$ ordered Harold$_j$ to shave sig$_{i/j}$

meaning: He$_i$ ordered Harold$_j$ for Harold$_j$ to shave him$_i$/Harold$_j$.

Below I try to derive the local reading of this sentence, in which *Haraldi* (controller of the embedded subject) is the antecedent of *sig*.

When the embedded v^o is merged, the derivation will be as follows.

118. v^o shave [Harold+sig]

The next step is to merge or move the NP that will become the external argument of the verb. Merge over Move dictates that the sentence builder should merge *hann* rather than moving *Haraldi*, assuming this will not lead to a crash.

119. hann v^o shave [Harold+sig]

If this were done, then 'Harold' could ultimately be merged into matrix subject position, giving the unintended sentence:

120. Haraldi$_i$ skipaði hann$_j$ að raka sig$_i$

Given the grammaticality of nonlocal binding in (120), there should be no reason ever to allow the alternative derivation in which, back at the point in (118), the sentence builder had moved *Harold* instead of merging *hann*.[28] Merge over Move should prevent this.

To address this new concern, I propose that the local version of (117) actually does not come from the same numeration as the MD reading of (120). This will occur in such a way that at the step in (118), merging of *hann* is no longer a possibility.

2.6.3 The Numeration

I will assume, following Chomsky 1995, that sentences are derived from Numerations indicating what lexical items will be used and how often. Additionally, I will assume that these Numerations are divided into phases (as in Chomsky 2000, 2001). What is crucial for this account is that the phase be large enough to contain both the object and the subject. For the purposes of this work, vP is a phase. All lexical items from one phase must be merged, and all needs of the phase head filled via merger into its specifier, before any lexical items from the next phase may be merged.

For Chomsky 2001, some phases are also spell-out domains, which require movement to their specifiers. I will also assume that some phases are spell-out domains but I limit myself to one: I assume that finite CP is a spell-out domain and a phase, and I

[28] It could be argued that Merge over Move *does* apply, because *hann* and *Haraldi* need different case markings to be objects (even controlling objects) than to be subjects—the sentence in (120) is ungrammatical because the nouns have the wrong case. Assuming that case is already present (and checked) rather than assigned by a head, that would mean that the possibility of a long-distance reading does not compete with the local reading. By that logic, however, Merge over Move would not have ruled out object binding in the single-clause sentences, either. So I will have to assume that non-matching case is not the kind of potential crash that allows a derivation to circumvent Merge over Move.

assume that vP and nonfinite CP are phases without being spell-out domains. (In section 2.7.3, I discuss what would happen if vP were to be analyzed as a spell-out domain in addition to a phase.)

121. Phases and Spell-out domains: working assumptions

a. The Numeration is divided into phases, including vP and CP.

b. Finite CP (but not vP or nonfinite CP) is a spell-out domain

Dividing the numeration into phases is useful because when combined with Merge over Move, it can be used to derive the subject-orientation of SE reflexives. The Numeration will vary based on whether *sig* has a local or a medium-distance antecedent. For example, consider the local reading of (117), which is ambiguous between local and MD interpretations of *sig*.

The only NPs in the embedded vP will be its external argument (*Haraldi*), its internal argument (the NP headed by *sig*), and the antecedent of *sig*: depending on the reading, either *Haraldi* or *hann*. When *sig* refers to 'Harold', then *hann* is not present in the lowest vP phase at all. The only NPs in the embedded clause are the NP headed by *sig* and *Harold*. *Harold* starts out inside the NP containing *sig*, and moves to receive the external argument of *shave*. Thus, the lowest vP in (117) will then be derived as in (122a), coming from the Numeration in (122b).

122. a. $[_{vP}$ [~~Haraldi~~+sig] Haraldi v^{o}+shave $[_{DP}$ ~~Haraldi+sig~~]]
acc theta: shaver theta: shavee

b. vP's numeration: {raka, v^{o}, Haraldi, sig}

This numeration contains *sig* (which requires an antecedent) and 'shave', which is a two-place predicate. However, there is only one DP aside from *sig*. Therefore, this DP must be both *sig*'s antecedent and one of the arguments of 'shave'. Consequently, this numeration guarantees that *sig* will be locally bound. (Crucially, nothing can be merged from outside of the vP phase until all of vP's argument requirements are satisfied.)

To get MD binding of *sig*, an entirely different Numeration is necessary. In (123b), there are two DPs, aside from *sig*, in the lowest vP phase: *Haraldi* and *hann* 'he'.

123. a. $[_{vP}$ [Haraldi+sig] hann v°+shave $[_{DP}$ ~~Haraldi+sig~~]]
acc theta: shaver theta: shavee

b. vP's numeration: { hann, raka, v°, Haraldi, sig}

There is an extra DP that must be merged in the vP. Consequently, the antecedent of *sig* (*hann*) needs to be distinct from the local subject *(Haraldi*)—otherwise, there will not be enough places for all the DPs to merge into.[29] Therefore, *sig*'s antecedent DP cannot move to become the local subject, and *sig* cannot be locally bound. *Sig*'s antecedent

[29] In section 2.7.3 I consider an alternative possibility in which vP is a spell-out domain as well as a phase and its specifier is an escape hatch. If so, I need to make it so that nothing can be merged from the numeration directly into this escape hatch, to rule out derivations as in (i), where *Haraldi* locally binds *sig* and *hann* is introduced into the escape hatch.

(i) hann(no case or theta) ~~Haraldi~~+sig(acc) Haraldi(shaver) v°+shave ~~Haraldi+sig~~]

Luckily, Merge over Move will have this effect. *Haraldi* cannot be moved into a theta position given that *hann* could have been merged into the same theta position instead.

must move to a higher clause in order to get theta and Case; this leads to a MD interpretation of *sig*.

By dividing the numeration into phases, it can be guaranteed that the local and medium-distance uses of *sig* come from separate numerations. Hence, even with merge over move (which might seem to militate in favor of MD over local binding), it is possible for *sig* to have both local and MD readings. The numeration distinguishes between local and MD binding precisely because *sig* and its antecedent are both merged in the same phase.

Likewise, in sentences where object binding is permissible, I assume that the derivation is ambiguous between two numerations. In the version of (124) where a reflexive may be bound by *Haraldi*, I assume that this is because there is some phase including the verb and *Haraldi*, but not *Jón*. Within this phase, *Haraldi* may move to "show-ee" object position because *Jón* is not yet available to be merged with the verb.

124. Jón$_i$ syndi Haraldi$_j$ föt á sig$_i$/sig$_j$/*hann$_i$/hann$_j$

John showed Harold clothes for sig$_i$/sig$_j$/ *him$_i$/him$_j$

'John$_i$ showed Harold$_j$ clothes for himself$_i$/himself$_j$/ him$_i$/ him$_j$.'

(Thráinsson 1991 ex. 10b)

On the other hand, for speakers who disallow object binding altogether, or for those times when the speaker uses a pronoun rather than the reflexive, I assume that the smallest phase is the vP containing *show*. This vP contains all the theta positions in the sentence, including the external argument of *shave*—so it also contains all the nouns, or else the

derivation will crash when the remaining nouns have nowhere to get a theta-role. Then, if *Haraldi* is the specifier of *sig*, and [Haraldi+sig] is merged in as the object of 'for', then merge over move will put off moving *Haraldi* for as long as possible, with the effect that *Jón* will necessarily be merged into the object position and *Haraldi* will only be able to move to the subject position.

2.6.4 Overview

To sum up, I make several assumptions that are necessary for deriving the movement properties of *sig*'s antecedent. First, *sig*'s antecedent need not obey minimality, but is not able to cross a finite CP[30]. Thus, all non-logophoric uses of *sig* are bounded by the finite clause. Additionally, *sig* is subject-oriented (when it is subject oriented) due to a combination of two factors: Merge-over-Move causes *sig*'s antecedent to move into the highest theta-position in a phase, and a numeration is divided into vP and CP phases (so that the highest position is a subject).

2.7 Sample Derivations

Having laid out a number of assumptions, I will now include some sample derivations, showing how these assumptions interact to correctly account for the properties of *sig*. I start with a derivation of locally-bound *sig* in section 2.7.1, followed by a derivation of MD *sig* in section 2.7.2. I address binding across multiple infinitive clauses in section 2.7.3, and some concerns involving overgeneralization in section 2.7.4.

[30] An exception would be if the reflexive's antecedent is undergoing A' movement as part of a larger unit, and then later moves out of this unit into a theta-position.

2.7.1 Locally-bound *sig*

Consider the local reading of (125). Here, 'Harold' is the theme of 'order' and agent of 'shave'. Additionally, 'Harold' is the antecedent of *sig*, which is the theme of 'shave.'

125. Hann$_i$ skipaði Haraldi$_j$ að raka sig$_{i/j}$ [Icelandic]

He$_i$ ordered Harold$_j$ to shave sig$_{i/j}$

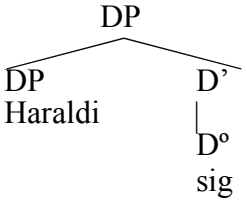
The local reading will start out with a numeration like that in (126). This numeration is divided into vP and CP phases.

126. {C$^o_{matrix}$, T$^o_{fin}$ { hann, skipaði, v^o, {að, T$^o_{-fin}$, {Haraldi, v^o, raka, sig}}}}

The only DPs in the lowest vP phase are *Haraldi* and *sig*. This will lead to a local reading as I show below.

First, merge *Haraldi* and *sig*. *Haraldi* is now covalued with *sig*, but it does not receive a theta-role. It will have to move for this.

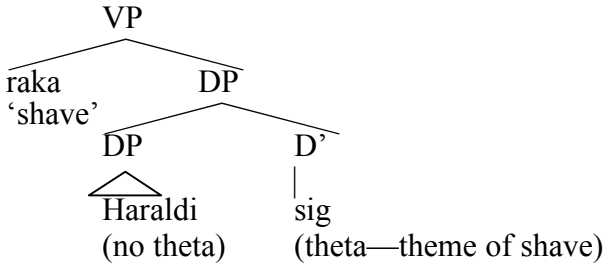
127.



128. {C$^o_{matrix}$, T$^o_{fin}$ { hann, skipaði, v^o, {að, T$^o_{-fin}$, {~~Haraldi~~, v^o, raka, ~~sig~~}}}}

Next, merge the verb, *raka* ‘shave’.

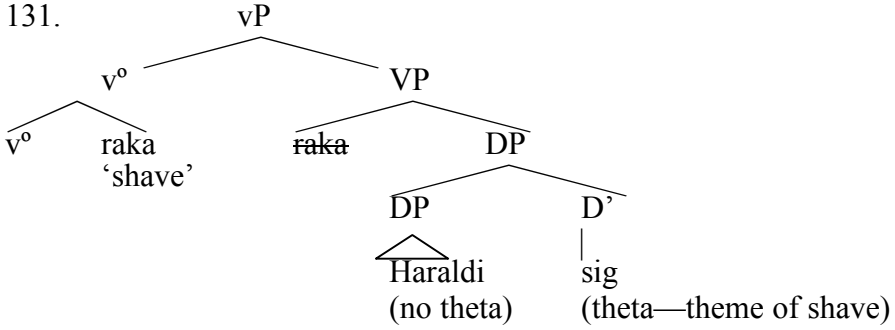
129.



130. {C^o_{matrix}, T^o_{fin} { hann, skipaði, v^o, {að, T^o_{-fin}, {~~Haraldi~~, v^o, ~~raka~~, ~~sig~~}}}}

Next, v^o is merged and the verb, ‘shave’, adjoins to it.

131.



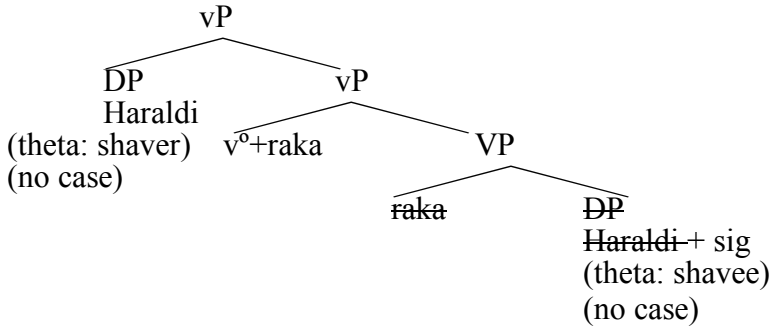
132. {C^o_{matrix}, T^o_{fin} { hann, skipaði, v^o, {að, T^o_{-fin}, {~~Haraldi~~, ~~v^o~~, ~~raka~~, ~~sig~~}}}}

Next, something needs to move or be merged in Spec, vP to become the agent of ‘shave.’ Crucially, I assume that nothing from outside vP’s numeration can be merged into the vP phase. Consequently, since *hann* is not in the current phase, it cannot be merged at this point. Since vP still needs an agent, and there are no DPs remaining to be merged from the numeration of vP, then the only choice is to move something. The two

apparent choices are the DP headed by *sig* and *Haraldi* itself. However, whatever moves into Spec, vP to get a theta-role cannot also get Case in that position. Thus, if the DP headed by *sig* moved to Spec, vP to get a theta-role, then it would not get to check accusative case. The antecedent, *Haraldi*, also cannot check accusative case because it does not yet have a theta role. Furthermore, if nothing were to check accusative case at this juncture, there would ultimately be a crash because only two remaining case checkers would be left (matrix v^o and matrix T^o), whereas there would be three DPs needing case checking.

Consequently, what has to happen is that *Haraldi* moves out of the DP headed by *sig* to get the external theta-role of 'shave.'

133.

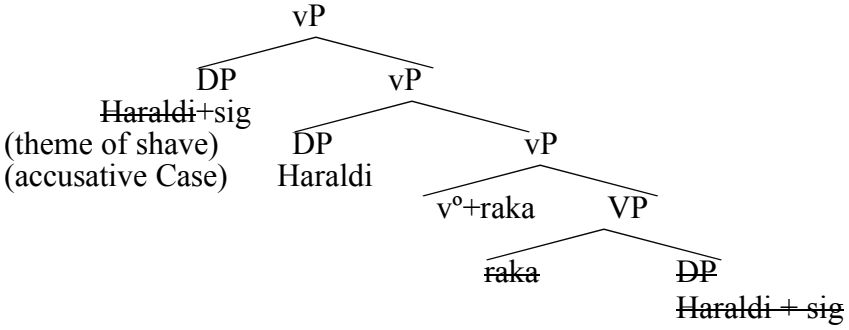


134. $\{C^o_{matrix}, T^o_{fin}$ { hann, skipaði, v^o, {að, T^o_{-fin}, {~~Haraldi~~, ~~v^o~~, ~~raka~~, ~~sig~~}}}}

At this point, *Haraldi* gets the external theta-role of 'shave', although it still lacks Case. Now that it is theta-marked, it will have to obey minimality in any future movements.

Next, the DP headed by *sig* moves to Spec, vP to check accusative case. (*Haraldi* cannot check case here because I assume that v^o cannot both assign a theta role and check case on the same DP.)

135.



136. $\{C^{o}_{matrix}, T^{o}_{fin}$ { hann, skipaði, v°, {að, T^{o}_{-fin}, {~~Haraldi~~, ~~v°~~, ~~raka~~, ~~sig~~}}}}

If the movement for accusative case is overt, then the verb has to subsequently move to a position higher than v°. In fact, Icelandic control clauses are argued to have v°→T° movement (see Thráinsson 2007, starting p. 450, for an overview), as indicated by the location of the verb relative to adverbs in sentences like the following.

137. Þau lofuðu ekki [að borða **aldrei** graut]. [Thráinsson 2007 ex. 8.136a]

They promised not [to eat **never** pudding]

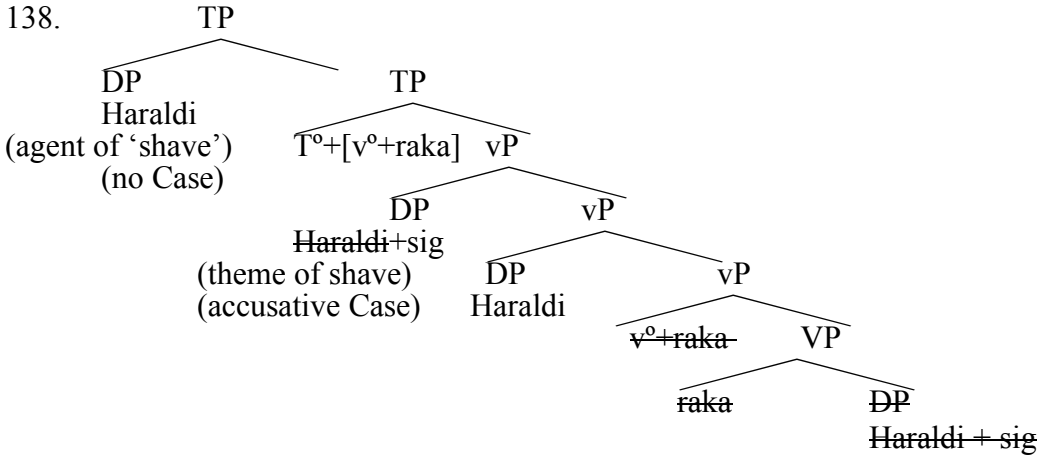
'They didn't promise never to eat pudding.'

However, even if there were a higher auxiliary verb preventing v°→T° movement of the main verb in a control clause, the verb would still have to move to a position higher than the object. Thus, I will assume there is another projection between v° and T° to which the verb moves (see for instance Koizumi 1993, 1995). For the meantime, however, I abstract away from this.

At this point, the most deeply embedded vP phase is completed, and v° does not project further. Now material from the next phase (nonfinite CP) is merged, starting with nonfinite T°. From here, the embedded subject A-moves to Spec, TP to satisfy the EPP.

(In this case, *Haraldi* is the only remaining DP without Case, so it is the only DP still able to undergo A-movement.)

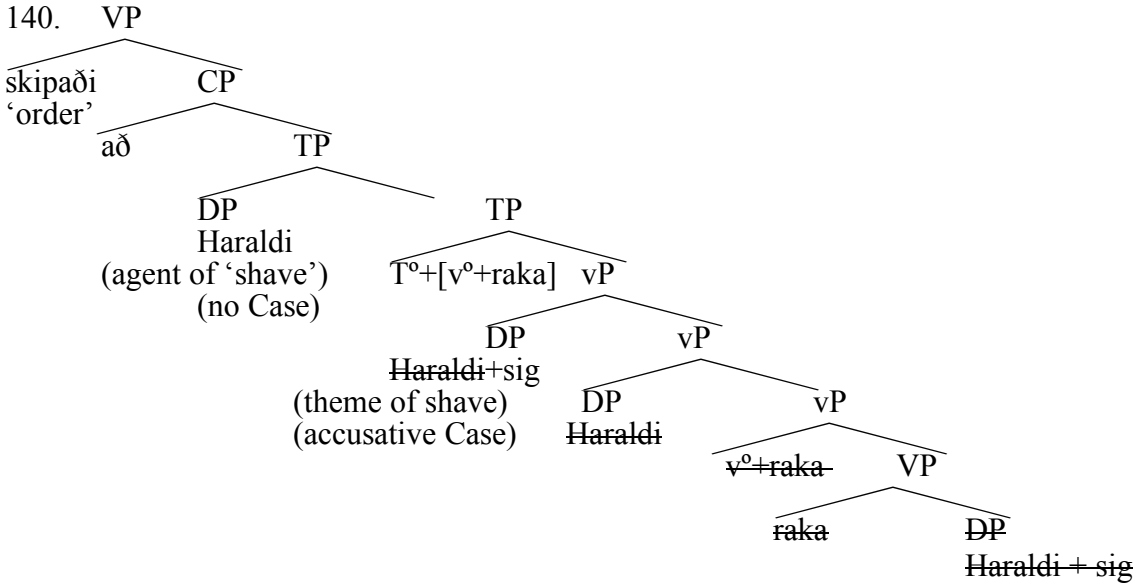
138.



139. {C^o_{matrix}, T^o_{fin} { hann, skipaði, vº, {að, ~~T^o_{fin}~~, {~~Haraldi~~, ~~vº~~, ~~raka~~, ~~sig~~}}}}

Skipping ahead a few steps, merge the complementizer *að*, completing the CP phase, and then merge the verb *skipaði* 'order.'

140.

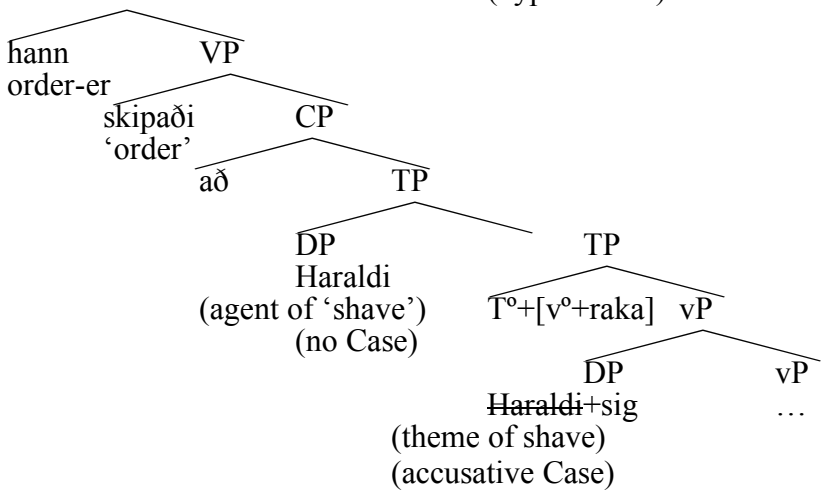


141. $\{C^{o}_{matrix}, T^{o}_{fin}\ \{$ hann, ~~skipaði~~, v^{o}, $\{$~~að~~, ~~T^{o}_{fin}~~, $\{$~~Haraldi~~, ~~v^{o}~~, ~~raka~~, ~~sig~~$\}\}\}\}$

At this point in the derivation, ‘order’ needs to assign the object theta-role to a DP. I assume this involves either moving or merging a DP into its specifier. It would now be locally possible either to move *Haraldi* into Spec, VP or to merge *hann* into this position.

By Merge over Move, the sentence builder must merge *hann* unless doing so would cause the derivation to crash. In fact, it turns out that the derivation would crash in such an event. Here is what would have happened if *hann* were merged. At the step when *hann* is merged, everything is fine.

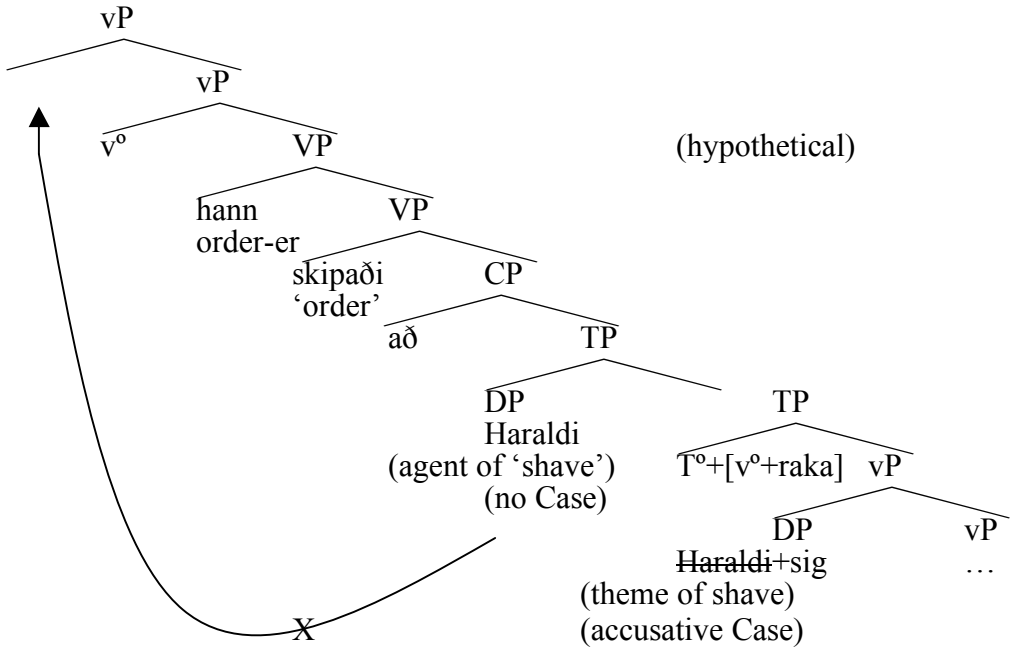
142. (hypothetical)



143. $\{C^{o}_{matrix}, T^{o}_{fin}, \{\cancel{hann}, \cancel{skipaði}, v^{o}, \{\cancel{að}, \cancel{T^{o}_{fin}}, \{\cancel{Haraldi}, \cancel{v^{o}}, \cancel{raka}, \cancel{sig}\}\}\}\}$

However, if *hann* is merged, then moving *Haraldi* would violate minimality. Since *Haraldi* already has a theta-role, it is subject to minimality and cannot move over another NP in a different A-position. Any movement into Spec, vP (whether for case or for a theta-role) would violate minimality because *Haraldi* would be moving over another A-position in Spec, VP.

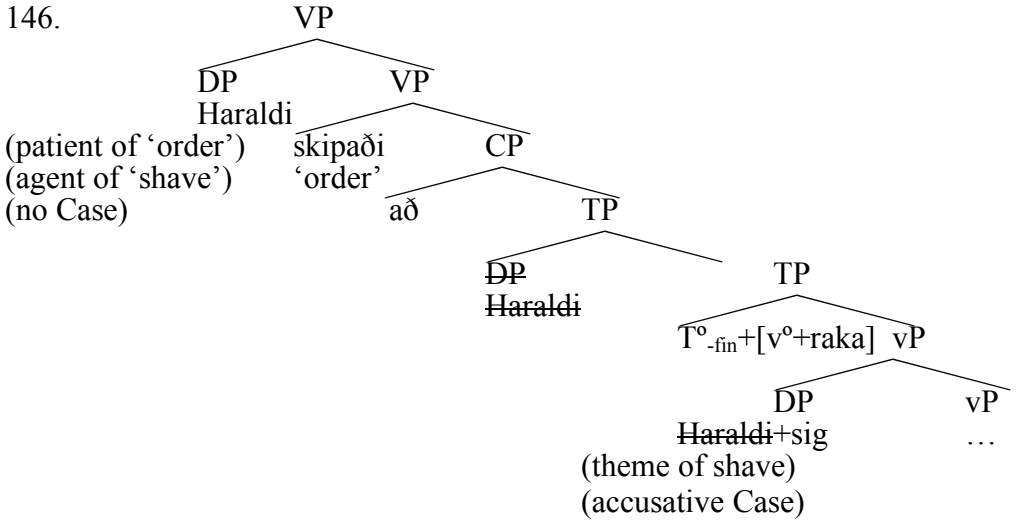
144.



145. {C^{o}_{matrix}, T^{o}_{fin}, {~~hann~~, ~~skipaði~~, ~~vº~~, {~~að~~, ~~T^{o}_{fin}~~, {~~Haraldi~~, ~~vº~~, ~~raka~~, ~~sig~~}}}}

Thus, although merging *hann* as the object of ‘order’ would have been more economical, it ends up crashing the derivation. Consequently, Merge over Move is inapplicable, so it is acceptable to move *Haraldi* instead of merging *hann* (back at the stage of the derivation demonstrated in (140). Moving *Haraldi* to Spec, VP gives the following structure. Notice that moving *Haraldi* out of CP does not require moving through Spec, CP, on the assumption that nonfinite CP is not a spell-out domain.

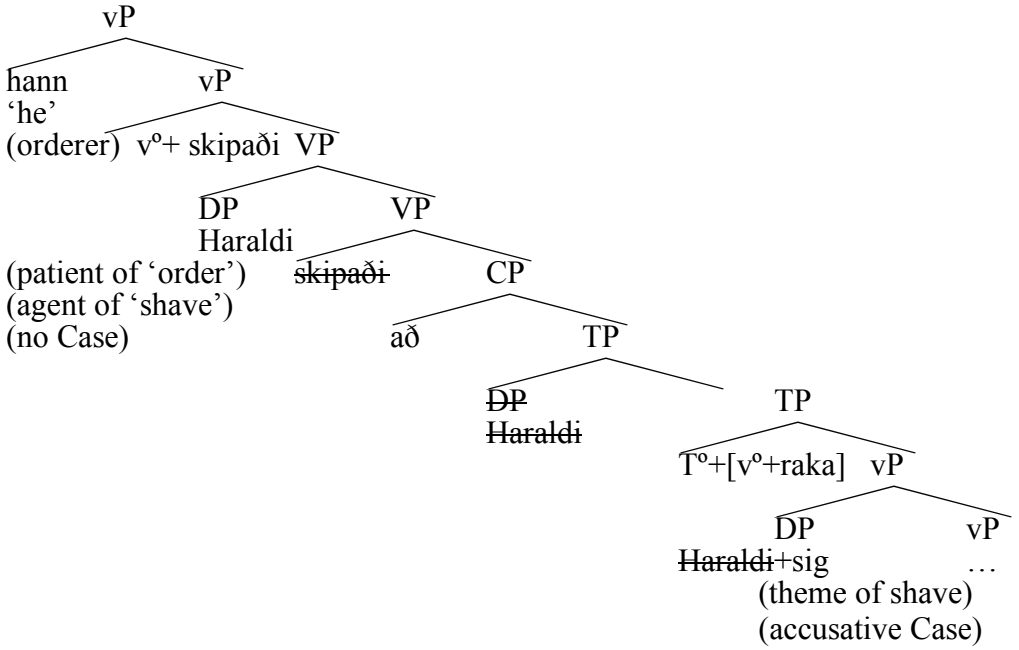
146.



147. {C^o_{matrix}, T^o_{fin}, {hann, ~~skipaði~~, v^o, {~~að~~, ~~T^o_{-fin}~~, {~~Haraldi~~, ~~v^o~~, ~~raka~~, ~~sig~~}}}}

Next, the v^o is merged and the verb adjoins to it. *Hann* is merged into Spec, vP, getting the external theta-role of ‘order’.

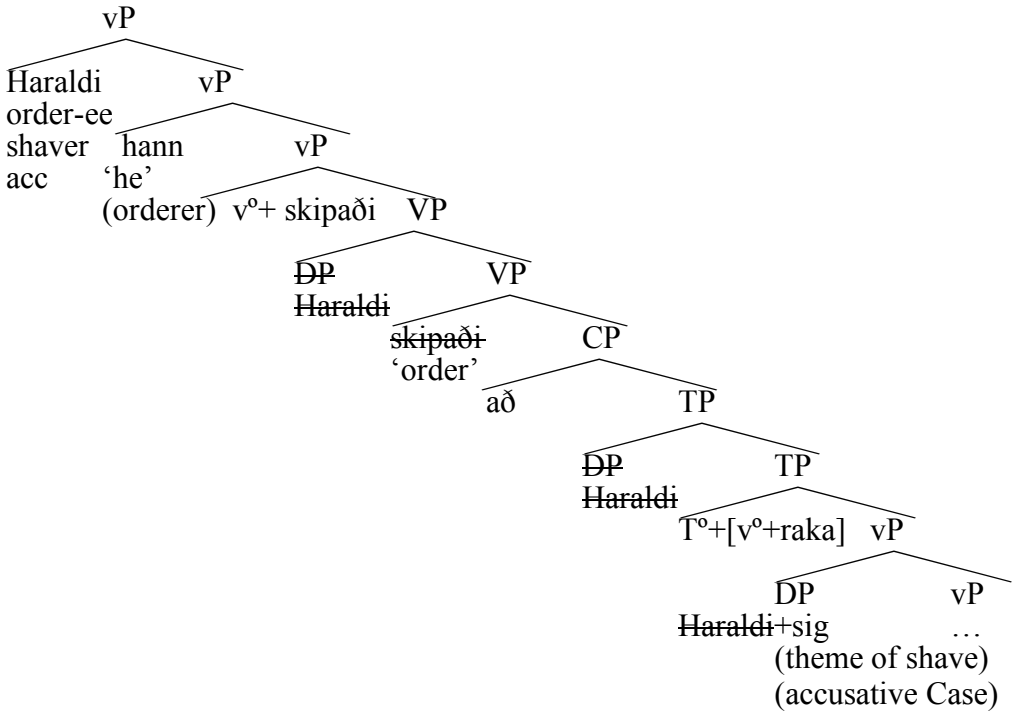
148.



149. {C^o_{matrix}, T^o_{fin}, {~~hann~~, ~~skipaði~~, ~~v^o~~, {~~að~~, ~~T^o_{-fin}~~, {~~Haraldi~~, ~~v^o~~, ~~raka~~, ~~sig~~}}}}

Finally, *Haraldi* moves into Spec, vP to check accusative case. This movement does not violate minimality since the only DP it moves over is also in Spec, vP.

150.



151. {C^o_{matrix}, T^o_{fin}, {~~hann~~, ~~skipaði~~, ~~vº~~, {~~að~~, ~~Tº fin~~, {~~Haraldi~~, ~~vº~~, ~~raka~~, ~~sig~~}}}}

Now the matrix vP phase is completed. From here, finite Tº is merged, and *hann* moves into Spec, TP. If there is a null matrix complementizer of some sort, that will also be merged, at which point the derivation is complete.

In summary, when *sig* is locally bound, it is because the phase containing *sig* has only enough NPs to satisfy the argument-structure requirements of the predicate. This means that even though there is a preference for merge over move, *sig*'s antecedent will have to undergo movement within the phase in order to satisfy the argument structure of

the predicate. Once *sig*'s antecedent has moved to a theta-position, it then behaves like any other A-moving NP.

2.7.2 MD-bound *sig*

Consider the medium-distance reading of (152), in which *sig* is bound by the matrix subject. Here, 'Harold' is the theme of 'order' and agent of 'shave'. Meanwhile, *hann* is the agent of 'order' and also the antecedent of *sig*, which is the theme of 'shave.'

152. Hann$_i$ skipaði Haraldi$_j$ að raka sig$_i$ [Icelandic]

He$_i$ ordered Harold$_j$ to shave sig$_i$

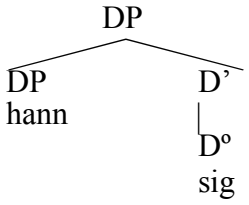
The MD reading will start out with a numeration like that in (153).

153. {C$^o_{matrix}$, T$^o_{fin}$, {skipaði, v^o, {að, T$^o_{-fin}$, {Haraldi, v^o, raka, sig, hann}}}}

The lowest TP phase now contains not only *sig* and its antecedent *hann*, but also a third noun, *Haraldi*. This will have the effect that *sig* is not bound within the first TP.

Since the ultimate antecedent of *sig* is *hann*, we start by merging *hann* and *sig*. (Had we merged *Haraldi* with *sig* instead, the derivation would have ended up crashing due to case mismatch.) *Hann* is now covalued with *sig*, but it does not receive a theta-role. It will have to move for this.

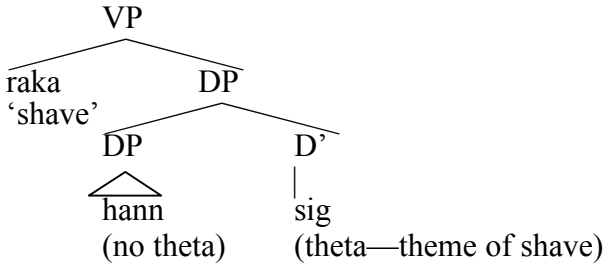
154.



155. {C^o_{matrix}, T^o_{fin}, {skipaði, v^o, {að, T^o_{-fin}, {Haraldi, v^o, raka, ~~sig~~, ~~hann~~}}}}

Next, merge the verb, *raka* ‘shave’.

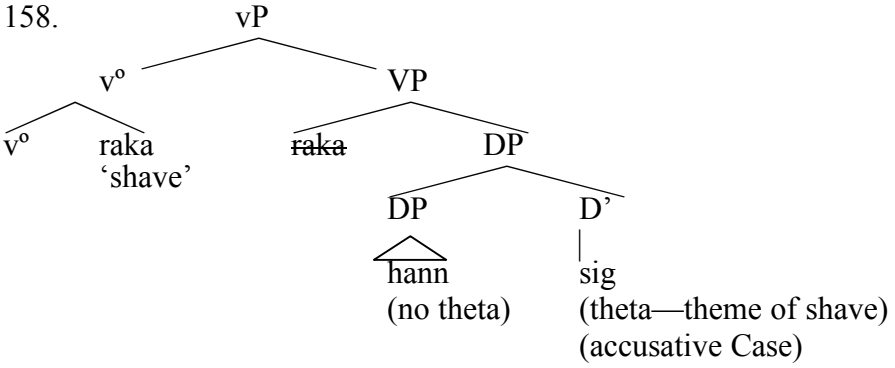
156.



157. {C^o_{matrix}, T^o_{fin}, {skipaði, v^o, {að, T^o_{-fin}, {Haraldi, v^o, ~~raka~~, ~~sig~~, ~~hann~~}}}}

Next, v^o is merged and the verb, ‘shave’, adjoins to it.

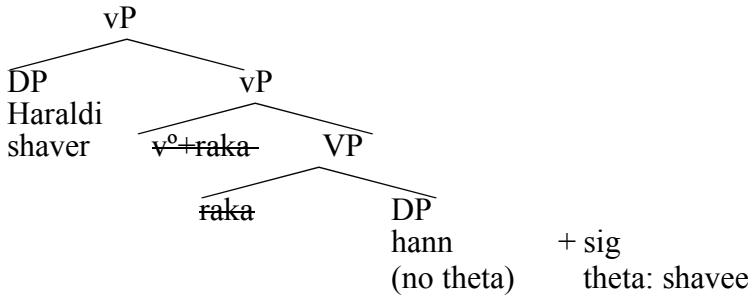
158.



159. {C^o_{matrix}, T^o_{fin}, {skipaði, v^o, {að, T^o_{-fin}, {Haraldi, ~~vº~~, ~~raka~~, ~~sig~~, ~~hann~~}}}}

Again, something needs to become the agent of 'shave.' The agent cannot be *sig*, since *sig* already has Case. This leaves the choice of moving *hann* or merging *Haraldi*. By Merge over Move, the sentence builder needs to merge *Haraldi* rather than moving *hann* unless doing so will cause a crash. (There is possibly an additional constraint against vacuous merger of DPs. If *Haraldi* must be merged within the lower TP but is not merged into a theta-position—or into another relevant first-merge position such as the sister of *sig*-- it is unclear what it should be doing in the lower phase at all.)

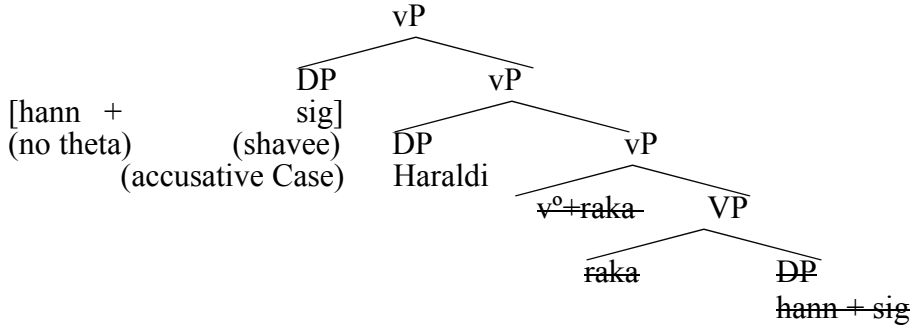
160.



161. {C^o_{matrix}, T^o_{fin}, {skipaði, v^o, {að, T^o_{-fin}, {~~Haraldi~~, ~~v^o~~, ~~raka~~, ~~sig~~, ~~hann~~}}}}

Now that *Haraldi* has been merged, something else must move to Spec, vP to check accusative case (on the assumption that v^o can't assign a theta-role and check case on the same DP). Since *hann* lacks a theta-role, it would be problematic for it to move to a case position—this would freeze its further A-movement so it would never get a theta role, causing a crash. The only remaining DP is the one headed by *sig*, so that moves to Spec, vP to check accusative case. Notice that although *sig* has now received a theta-role and checked case, *hann* (still in *sig*'s specifier) lacks both theta and case.

162.

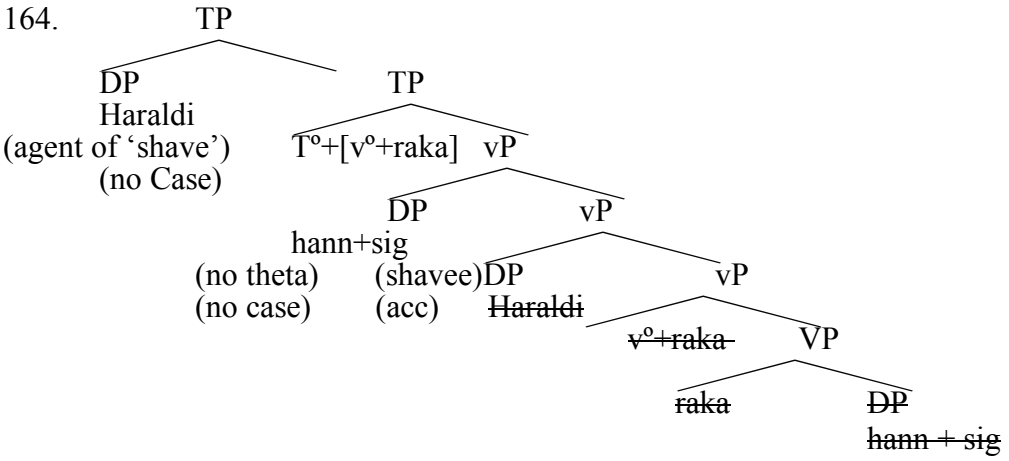


163. {C^o_{matrix}, T^o_{fin}, {skipaði, v^o, {að, T^o_{-fin}, {~~Haraldi~~, ~~v^o~~, ~~raka~~, ~~sig~~, ~~hann~~}}}}

This completes the lowest vP phase. As before, if this movement is overt, then the verb has to subsequently move to a position higher than v^o. I continue to abstract away from what this position may be.

Next the T^o is merged, and the embedded subject A-moves to Spec, TP.

164.

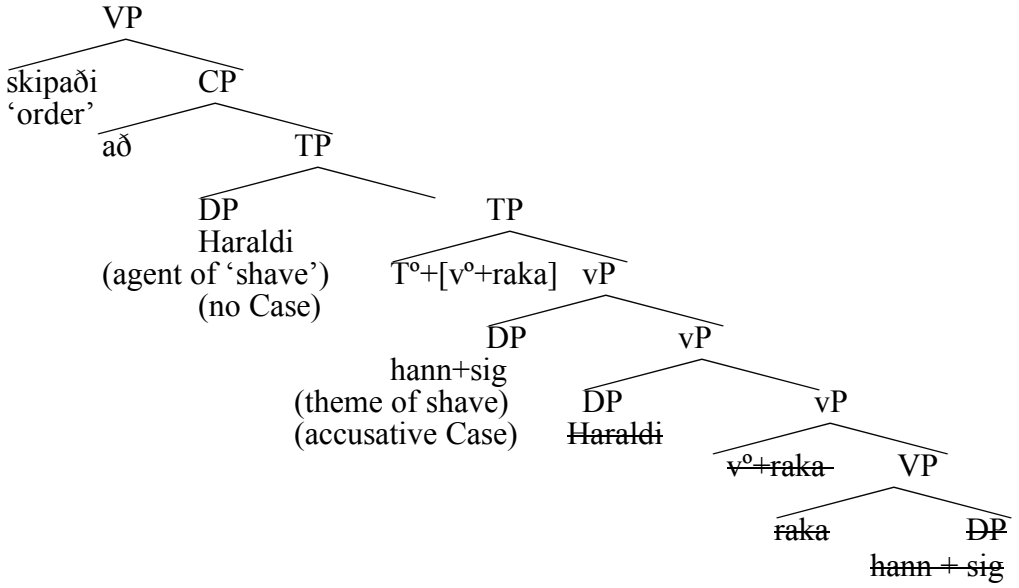


165. {C^o_{matrix}, T^o_{fin}, {skipaði, v^o, {að, ~~T^o_{-fin}~~, {~~Haraldi~~, ~~v^o~~, ~~raka~~, ~~sig~~, ~~hann~~}}}}

Next the complementizer *að* is merged, completing the embedded CP phase. (I continue to assume that this is not a spell-out domain, since it is nonfinite. This enables

A-movement across it even without anything moving through Spec, CP.) Starting on the matrix vP phase, merge the verb *skipaði* ‘order.’

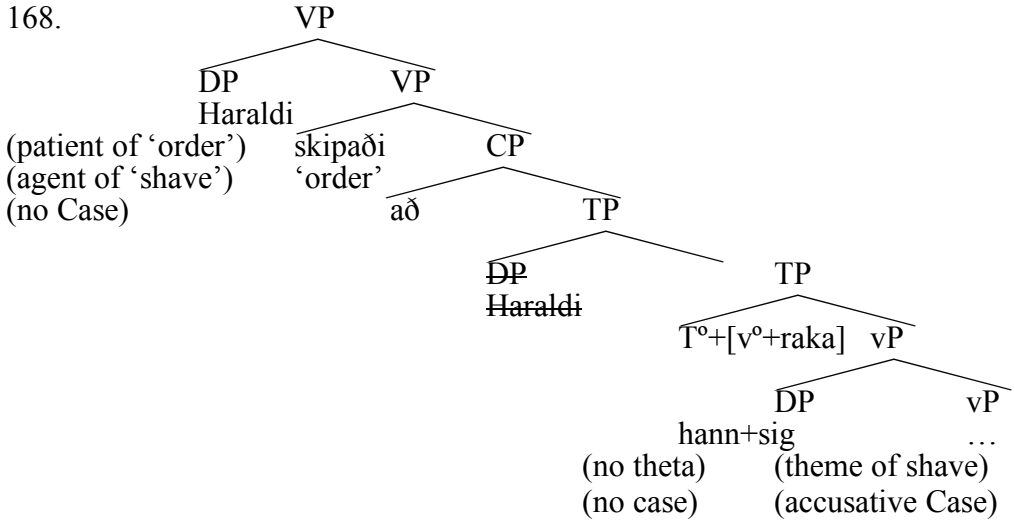
166.



167. $\{C^{o}_{matrix}, T^{o}_{fin}, \{$~~skipaði~~, v^{o}, $\{$~~að~~, ~~T^{o}_{fin}~~, $\{$~~Haraldi~~, ~~v^{o}~~, ~~raka~~, ~~sig~~, ~~hann~~$\}\}\}\}$

Now it is time for ‘order’ to assign an internal theta-role to a DP. There is no new DP to be merged. At this stage, it would have been acceptable either to move *Haraldi* or to move *hann* into this position. But if *hann* is moved, it will then block further movement of *Haraldi* into Spec, vP, as *Haraldi* would violate minimality if it moved over *hann* later. Instead, move *Haraldi* to Spec, VP. Note that A-movement out of the nonfinite CP is acceptable even without going through Spec, CP, because only finite CP is a spell-out domain.

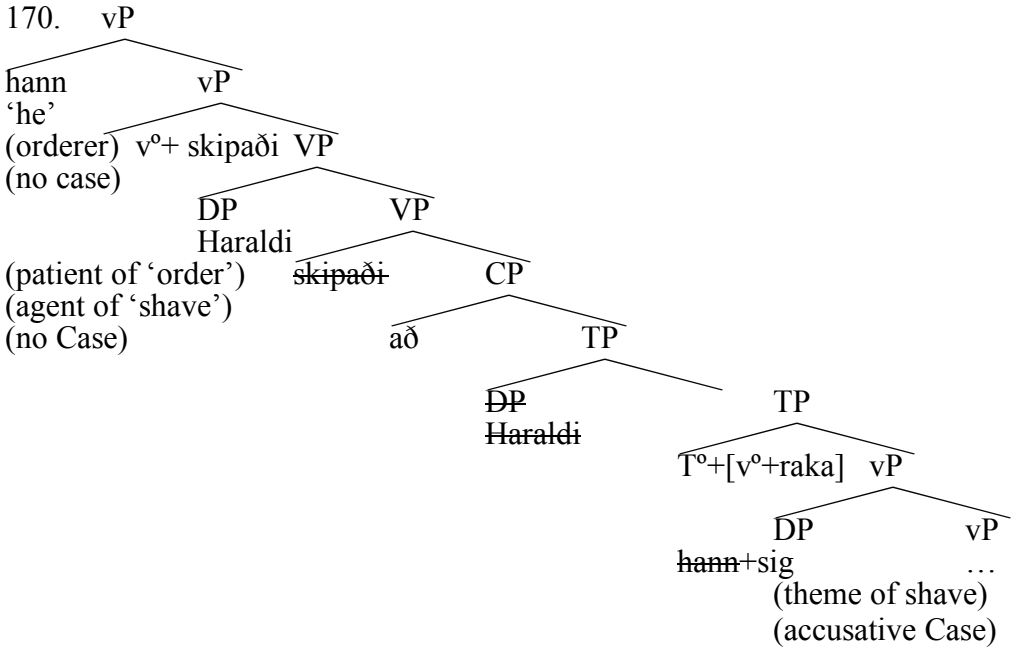
168.



169. {C^{o}_{matrix}, T^{o}_{fin}, {~~skipaði~~, v^{o}, {~~að~~, ~~T^{o}_{fin}~~, {~~Haraldi~~, ~~v^{o}~~, ~~raka~~, ~~sig~~, ~~hann~~}}}}

Next, the v^{o} is merged and the verb adjoins to it. *Hann* moves into Spec, vP, getting the external theta-role of ‘order’. This movement does not violate minimality, because until *hann* moves to Spec, VP, it does not have a theta-role and does not have to obey minimality. This is key: while the control DP (here, *Haraldi*) cannot skip any projection with an A-position in it, the antecedent of *sig* (here, *hann*) can.

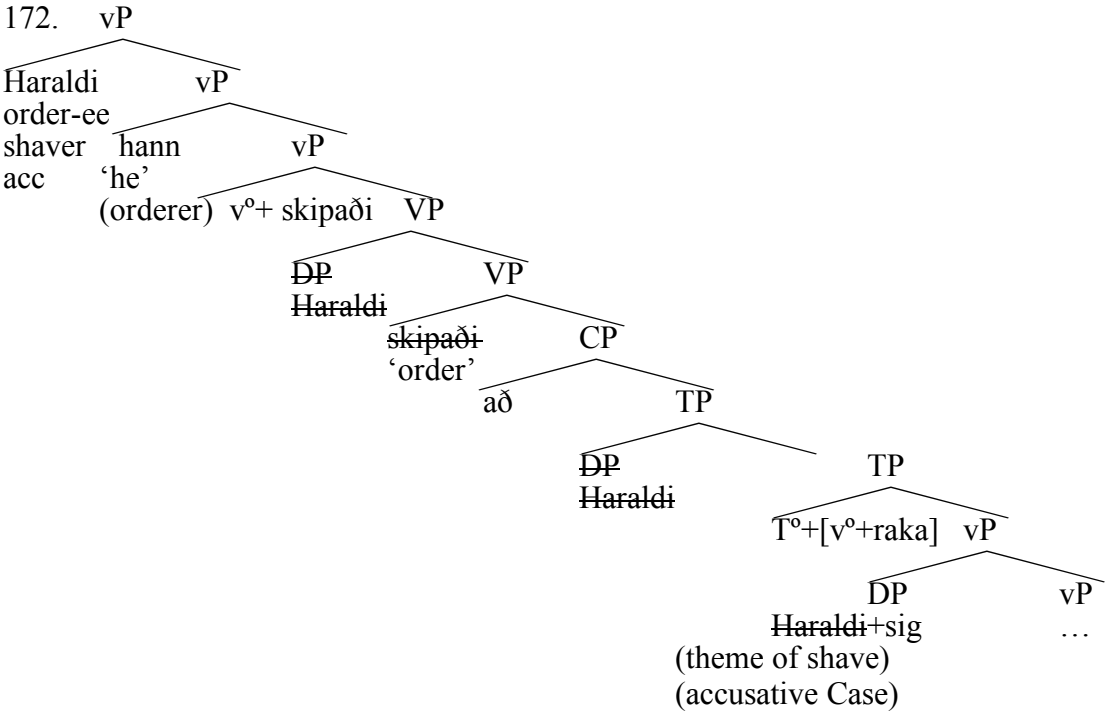
170.



171. $\{C^{o}_{matrix}, T^{o}_{fin}, \{\cancel{skipaði}, \cancel{v^{o}}, \{\cancel{að}, \cancel{T^{o}_{fin}}, \{\cancel{Haraldi}, \cancel{v^{o}}, \cancel{raka}, \cancel{sig}, \cancel{hann}\}\}\}\}$

Finally, *Haraldi* moves into Spec, vP to check accusative case. This movement does not violate minimality since the only DP it moves over is also in Spec, vP.

172.



173. $\{C^{o}_{matrix}, T^{o}_{fin}, \{\cancel{skipaði}, \cancel{v^{o}}, \{\cancel{að}, \cancel{T^{o}_{fin}}, \{\cancel{Haraldi}, \cancel{v^{o}}, \cancel{raka}, \cancel{sig}, \cancel{hann}\}\}\}\}$

From here, matrix Tº is merged, and *hann* moves to Spec, TP to check nominative case. All is settled.

To sum up, in MD movement, the antecedent of the reflexive is prevented from moving to a local theta-position because there are too many other NPs in the phase that require theta-roles. The argument structure of the predicate is satisfied without there ever being cause for the antecedent to move away from its sister the reflexive. Luckily, the antecedent of the reflexive is able to move into the higher clause to receive a theta-role there. Moreover, even if control also involves movement, it has different properties than the movement of the reflexive's antecedent because the control DP receives a theta-role on first merger, whereas the antecedent does not. This accounts for why control obeys

the minimal distance principle (giving object control in ditransitives) whereas SE reflexives have subject antecedents.

2.7.3 Binding out of multiply embedded infinitive clauses

MD reflexives may be bound from outside multiple clauses, as long as none of these clauses are finite. Additionally, the MD reflexive does not have to have accusative case; it may also have quirky case or be the object of a preposition. Both of these are exemplified in the following sentence (which is from Norwegian, not Icelandic).

174. Jon$_i$ bad oss forsøke å få deg til å snakke pent om seg$_i$. (Norwegian)
Jon asked us try to get you to talk nicely about REFL
(Hellan 1991 ex. 30, cited in Reinhart and Reuland 1991)

My current account can handle multiply-embedded infinitives the same way as singly embedded ones, as I discuss below. These provide evidence in favor of not treating vP as a spell-out domain, just as the embedded single infinitives provide evidence in favor of not treating nonfinite CP as a spell-out domain. I discuss this below.

If *Jón* is the antecedent of *seg*, then on my account it starts out in the most deeply embedded vP phase, along with 'you' and *seg*. This is schematized below.

175. [$_{vP}$ you v^o+talk nicely about [Jon+seg]]
(theta: talker)

Since *seg* is the object of a preposition, it presumably does not need to move to Spec, vP to get case. Consequently, if vP were a spell-out domain, *Jon* would be unable to move out of it into a higher spellout domain.

Perhaps it could be stipulated that even the PP object needs to move to the specifier of vP for some reason.

176. [$_{vP}$ [about Jon+seg] you v^{o}+talk nicely ~~about [Jon+seg]~~]
(theta: talker)

In this event, *Jon* would be able to escape the vP since it is not spelled-out with the vP's complement.

However, that would still pose a problem because the antecedent of *seg* gets its theta role in a position outside of multiple vP phases. Even if *Jon* could escape the first vP, it needs to escape the second vP as well. Unless *seg* needs to move to the vP with 'try' to get case, then there would be no reason that *Jon* could avoid being spelled-out at the end of the second vP phase. The movement schematized below, for instance, would definitely be ruled out.

177. Jon asked us to [$_{vP}$ try to get you to [$_{vP}$ talk nicely about [~~Jon~~ + sig]]]

Notice that the movement in (177) would not violate minimality at all, since *Jon* may skip over as many A-positions as it likes until it gets a theta-role. However, if vP were a spell-out domain, then *Jon* would need some way to get to its escape hatch. Movement

of the constituent containing *Jon* and headed by *seg* would not be motivated by case in any obvious way.

Thus, if vP is to be a spell-out domain, it would have to allow movement of the reflexive's antecedent to its specifier, even in instances when such movement would not provide the antecedent with a theta-role or a case. To the extent that this movement is considered undesirable, it would be problematic (in my account) to treat vP as a spell-out domain.

Notice that this account already assumes that not all phases are spell-out domains, as long as nonfinite CP is counted as a phase. It must crucially be permissible for movement of the antecedent to cross a nonfinite CP, but not a finite CP. Otherwise, MD reflexives would not be bounded by finite clauses. Of course, this could be circumvented by proposing that nonfinite CP is not a phase, and only finite CP is—in my account, the explanatory work that a divided numeration does is mainly done by vP (which is where all the DPs are introduced), not CP. Alternately, nonfinite CP could be both a phase and a spell-out domain, but it could allow A-movement through its specifier whereas finite CP does not. For the moment, however, I will assume all CPs and vPs are phases, but only finite CPs are spell-out domains.

2.7.4 Prohibiting 'vacuous merges'

A trouble with my account of SE reflexives is that it is over-permissive: if NPs do not need to be first merged into theta-positions, then various ungrammatical sentences have no obvious means of being ruled out. For example, consider the sentence in (178).

178. *John tried to seem that Mary is a genius.

As a native English speaker, I can confirm that this sentence does not sound good, but my account so far does not prevent its generation. First, merge John into the nonfinite Spec, TP of the embedded clause. John receives neither a theta-role nor case in this position, but it checks an EPP feature on nonfinite T°, assuming nonfinite T° has such a feature.

179. [$_{TP}$John T° [$_{vP}$ ~~John~~ v° tried [$_{TP}$ ~~John~~ to seem [$_{CP}$ that Mary is a genius]]].

[nom] [theta: tryer]

John does not get a theta-role in its first merge position, but it can subsequently move to receive the agent theta-role from try (in the matrix Spec, vP) and then to check nominative case (in the matrix spec, TP). If John is allowed to merge into the embedded Spec, TP, then I cannot see how to rule out this sentence. Consequently, my account needs a way to rule out the merging of John into Spec, TP. I consider several possibilities.

A possibility I first considered, but now reject, is that a version of theta-criterion rules out this derivation. The version of the theta-criterion that I have been assuming requires that the predicate assign each theta-role to an argument; but it says nothing about whether a merged NP must receive a theta-role at first merge. In my account, at least, this is not required, since the sister of a reflexive does not receive a theta-role. Furthermore, there are other NPs, expletives, that never receive a theta-role at all.

180. It seems that Mary is a genius.

It seems closer to say that what I want to do is rule out a first-merge that is basically vacuous. Merging an SE reflexive with its DP sister is not vacuous, even though the sister does not receive a theta-role, because the SE reflexive is getting covalued with its sister. Howard Lasnik (p.c.) has suggested that something like Full Interpretation can be used in this explanation. Full Interpretation states that no uninterpretable features should reach either the PF or the LF interface. However, it is not clear that Full Interpretation is actually violated in the derivation in (179), either. John acquires a theta-role, and receives case, before the end of the derivation. It's true that John has not gotten a theta-role or checked case while still in the embedded clause, but as long as it avoids getting spelled-out before such movement happens—which it should, since the first spell-out domain is finite CP—then these uninterpretable features will not reach the interface.

Perhaps what I want, then, is some kind of restriction on vacuous merge. Intuitively (not that intuition is necessarily reliable, in matters of grammar), the problem with merging John in the embedded Spec, TP is that such a merge is vacuous: no needs of either John or of its TP sister are being met by this merge. There is no case checking, no theta role assignement, and no other feature checking and/or covaluation such as whatever goes on when an SE reflexive is merged with its sister. There is a possible exception: if nonfinite T° has an EPP feature, then merging John into Spec, TP will satisfy this EPP feature, in which case the merge could not be said to be vacuous. Consequently, I will be (tentatively) adopting the proposal in Epstein and Seely 2006 that

nonfinite Spec, TP does not have an EPP feature and NPs do not move through its specifier (or, in this case, merge into it).[31] In that case, merging John into the embedded Spec, TP is actually vacuous and is ruled out by some kind of principle disallowing vacuous merges.

2.8 MD reflexives: a summary

To summarize, the properties of Icelandic *sig*, in its local and MD uses, are compatible with an account in which a reflexive and its antecedent start out as sisters, and the antecedent moves on to a theta-position. I propose a suite of assumptions under which such an account works. First, reflexives like *sig* must be special in that they allow a DP to merge with them (as a sister or a specifier) without immediately receiving a theta-role. Second, DPs without theta-roles must be able to skip over A-positions up until the point that they merge into a theta position for the first time. Third, a combination of vP phases and merge-over-move accounts for the fact that reflexives such as *sig* are subject-oriented. Finally, the fact that *sig* needs an antecedent in the first finite clause follows from finite CP being a spell-out domain. Unless a DP can move through Spec, CP (presumably an A-bar position), it cannot get out of the first finite clause.

[31] I am grateful to Norbert Hornstein, p.c., for this suggestion.

Chapter 3: Long-Distance Reflexives, Movement, and Point-of-View

3.1 Long-distance reflexives: an introduction

I mentioned earlier that *sig* has long-distance uses as well: it can be bound from outside a finite clause.

181. **Jón** segir [að María elski **sig/hann**]
John says (ind) that Mary loves (subj) self/him
'John$_i$ says that Mary loves him$_i$.'
(Sigurðsson 1990 ex. 4, from Thráinsson 1976, 1979, 1990)

There are pronouns in a variety of other languages that share this property with Icelandic *sig*. In particular, I will be considering Mandarin *ziji*, Japanese *zibun*, and Kannada *tannu*. In this section, I will briefly introduce these pronouns and discuss some properties they share that make me think it is worthwhile to explain them using a single account, if possible. I will elaborate on some of these properties in later sections.

Like LD *sig*, these pronouns may be bound from outside of a finite clause—though unlike with *sig*, the finite clause does not obviously have to be subjunctive.

182. Lisi$_i$ shuo [Zhangsan chang piping ziji$_i$] (Mandarin)
Lisi say Zhangsan often criticize self
'Lisi$_i$ says that Zhangsan often criticizes him$_i$."

[Huang and Liu 2001: 156. ex. 35a]

183. Taroo-ga Ziroo$_i$-ni [$_S$ Hanako-ga zibun$_i$-o nikunde-iru to] itta (Japanese)

Taro-Nom Ziro-Dat Hanako-Nom self-Acc hate Comp said

'Taro said to Ziro$_i$ that: 'Hanako hates me$_i$.''

[Aikawa 1999:171, from Kuno 1973]

184. raama$_i$ [taanu$_{i,*j}$ tumba jaaNa anta] heeLuttaane (Kannada)

Rama self very clever COMP says

'Rama$_i$ says that self$_{i,*j}$ is very clever.' [Amritavalli 2000 ex. 9]

Also like *sig*, these pronouns have local reflexive uses as well.

185. Zhangsan$_i$ yiwei ziji$_i$ de erzi zui congming (Mandarin)

Zhangsan thought self 's son most clever

'Zhangsan though that his son was the cleverest.' [Huang and Liu 2001: 168, ex. 71]

186. John$_i$-wa zibun$_i$-o nikunde-iru (Japanese)

John-Top self-Acc hate

'John hates/blamed himself.' [Aikawa 1999]

187. avanu$_i$ tannannu$_i$ *hoDeda/ hoDedu-koNDa (Kannada)

he$_i$ self-acc beat-tns-agr/beat-verbal reflexive-tense-agr

'He$_i$ beat *self$_i$/ himself$_i$.' [Amritavalli 2000 ex. 1c]

I should note that as with *sig*, there are conditions on when these pronouns may be bound locally. In addition to *ziji*, Mandarin has the necessarily local reflexive *ta-ziji*. (Without the *ziji*, *ta* is a Mandarin nonreflexive pronoun.) In Japanese, the preferred locally-bound reflexive form is *zibun-zisin*, depending on the verb of which the reflexive is the object. For example, had the verb in (186) been changed to *ketta* 'kicked', *zibun* without *zisin* would not have been acceptable (Aikawa 1999). This is similar to how the compound form *sjálfan sig* is often used for local binding in Icelandic, though Icelandic is unusually lenient in allowing bare *sig* to be used locally. Finally, in Kannada, local binding of *tannu* requires the presence of a verbal reflexive marker.

Thus, using the term "reflexive" to describe these words may be misleading or at least non-obvious, as these words are often not local reflexives unless additional morphemes are added. What is clear is that these words share a number of properties with long-distance *sig*, making it desirable to explain them similarly in the grammar. One property they all share is animacy. Long-distance *sig* requires an animate antecedent ((188)b is therefore ungrammatical even though (188)a, otherwise identical, is fine), though local *sig* does not (189).[32]

[32] Given my similar derviations for MD and local *sig*, my account predicts that MD *sig* should be allowed to be inanimate just as local *sig* is. Unfortunately, I was unable to find a use of MD *sig* with an inanimate controller that was not degraded, though, notably, I was also unable to find a use of nonreflexive pronouns with an inanimate antecedents in a comparable position. Consider (i).

188. a. Jón$_i$ krafðist þess [að við hugsuðum stöðugt um sig$_i$.

John demanded it that we thought(sbj) constantly about REFL

'John demanded that we would constantly think about him.'

b. *Þetta vandamál$_i$ krafðist þess [að við hugsuðum stöðugt um sig$_i$.

This problem demanded it that we thought(sbj) constantly about REFL

(Thráinsson 2007 ex. 9.25)

(i) *Þetta vandamál fékk okkur til að hugsa stöðugt um sig
this problem got us (= caused us) PCL to think constantly about SIG
(Halldór Sigurðsson (p.c.))

Binding of *sig* by the inanimate subject 'this problem' is degraded here. However, binding of a nonreflexive pronoun in the same position is nearly as bad.

(ii) *?Þetta vandamál fékk okkur til að hugsa stöðugt um það
This problem got us (= caused us) PCL to think constantly about IT
(Halldór Sigurðsson (p.c.))

Halldór Sigurðsson (p.c.) notes that the use of an inanimate subject in this construction is itself a little degraded, in Icelandic, but that it is still much better without pronoun binding than with it (hence (iii)a is mostly good and (iii)b is worse.

(iii) (a) (?) Þetta vandamál fékk okkur til að hugsa stöðugt um stærðfræði
This problem got us PCL to think constantly about mathematics
(b) *?Þetta vandamál fékk okkur til að hugsa stöðugt um það
This problem got us PCL to think constantly about IT

In conclusion, it is not clear that MD *sig* may take an inanimate binder, but the reasons for this are not obviously due to the properties of *sig*, since pronouns in the same position are also degraded with an inanimate binder.

189. Þetta vandamál$_i$ minnir okkur stöðugt á sig$_i$.

This problem reminds us constantly of REFL

'This problem reminds us constantly of itself.' (Thráinsson 2007 ex. 9.25)

Like *sig*, the reflexives *ziji* (Tang 1989), *zibun*[33] and *tannu* (Amritavalli 2000: 50) are also reported to only allow animate subjects (though they differ in having this be true for local binding too). Here is an example with *ziji*.

190. *men guangshangle ziji

door closed self

'The door closed iteself' (Tang 1989)

They may all be bound by a long-distance antecedent, generally but not always a subject. Their antecedent is usually either a point-of-view holder of some sort, or someone with whom the speaker is empathizing: in Sells's (1987) terms they must act as a Source (speaker), Self (person whose thoughts or emotions are represented), or Pivot (person used as a reference point for deixis). In section 3.3, I elaborate on this.

Finally, they may sometimes be used with no antecedent in a sentence, as I discuss below in section 3.3.5.3. These uses again seem to involve the LD reflexive referring to someone whose speech or thoughts are being represented.

I have mentioned long-distance and local uses of these reflexives but in fact, I think that like *sig*, at least some of these have medium-distance uses as well. After I give

[33] E. Takahashi, S. Tanigawa, and M. Kishida, p.c.

various diagnostics for long-distance reflexives, I will demonstrate in section 3.3.6 that Japanese *zibun* may be bound from outside some kinds of nonfinite clause, in which case it does not have the same discourse requirements as when it is bound from outside a finite clause. I propose that *zibun* in such sentences is treated the same way as MD *sig*.

Sometimes the long-distance uses of these reflexives, in which the reflexive has to refer to a point-of-view holder, are referred to as "logophors." The term "logophor" is also used for a variety of African pronouns which do not double as local reflexives, but which share similar discourse requirements: they must refer to a higher subject that is a speaker. There is debate in the literature as to how similar LD reflexives are to African logophors. In the course of this chapter, I will examine one such logophoric pronoun: the *n*-pronouns in Abe (Koopman and Sportiche 1989). In some syntactic environments, *n*-pronouns act as logophors which must refer to a speaker. For instance, in the sentences below it is highly preferred for the *n*-pronoun to refer to the subject of the verb "say", while non-logophoric *O*-pronouns may not refer to this subject.

191. a. yapi$_i$ hE kO O$_j$/n$_{i,(j)}$ ye sE

Yapi said *kO* he is handsome

b. yapi$_i$ hE kO f wu O$_j$/n$_{i,(j)}$

Yapi said *kO* you saw him

c. yapi$_i$ hE kO f bO wu ye O$_j$/n$_{i,(j)}$ ye sE

Yapi said *kO* you take see *ye* he is handsome

[Koopman and Sportiche 1989 ex. 64]

Elsewhere, however, *n*-pronouns may be used sentence-free with (as reported by Koopman and Sportiche 1989) no implied POV holder status. In the sentence below, for instance, either the *n*-pronouns or the nonlogophoric, nonreflexive O-pronouns may be used—and either way, there is no antecedent in the sentence.

192. a. {n/Ø} came

'She came.'

b. m wu {n/O}

'I saw her.' [Koopman and Sportiche 1989 ex. 3]

I will be discussing Abe *n*-pronouns along with these LD reflexives because they show some similar properties—even with non-logophoric *n*-pronouns there are unusual distribution facts indicating a licenser in an A' position (Koopman and Sportiche 1989). However, I will argue based on distributional properties of *n*-pronouns that this licenser is base-generated in the left periphery in Abe, and not related to the *n*-pronouns via sisterhood.

For long-distance reflexives, however, I will argue that they do start with a double, even in logophoric uses. I use the presence of POV holders in the left periphery of clauses to suggest a way that my doubling-and-movement account of medium-distance reflexives (such as Icelandic *sig*, when its antecedent is outside an infinitive clause) can be extended to account for LD reflexives.

3.2 Extending a doubling-and-movement account to LD reflexives

The overall goal of this section is to connect long-distance uses of words such as *sig*, *ziji*, *zibun* and *tannu* to their local and medium-distance uses, while still explaining their differences. I do not want to rely on simple ambiguity, because that would fail to explain why the same word form takes on both uses in unrelated languages. On the other hand, my account of medium-distance reflexives, as it stands, cannot be used unaltered to describe long-distance reflexives. For instance, I argue that *sig* and its antecedent start out as sisters: this fails to explain what happens when *sig* has no overt antecedent in the sentence, as in (193).

193. *Formaðurinn varð óskaplega reiður. Tillagan væri svívirðileg og*
the chairman became furiously angry. the proposal was(subj) outrageous and
*væri henni beint gegn **sér** persónulega. **Sér** væri*
was(subj) it aimed against **sig(dative)** personally. **Sig(dative)** was(subj)
sama…
indifferent… [Sigurðsson 1990 ex. 22]

Certainly *sig* here does not have an overt sister that is moving to a theta position. Furthermore, it is not only sentence-free *sig* that does not work with my current account. I have already proposed that NPs, even NPs without theta-roles, could not A-move out of finite CPs. This allows movement of *sig*'s antecedent out of a nonfinite clause, such as a control clause, but not out of a finite clause. Thus, my account as is stands does not explain sentences such as (194), either.

194. **Jón** segir [að María elski **sig/hann**]

John says (ind) that Mary loves (subj) self/him

'John$_i$ says that Mary loves him$_i$.'

(Sigurðsson 1990 ex. 4, from Thráinsson 1976, 1979, 1990)

One way out would be to modify my account so that NPs may undergo A-movement even out of finite CPs: that is, get rid of my current assumption that finite CPs are spell-out domains. However, that fails to explain why the use of a reflexive instead of a pronoun is not mandatory when the antecedent comes outside a finite clause, but is mandatory when the antecedent binds into a control infinitive. That is, it does not work to treat LD binding *exactly* the same as MD binding; nonetheless any account of LD and MD binding should retain sufficient similarity as to explain why the same words are often used in both instances.

In honor of that, I propose the following: long-distance uses of reflexives such as Icelandic *sig*, Japanese *zibun*, Mandarin *ziji*, and Kannada *tannu* do in fact involve doubling. However, the LD reflexive's double does not undergo direct A-movement to a theta position. Instead, the double moves to a position in the left periphery of the clause, probably one associated with point-of-view. I schematize the differences as follows.

In local or MD binding, the reflexive's double is its antecedent, an overt DP, which moves in one fell swoop to its theta position. Such movement can cross nonfinite clauses but not finite clauses and is motivated by the NP's need to get a theta role.

195. theta role ….. [$_{\text{nonfinite clause}}$ [$_{DP}$ antecedent refl]]

In LD binding, the reflexive's double undergoes A' movement to a position in the left periphery of a finite clause, associated with point-of-view. (I elaborate on this in section 3.4.5.3, in which I follow Nishigauchi (2010 draft, pc.) in adopting a variant of Speas 2004's hierarchy of POV positions.)

196. [… [$_{CP}$ POV … [double refl]

I will explore multiple possibilities as to what the LD reflexive's double might be. A first possibility is that, at least in sentences with an overt antecedent, the reflexive's double is an overt NP that lacks a theta role, just like in MD binding. Unlike in MD binding, I would have to say that this double has some kind of POV feature that it needs to check (motivating the movement in (196)), and that this feature had to be checked or at least was allowed to be checked even before the antecedent moved to a theta-position.

197. theta role … [$_{CP}$ POV … [antecedent refl]]

Movement of the antecedent out of a finite clause would be acceptable because the POV position, being somewhere in the left periphery, would serve as an escape hatch. If the POV position is an A'-position, perhaps the antecedent could move as part of a larger unit, and the A-move out of that to receive a theta-role.

An alternative possibility, and one that I will definitely adopt at least in the case of sentence-free uses of reflexives, is that the double is not an NP at all, or at least not an overt one. It is something that has to move to a POV position and then from there comes to be associated with an antecedent base-generated elsewhere in the sentence, or even outside of the sentence.

198. [antecedent… [$_{CP}$ POV … [double refl]]]

For this version of the account, I borrow heavily from Nishigauchi (2005, 2010), who proposes that *zibun* must be bound by an NP or *pro* in a POV position in the left periphery. If *zibun*'s binder is *pro*, it is then associated with an antecedent (either within the sentence or outside of it) through the same mechanisms underlying non-obligatory control. Nishigauchi's account focuses on Japanese *zibun* but is equally applicable to other LD reflexives such as *sig*, *ziji*, and *tannu*.

This, then is my ultimate goal: to describe LD reflexives as involving doubling and movement of the reflexive's sister; just like with MD or local uses of the same words. However, unlike the local uses, LD uses involve movement of the sister to an A' position associated with POV. In order to argue for this account, I will make a series of progressively more interesting claims and consider the evidence backing them up.

(A) LD reflexives need to refer to "point of view" holders. (see section 3.3)

Furthermore:

(B) When an embedded clause has a POV holder, this has observable effects on the syntax of the clause. (see section 3.4)

More specifically relevant to a doubling-and-movement account is:

(C) When LD reflexives referring to POV holders are used, they are actually dependent on something in the left periphery of a clause. (section 3.5).

This claim may be true of non-reflexive pronouns that act as logophors. Koopman and Sportiche (1989) argue that Abe *n*-pronouns are also dependent on something in the left periphery.

So far, I feel there is a good deal of evidence backing up all these claims. An area where I feel the evidence is less clear, but which I will try to pursue, is:

(D) When the LD reflexive is dependent on something in the left periphery, the left periphery element is the doubled sister of the reflexive, moving to its A'-position.

I discuss this claim in section 3.6. Now, the closest possible match to my account of MD reflexives would be one in which the antecedent itself was the LD reflexive's double.

(E) The reflexive's double is actually its antecedent, and the double not only moves to a POV position, but subsequently moves to its theta role position

This is what I sketched in (197) above. I will discuss this possibility in section 3.7, but I think it cannot be the case that LD reflexives are always related to their antecedents in this manner.

3.2.1 Why do I group local and MD uses together, but not LD

It is noteworthy that in my treatment of reflexive pronouns I group the local and medium-distance uses together (as involving an antecedent that starts out as sister to the reflexive) and treat long-distance uses separately (as involving a sister that is null, that moves to a POV position and is associated with an antecedent from there). Perhaps this is a counterintuitive way of looking at things—after all, lots of languages only have local reflexives. Maybe I ought to be treating all nonlocal uses of reflexives in the same way, and treating local reflexives differently.

In fact, I do think that there are differences between local and MD uses of reflexives. However, I think that most of these differences can be described, not as differences in, for instance, the lexical entry of *sig*, but as properties of additional morphemes or of the verb. A lot of verbs cannot, apparently, take two arguments that refer to exactly the same person. For example, coreference between Kannada *tannu* and the local subject, *Hari*, is ruled out in (199a). However, this does not seem to be due to properties of *tannu* itself, but due to properties of the verb. If the verb receives a reflexivizer morpheme, as in (199b), then *Hari* can bind the reflexive. Furthermore, if the reflexive appears in doubled form (199c), it can be bound.

199. a. *Hari tann-annu nooD-id-a

Hari self-ACC see-PST-3SM

Hari saw himself.

b. Hari tann-annu nooDi-du-koND-a

Hari self-ACC see-PP-REFL.PST-3SM

Hari saw himself.

c. Hari tann-annu-taane nooD-id-a

Hari self-ACC-self see-PST-3SM

Hari saw himself. [Lidz 2001 ex. 18]

Lidz (2001) proposes that properties of the verb are relevant here. The Kannada verb for 'see' does not allow its subject and object to refer to exactly the same person. However, a reflexive marker on the verb makes this possible. Alternately, the morphology in (199c) subtly changes the interpretation of the reflexive so that it no longer means exactly the same thing as 'Hari'. For example, (199c) could mean that Hari saw a statue of himself, rather than literally seeing himself. So, it looks to me like the problem with (199a) was never one of local binding of *tannu* (that is, the problem with (199a) has nothing to do with *tannu*'s being unable to have a sister or with *tannu'*s sister being unable to move to subject position), but was instead one of argument structure requirements on the verb. Morphology on the verb or on the reflexive can get around these argument structure requirements, either by making the verb allow two arguments that mean the same thing, or changing the reflexive so that it doesn't mean the same thing

as its antecedent. In both (199b) and (199c), though, I still say that *tannu* starts out with *Hari* as its sister, and *Hari* moves to subject position.

That is to say, it looks like whether or not local binding is allowed is not intrinsically due to properties of *sig*, *tannu*, etc. Instead, it seems to stem from a combination of requirements on the verb, plus ways of getting around those requirements by adding new morphemes on the noun ('self' and its cognates, for example) or on the verb (reflexive markers). There is much to be said about all of this, but it is outside the scope of this work.

Furthermore, there are plenty of local reflexive, such as, for instance, English *himself*, where I would say that the locality requirements have nothing to do with movement and everything to do with the nature of the 'self' morpheme. I think the reflexive properties of this pronoun come from the morpheme 'self', and I would certainly encourage seeking an account of English 'self' that explains its similarities to cognates such as Icelandic *sjálfan*—but I don't think this account has anything to do, directly, with properties of SE reflexives such as *sig*.

Consequently, when I say I am not making a cut between local and MD uses of reflexives such as *sig*, what I really mean is that I do not think that the difference between the local and MD uses comes from properties of *sig*, itself, but from the properties of verbs and/or of additional morphemes like *sjálfan*. With or without such additional morphemes, though, I can explain various commonalities between local and MD *sig*, such as subject-orientation, by having a shared antecedent-movement account.

However, I very clearly do make a cut between MD and LD uses of *sig* and other reflexives, because as far as I can tell, LD uses of *sig* pattern the same whether the

antecedent is outside of a finite clause, or outside of the sentence altogether—as I discuss in section 3.3 below, for example, such uses (either way) require an antecedent that is understood as a POV holder, which is not true for local or MD uses. Since I want to treat LD and extra-sentential antecedents of *sig* the same way, then, that way can't be simple antecedent movement (assuming movement to another sentence is not possible). Here, the differences in what antecedents are allowed *are* based on differences in the derivation of *sig*—specifically, LD or extrasentential antecedents of *sig* do not start out as sisters to *sig*, whereas local or MD antecedents do.

3.3 Long-distance reflexives refer to point-of-view holders

Sells (1987) argues that logophors (in which category he includes both African logophoric pronouns and LD reflexives) are subject to discourse requirements. In particular, he defines three discourse roles (Source, Self, and Pivot) and proposes that logophors must refer to one of these. He defines a Source as a speaker: the person who said the contents of the embedded clause. A Self is someone whose speech is not necessarily being represented, but whose thoughts, feelings, or observations are. A Pivot is a person from whose perspective various deictic terms are used. For instance, location verbs would use that person as the reference location: "come" and "go" refer to coming to that person or going away from him. It has been argued (see for instance Huang and Liu 2001 for Mandarin) that pivots are also the reference term used for deictic pronouns: that is, that reflexives used as pivots are incompatible with first or second person pronouns because the pivot, rather than the external speaker, should be the reference point for person.

I should note that Sells's terms, while useful, are not the only way of discussing the POV properties of LD reflexives. Notably, while Sells treats sources as a subset of selves, and selves as a subset of pivots, some other linguists argue for a different division of categories, in which things that act roughly like sources/selves do not fall into the same category as things that act roughly like pivots. Oshima (2004, 2006, 2007), for instance, distinguishes between logophoric pronouns (which act roughly like sources or selves in Sells's terms) and empathic pronouns (which act as pivots)—logophoric pronouns are not a subset of empathic pronouns but are separate. I will find Oshima's distinction to be useful in the sections to come. Speas (2004) also has a hierarchy of different sorts of POV holder—following Nishigauchi (2010, pc) I will adopt a variant of this in later sections. Notably for my purposes, Speas represents this hierarchy in the syntax itself, with clauses containing different POV projections in their left periphery.

3.3.1 Long-distance reflexives as sources

All of the LD reflexives I am considering may be used as Sources, people whose speech is represented.

In (200), the antecedent of *ziji* can be *Lisi*, which refers to the source of communication.

200. *Lisi$_i$ shuo [Zhangsan chang piping ziji$_i$]*

Lisi say Zhangsan often criticize self

'Lisi$_i$ says that Zhangsan often criticizes him$_i$."

[Huang and Liu 2001: 156. ex. 35a]

Japanese *zibun* can also refer to a source. In (201), the antecedent of *zibun* is Taro, who is the speaker of the embedded clause.

201. Taroo-ga Ziroo$_i$-ni [$_S$ Hanako-ga zibun$_i$-o nikunde-iru to] itta
Taro-Nom Ziro-Dat Hanako-Nom self-Acc hate Comp said
'Taro said to Ziro$_i$ that: 'Hanako hates me$_i$.''
(Aikawa 1999:171, from Kuno 1973)

Ziro, who is not the speaker, cannot be coreferential with *zibun*. Interestingly, it appears to be speakerhood rather than subjecthood that is crucial. For example, in (202), the antecedent of *zibun* is Ziro, the matrix object.

202. Taroo-wa Ziroo$_i$-kara [$_S$ Hanako-ga zibun$_i$-o nikunde-iru to] kiita
Taro-Top Ziro- from Hanako-Nom self-Acc hate Comp heard
'Taro heard from Ziro$_i$ that: 'Hanako hates me$_i$.''
(Aikawa 1999:170, from Kuno 1973)

Following Sells' 1987 logophoric account, *Ziro* is a valid antecedent for *zibun* because Ziro is a source of information.

Similarly, here is an example of Kannada *tannu* being used as a source.

203. raama$_i$ [taanu$_i$ geddanu anta] heeLidanu

Rama$_i$ [self$_i$ won-3msg COMP said

'Rama$_i$ said that self$_i$ won.' [Amritavalli 2000]

Here, Rama is the (reported) speaker of the embedded clause, making Rama a Source. Rama is also the antecedent of *tannu*. Interestingly, Amritavalli 2000 notes that while some Kannada speakers allow this sentence, in which the embedded verb has third-person inflection, others require the verb to have first-person inflection. Then the complement would represent direct rather than reported speech.

3.3.2 Long distance reflexives as selves

In addition to a Source antecedent, the reflexives I am looking at can also take an antecedent that is a "Self" whose feelings or views are represented (Sells 1987). As with sources, these constructions also do not require a subject antecedent.

Consider Japanese *zibun*, for instance, which is used as a Self in (204). *Zibun* may actually precede its antecedent, *Hiroshi*, from within a psych-verb construction.

204. [$_{NP}$[$_S$ Zibun$_i$-ga gan kamaosirenai koto]-ga Hirosi$_i$-o nayamaseta

self-Nom cancer may Comp Nom Hiroshi-Acc worried

'That he$_i$ might have cancer worried Hiroshi$_i$.' [Aikawa 1999: 171]

Here, *zibun* takes an antecedent that is a Self: it is Hiroshi's thoughts and feelings that are represented.

The Self antecedent need not be the subject of a verb of thinking or feeling. There are nevertheless diagnostics to test that the thoughts or feelings of the LDR's antecedent are what are being presented in the clause containing the reflexive. One relevant diagnostic is that, for many speakers, the LDR needs to be used *de se*: the antecedent of the LDR has be aware of the event described and know that it is happening to *him* and not somebody else. For instance, consider Japanese *zibun* (Aikawa 1999, Kuno 1973). There is a contrast in acceptability between (205a) and (205b).

205. a. *John$_i$-wa Mary-ga zibun$_i$-o korosita toki, Jane-to nete-ita.
John-Top Mary-Nom self-Acc killed when, Jane-with was sleeping
'John was in bed with Jane when Mary killed him.'

b. John$_i$-wa Mary-ga zibun$_i$-o korosoo to sita toki, Jane-to nete-ita.
John-Top Mary-Nom self-Acc tried to kill when, Jane-with was sleeping
'John was in bed with Jane when Mary tried to kill him.'

Kuno 1973, summarized in Aikawa 1999, says that the relevant difference is that in (205b), John could have been aware that Mary tried to kill him while she was trying to kill him—consequently, the sentence could be reflecting John's thoughts about the experience. In contrast, in (205a), John could not have been aware that Mary actually killed him—he would be dead. John's thoughts cannot be being represented, therefore.

Similarly, LD *ziji* sometimes requires *de se* interpretations, but local *ziji* does not (Huang and Liu 2001). This suggests that "self" hood is relevant only in LD uses of *ziji*. When *ziji* takes an antecedent, its use is degraded if the antecedent is unaware of the

scenario described in the embedded clause. For instance, *Zhangsan* is degraded as an antecedent for *ziji* because Zhangsan need not be aware of who killed him. Thus the embedded clause does not look like it most likely describes Zhangsan's reported speech or thoughts.

206. ??Zhangsan$_i$ kuajiang-le [[houlai sha si ziji$_i$ de] naxie ren$_j$].

Zhangsan praise-Perf later kill die self DE those persons

'Zhangsan$_i$ praised those persons who later killed him$_i$.'

(Huang and Liu 2001 ex. 43b)

This makes sense if *ziji* ideally refers to a Source or Self as in Sells 1987. In contrast, there is no consciousness effect when *ziji* has a local antecedent.

207. Zhangsan$_i$ bei ziji$_i$ (de pengyou) hai-si le.

Zhangsan by self DE friend wrong-death Perf

'Zhangsan was wronged to death by himself/his old friend.'

(Huang and Liu 2001 ex. 64)

Here this sentence does not require that Zhangsan is aware of the cause of his death. Zhangsan does not need to be aware that his own friend is the one who killed him, so it is not obviously Zhangsan's speech or thoughts that are being reported, but rather, the speaker's. Nonetheless the sentence is not degraded. This makes sense if only LD *ziji* and not local *ziji* must refer to a Source or Self.

Bhat (1978: 57) observes a *de se* effect for Kannada *tannu* as well. The use of *tannu* implies that its antecedent is "aware of the event (or state) indicated."

(119) siite$_j$?tannannu$_{i,*j,*k}$/ avanannu$_i$ kaaNalu bandaaga raaju$_i$ sattu hoogidda.

Sita self-acc / he-acc to see came then Raju was dead

'Raju$_i$ was dead when Sita$_j$ came to see ?self$_{i,*j}$/him$_i$.

Since Raju isn't aware of the action (being dead), it is preferable to use the pronoun instead of *tannu* here. The use of the reflexive is apparently marginal rather than terribly bad, though, judging from the "?" notation. I speculate without reference to anyone that this may be marginal, rather than disallowed, if speakers are able to use *tannu* as a pivot rather than a source or self (see below).

3.3.3 LD reflexives used as pivots

Finally, the antecedent of a long-distance reflexive can also be a "Pivot" (in the terms of Sells 1987): someone from whose deictic perspective the action is described. For example, in (208), *Taro* is an acceptable antecedent for *zibun* because Taro is a Pivot: the verb *ki-ta* 'come' describes Hanako's movement using Taro as a reference point.

208. Hanako-ga zibun$_i$-o tazune-te ki-ta toki, Taro$_i$-wa sono mura-ni

Hanako-Nom self-Acc visit come when, Taro-Top that village-in

3-nen sun-de i-ta.

3 years live be-Past

'When Hanako came to see self$_i$, Taro$_i$ had been living in the village for three years.' [Nishigauchi 2005: 112]

If the verb were changed to *ik(u)* 'go', then (208) would be much less acceptable (Nishigauchi 2005). The antecedent of LD *zibun* can be a pivot—a reference point for deictic terms. The same thing is true for other verbs that can empathize with different actors. For instance, *yatta* 'give' empathizes with the giver, while *kureta* 'give' empathizes with the receiver. In (209a), where the verb is *kureta*, *Taroo* is an acceptable antecedent for *zibun*. However, when the verb is *yatta*, in which the speaker empathizes with the giver, Hanako, then *Taroo* cannot be the antecedent of *zibun*, as shown in (209b).

209. a. *Taroo$_i$-wa [Hanako-ga zibun$_i$-ni kureta] okane-o tukatte-simatta

Taro-Top [Hanako-Nom self-Dat gave] money-Acc use-Perf

'Taro$_i$ has used the money that Hanako gave to self$_i$.'

b. Taroo$_i$-wa [Hanako-ga zibun$_i$-ni yatta] okane-o tukatte-simatta

Taro-Top [Hanako-Nom self-Dat gave] money-Acc use-Perf

'Taro$_i$ has used the money that Hanako gave to self$_i$.'

[Aikawa 1999: 173]

Thus, it looks like an acceptable antecedent for *zibun* can be a pivot, someone that the speaker emphasizes with or uses as a reference point.

Pivothood has also been argued to be relevant in Mandarin Chinese. For instance, consider the antecedent of *ziji* in (210).

210. ?[*Zhangsan lai kan ziji*$_i$]-*de* *shihou, Lisi*$_i$ *zheng zai kan shu*

Zhangsan come see self DE moment Lisi now at read book

'Lisi$_i$ was reading when Zhangsan came to visit him$_i$.'

[Huang and Liu 2001: 156. ex. 35c]

Here, the antecedent *Lisi* refers to neither a speaker nor the person whose mental state is described. Lisi does not necessarily even know that Zhangsan came. However, the verb *lai* "come" is used, showing that Zhangsan's movement is evaluated relative to Lisi's location. Thus, Lisi is a pivot: a reference point for deictic terms. At least for Huang and Liu's dialect, however, this is only marginally acceptable—it is better if the antecedent of *ziji* refers to a source or self (that is also a pivot) rather than just a pivot.

In Icelandic, the secondary speaker that is the antecedent of *sig* may also be required to have "temporal point of view", for many Icelandic speakers (Sigurðsson 1990: 329). Sigurðsson notes that the use of tense in subjunctives works differently from the use of tense in indicatives: although both indicatives and subjunctives may be tensed, they use different events as reference times. In indicatives, past tense means the event occurred in the past *relative to the current utterance.*

211. María vissi að Jón kom.

Mary knew(ind) that John came (ind)

All this means is that John's coming happened earlier than the entire utterance being spoken. In contrast, past tense in a subordinate-clause subjunctive can indicate that the subjunctive occurred in the past relative to the act of speaking/thinking.

212. a. María hélt að hun sœi Jón.

Mary thought that she saw(subj) John

b. María hélt að hun hefði séð Jón.

Mary thought that she had(subj) seen John.

[Sigurðsson 1990:330, ex. 58a-b]

(212a) means that Mary thought something along the lines of "I see John", whereas (212b) can mean that Mary thought "I saw John"—that is, the act of maybe-seeing could have happened some time prior to the time at which she was thinking. The subjunctive can indicate past/present with respect to the time of Mary's thought, rather than referring to past/present with respect to the time of utterance of the whole sentence. Thus, Sigurðsson claims that Mary has temporal POV as well as referential POV. He interprets this as indicating that Icelandic *sig* is subject to some pivot constraints.

However, as I discuss in the following section, Icelandic (unlike Mandarin and sometimes Japanese) does not show blocking effects. This makes me lean toward treating *sig* as not a pivot at all.

3.3.3.1 Blocking effects as a consequence of pivothood

One consequnce of "pivothood" manifests in terms of blocking effects. For some LD reflexives, the use of the reflexive is incompatible with the use of first-or second person pronouns. Of all the languages I consider, blocking effects are most robust with Chinese *ziji*. Here is an example. *Zhangsan* may not be the antecedent of *ziji* because of the first person pronoun, *wo*, in the way.

213. Zhangsan$_i$ gaosu wo$_j$ Lisi$_k$ hen ziji$_{*i/*j/k}$

Zhangsan tell me Lisi hate self

'Zhangsan$_i$ told me$_j$ that Lisi$_k$ hated self$_{*i/*j/k}$ [Huang and Liu 2001 ex. 54]

There is controversy over the cause of blocking effects, but in some accounts, such as Huang and Liu (2001), the reason for blocking effects is that the LD reflexive has to be a pivot, a reference point for terms including not only things like location (come, go) but also personhood. The LD reflexive can be seen as a stand-in for a first-person pronoun, referring to an internal speaker from his or her own perspective. This perspective is broken if first- or second- person pronouns are used, as these pronouns are from the perspective of the external speaker. (By "external speaker" I mean the speaker of the whole sentence. If Mary says "John said Bob likes cheese" then Mary is an external speaker, and John is an internal speaker.)

Interestingly, local *ziji* can co-occur with a first-person pronoun even if this pronoun comes between *ziji* and its antecedent.

214. Zhangsan$_i$ gaosu wo ziji$_i$ de fenshu.

Zhangsan tell me self DE grade

'Zhangsan told me about his own grade.' [Huang and Liu 2001 ex. 66]

This would make sense if LD *ziji* is necessarily a pivot, but local *ziji* does not have to be.

How, then, is pivothood responsible for blocking effects? This is actually a controversial point. A difficulty in discussing blocking effects with *ziji* is that the literature contains different and conflicting judgments on the matter. It seems to be widely agreed that a first or second person subject blocks binding of *ziji* by a third-person subject in a higher clause. However, some of the literature reports that a third-person subject causes a blocking effect for an LD first or second person antecedent. For instance, Cole and Wang 1996 indicate both that 'I' blocks binding of *zji* by *Zhangsan*, but also that *Wangwu* blocks binding of *ziji* by 'I'.

215. Zhangsan$_i$ renwei wo$_j$ zhidao Wangwu$_k$ xihuan ziji$_{*i/*j/k}$

Zhangsan think I know Wangwu like self

'Zhangsan thinks that I know that Wangwu likes himself.'

[Cole and Wang 1996, ex. 21]

Cole and Wang 1996 argue that LD *ziji* should be related to its antecedent via syntactic head-movement, causing agreement errors if an intervening subject is of a different person than *ziji*'s ultimate binder. The logic of this makes sense, but the data itself is disputed. Anand (2006) discusses this disagreement in the literature and says that of the 29 speakers he interviewed none found that third-person pronouns blocked binding by a first-person pronoun. For now, I will follow Anand (2006).

Certainly it is not the case that blocking effects only arise when the blocker is a subject. Blockers do not have to be potential binders:

216. Zhangsan$_i$ gaosu wo$_j$ Lisi$_k$ hen ziji$_{*i/*j/k}$

Zhangsan tell me Lisi hate self

'Zhangsan$_i$ told me$_j$ that Lisi$_k$ hated self$_{*i/*j/k}$ [Huang and Liu 2001 ex. 54]

Furthermore, blocking effects obtain even when the first or second person pronoun occurs in a lower clause than the clause in which *ziji* occurs.

217. Zhangsan$_i$ zhidao Mali$_j$ gen ziji$_{??i/??j}$ shuoguo ni xiang qu Taiwan.

Zhangsan know Mary with self said you want go Taiwan

'Zhangsan knows Mary told him/herself that you want to go to Taiwan.'

[Cole, Hermon, and Lee 2001 ex. 26a]

For some reason, LD *ziji* is just incompatible with the use of first or second person pronouns in a variety of locations. This reason could be a window into the semantics of

ziji or of its binder. In Oshima's account, blocking effects are due to *ziji* being an empathic pronoun (something like a 'pivot' in Sell's terms). For *ziji* to be 'empathic' means that antecedent of *ziji*, rather than the external speaker, is being used as a reference point. Because of this, it is problematic for first- and second-person pronouns to coexist with *ziji*, because they refer to the external speaker and his/her interlocutor, respectively, and are therefore using the *external* speaker as a reference point. Assuming that everything in or below *ziji*'s immediate clause must use the same person as a reference point, blocking effects make sense. Huang and Liu (2001), likewise consider the use of *ziji* to indicate that the sentence in which it appears is representing the point of view of someone other than the external speaker.

Interestingly, there is a problematic aspect to (216)—it appears that a first-person pronoun in the *matrix* clause can cause blocking effects for binding of embedded *zibun* by a matrix subject. This is surprising for many accounts. The use of *ziji* may indicate that the point of view holder is someone other than the external speaker. However, it seems that the most logical reading of this sentence is one in which only the embedded clause is from the POV of Zhangsan, with an external speaker reporting (from his own point of view) that Zhangsan said this. Given that, it is counterintuitive that a pronoun in the matrix clause should cause problems. This is similarly a problem in Anand's (2006) account, in which *ziji* is bound by an operator incompatible with first- or second- person pronouns in its scope. Here is a schematization of how I think (216) should look, given an approach like Anand's.

218. Zhangsan$_i$ told me [Op$_i$ Lisi hate ziji$_i$]

Since the first-person pronoun is outside of the embedded clause complement of 'tell', it is not apparent why a blocking effect should ensue.

Huang (p.c.) does note that these sentences are marginally acceptable, though marked. He notes that a first person pronoun in the embedded clause causes a blocking effect that is "appreciably more severe."

219. Zhangsan$_i$ dui Lisi$_j$ shuo [wo-de mama$_k$ piping-le ziji$_{*i/*j/k}$]

Zhangsan to Lisi say my mother criticized self

'Zhangsan said to Lisi that my mother criticized herself.' (requires local binding)

That makes sense to me, given that presumably it is the embedded clause that is from Zhangsan's POV, and so I would expect that to result in incompatibility with a first-person pronoun.

Japanese *zibun* may also be subject to blocking effects. Interestingly, *zibun* does not show blocking effects in all of its uses, but Oshima (2006, 2007) has argued that some instances of *zibun* are subject to them.

Sometimes *zibun* does not show blocking effects.[34] For instance, the LD reading in (220) is acceptable even though *watasi* 'I' intervenes between *Taro* and *zibun*.

[34] The following examples use as first person pronouns both *boku* and *watashi*. Both of these are first-person pronouns used in Japanese although they have different registers and are used by different people. *Boku* is used by young boys (or tomboys) while *watashi* is a polite form used by many people.

220. Taro$_i$-wa watasi$_j$-ga zibun$_{i/j}$-o hihan-si-ta to omow-ta

Taro-Top I-Nom self-Acc criticize-that think-Past

'Taro$_i$ thought that I$_j$ had criticized self$_{i/j}$.'

[adapted from Nishigauchi 2005:106; confirmed by Chizuru Nakao, p.c.]

It is certainly not uniformly the case that a first-person subject prevents binding of *zibun* by a higher third-person subject. In this respect *zibun* behaves differently from *ziji*.

However, Oshima (2006, 2007) argues that in some circumstances, *zibun* does show blocking effects. In particular, Oshima distinguishes between "logophoric" uses of *zibun* (corresponding to what Sells 1987 would call source or self) and "empathic" uses of *zibun* (corresponding to what Sells 1987 would call pivot). Oshima argues that empathic *zibun*, but not logophoric *zibun*, does show blocking effects.

221. *Taro$_i$-wa [boku-ga zibun$_i$-ni kasi-ta] okane-o nakusite-simat-ta rasii.

Taroi-Top I-Nom self-Dat lend-Past money-Acc lose-end.up-Past it.seems

'It seems that Taro$_i$ lost the money I lent him$_i$.' (reflexive use)

[Kuno 1978:213, quoted in Oshima 2006:80]

Here, *Taro* does not have the source or self discourse role: Taro is not the person whose speech or thoughts are being represented. Under Oshima's account, this means that 'logophoric' *zibun* cannot be used. However, *Taro* also cannot be the antecedent of 'empathic' *zibun*, because of the intervening first-person pronoun: the locus of empathy in the embedded clause has to be the speaker. The result is that when LD *zibun* is acting

as a Pivot (rather than a Source or Self), it does show blocking effects. To show that the problem with this sentence is in fact due to the first-person pronoun, I asked Japanese speakers to compare (221) to (222), in which first-person *boku* has been replaced with a third person NP.

222. Taro$_i$-wa [Hanako-ga zibun-ni kasit-ta] okane-o nakusite-simat-ta rasii
Taro$_i$-Top Hanako-nom self-Dat lend-past money-acc lose-end.up it.seems

Two of my consultants (Shin Tanigawa and Eri Takahashi, p.c.) indeed found (222), on the reading in which Hanako lent Taro money, to be an improvement on (221), though neither was fully acceptable to them. This is consistent with Oshima's claim that the problem with (221) is caused by the presence of a first person pronoun between *zibun* and its potential antecedent. If a first person pronoun is a better empathy locus than anything else, then it will prevent *Taro* from being the empathy locus of the embedded clause.[35]

Finally, Kannada *tannu* has been argued to show blocking effects as well, though only marginally. When there is a first- or second- person pronoun in the same clause as *tannu*, there is a blocking effect: *tannu* may not refer to an LD subject.

223. ?[naanu tannanna$_i$ baide anta] raama$_i$ yendukoNDa
I self-ACC abused COMP Rama thought

[35] Another Japanese speaker (Maki Kishida, p.c.) found it easier to get *Taro* to bind *zibun* in (221) than in (222). She said she would like (222) better if the relative clause had a modal element *–(te)kureru*. Perhaps the addition of a modal that empathizes with the loan's recipient would serve to make *Taro* a better locus of empathy than *Hanako*. On the other hand, I am uncertain why this would not be an even larger problem for (221).

'Rama$_i$ thought that I abused self$_i$.' [Amritavalli ex 48a]

224. ?[niinu tanna$_i$ makkaLanna baide anta] raama$_i$ yenda

you self's children-ACC abused COMP Rama said

'Rama$_i$ said that you abused self's$_i$ children.' [Amritavalli ex. 48b]

The blocking effect is ameliorated when the first- or second-person pronoun is not in the same clause as *tannu*.

225. [ali tannanna$_i$ baide anta] naanu heeLide anta raama$_i$ yendukoNDa

Ali self-ACC abused COMP I said COMP Rama thought

'Rama$_i$ thought that I said that Ali abused self$_i$.' [Amritavalli ex. 49a]

226. [ali tannanna$_i$ hoDeyuttaane anta] niinu heeLide anta raama$_i$ yendukoNDa

you self-ACC will hit COMP you said COMP Rama thought

'Rama$_i$ thought that you said that Ali would hit self$_i$.' [Amritavalli ex. 49b]

Perhaps this means that *tannu* has to act as a pivot, but only with respect to the most deeply embedded clause. In later sections I argue that this has interesting consequences for my proposed syntax.

Unlike these other reflexives, Icelandic *sig* does not show blocking effects. In his discussion of logophoric and empathic reflexives, Oshima (2007) classifies Icelandic *sig* as being a logophoric reflexive but not an empathic one. Again, this roughly corresponds to *sig* needing to refer to a source or self (in Sells's 1987 terminology) rather than a pivot.

Empathic reflexives do not need to refer to a speaker or thinker, but do show blocking effects; *sig* shows the reverse pattern, as it must refer to someone whose thoughts are represented but is not subject to blocking effects.

Sigurðsson 1990 notes that while *sig* apparently refers to a secondary ego of some sort, other terms in the same clause may be from the point-of-view of the external speaker: these include pronouns (such as *ég,* 'I') as well as kinship terms (*mother*) and epithets (*that fool of a teacher*) (320).

Icelandic lacks blocking effects, so (227) is acceptable.

227. María$_i$ hélt að ég elskaði sig$_i$.

Mary thought that I loved SELF

[Sigurðsson 1990:342, footnote 14]

In (227), LD-bound *sig* appears in the same clause as a first-person pronoun. This indicates "split referential deixis" between the primary and secondary egos: *ég* refers to the external speaker from his/her own POV, while *sig* refers to the secondary ego, Mary, from her POV. Sigurðsson analyses this as meaning that *sig* has looser pivot requirements than some other LD reflexives, while Oshima analyses this as meaning that *sig* is only a logophoric reflexive, not an empathic one. I think the difference in the analysis comes from the fact that it is Sells's goal to make Pivots a superset of Selves, and Selves a superset of Sources. That is, Sells analyzes all LD reflexives as falling in the same category, but with tighter or looser restrictions depending on the language. In contrast, Oshima treats empathic reflexives (which correspond loosely to Sells's Pivots) as an

entirely separate category from logophoric reflexives (Sources or Selves). Given that blocking effects do not seem to apply to Sources and Selves, but do apply to pivots, it seems reasonable to me to treat them as separate types of thing.

3.3.4 Empathic vs. logophoric LD reflexives: Oshima's terminology

While I find Sells's terms of source, self, and pivot to be useful, I will be following Oshima (2004, 2006, 2007) in assuming that, in fact, these terms are not in a subset relation. It is not the case that sources are a subset of selves, and selves are a subset of pivots.

Instead, I will assume, like Oshima, that LD reflexives have two distinct uses: as what he terms logophoric reflexives and empathic reflexives. Logophoric pronouns correspond roughly to what Sells calls 'source' or 'self' while empathic pronouns correspond roughly to what Sells calls 'pivots', but notably, logophoric reflexives do not need to have the properties of empathic reflexives.

Empathic reflexives require a subject antecedent[36] that must be the person most empathized with in the clause (for example see verbs like *yatta* vs. *kureta* which both mean 'give' but one empathizes with the giver and the other with the recipient). Such pronouns are incompatible with first-person pronouns because first-person pronouns are inherently the most empathized with; consequently, empathic reflexives are subject to blocking effects. Empathic reflexives may have LD antecedents.

A logophoric reflexive refers to a person whose speech or thoughts are being reported; consequently it usually (but not always) requires a *de se* reading. It allows LD

[36] Usually.

antecedents which do not have to be subjects. Since this isn't an empathic reflexive, there are no blocking effects—at least, the presence of a first-person pronoun is not inherently a problem for a logophoric reflexive.

Not all LD reflexives allow both uses. For example, Oshima claims that Icelandic *sig* can be used as a logophoric reflexive, but not as an empathic reflexive, whereas Japanese *zibun* can be used as a logophoric or as an empathic reflexive. In the following sections, when I am trying to determine whether a word is used as an LD reflexive, I will separately be considering whether it can be used as a logophoric reflexive or as an empathic reflexive.

3.3.5 LD reflexives and subject orientation

The above sections were all meant to show that *sig*, *ziji*, *zibun* and *tannu* have discourse requirements on their long-distance uses. The point of this section is to argue that it is these discourse requirements, and not the structural position of the antecedent, that are crucial for the licensing of LD reflexives. In particular, LD reflexives do not require that their antecedent be a subject. I do not mean by this to say that the syntax itself (rather than the discourse) has nothing to do with the licensing of reflexives. Instead, I will argue in later sections that the discourse role is actually represented in the syntax, in the left periphery of the clause, and that it is this (rather than the position of the antecedent) that is crucial. At any rate, the antecedent of an LD reflexive is usually, but does not have to be, a c-commanding subject. The antecedent may be an object (3.3.5.1). In some cases, the antecedent does not even need to c-command the embedded clause

(3.3.5.2). Finally, sometimes an LD reflexive may be used without any antecedent in the sentence (3.3.5.3), as long as proper discourse conditions are met.

3.3.5.1 Nonsubject antecedents of LD reflexives

It is often not possible for LD *ziji*'s antecedent to be a nonsubject. For instance, the object of "say" cannot be *ziji*'s antecedent below.

228. Wangwu$_i$ dui Zhangsan$_j$ shuo Lisi$_k$ chang piping ziji$_{i/*j/k}$

Wangwu to Zhangsan say Lisi often criticize self

'Wangwu$_i$ said to Zhangsan$_j$ that Lisi$_k$ often critizes him$_{i/,j/k}$.'

[Anand 2006 ex. 361]

However, sometimes LD *ziji* does allow a nonsubject antecedent.

229. Zhangsan kuajiang ziji$_3$ xia-le Lisij yi tiao

Zhangsan praise self scare-PERF Lisi one jump

'That Zhangsan praised him$_3$ greatly surprised Lisi$_3$.' (Huang and Liu, 2001)

Anand (2006) argues that *ziji* does not strictly require a subject antecedent, but rather an antecedent that is an attitude holder (I guess this would be equivalent to a Self in Sells's terms, or a logophoric reflexive in Oshima's terms). The object of 'surprise' is an attitude holder, which makes it an acceptable antecedent. In contrast, the object of 'say' in (228) is not an attitude holder.

Tannu, like *ziji*, usually refers to a subject, whether or not it is used locally. Local *tannu* may not be bound by a local object[37].

230. *naanu meeriyanna$_i$ tanage$_i$ tooriside

I Mary-acc self-dat showed

* 'I showed Mary$_i$ to herself$_i$.' (Amritavalli ex. 27)

Amritavalli argues that similarly *tannu* may not be bound from outside its clause by a non-subject.

231. raama sureeshanige$_i$ [taanu$_{*i}$ geddanu anta] heeLidanu

Rama Suresh-dat self won COMP said

'Rama said to Suresh$_i$ that self$_{*i}$ won.' (Amritavalli ex. 35)

Here, the matrix object (Suresh) cannot be the antecedent of *tannu*. Of course, this could be due to a discourse requirement: Suresh is not a Source or Self (and Rama is a Source, being the speaker of the embedded clause.

While *tannu* often takes a subject antecedent, there are some exceptions. Here is an example in which *tannannu* takes an experiencer antecedent that is an accusative object.

[37] Amritavalli notes that the use of a verbal reflexive marker is also not allowed when neither object is coreferential with the subject.

232. [prakaash$_j$ tannannu$_{i,*j}$ baidaddu] raamuvannu$_i$ kheedagoLisitu

Prakash self-acc having scolded Ramu-acc saddened

'Prakash having scolded self$_{i,*j}$ saddened Ramu$_i$.' (Amritavalli ex. 118)

Here, Ramu is not a subject, but Ramu is clearly a Self (in Sells's terms) as it is Ramu's feelings about the embedded clause that are being represented. So there is evidence for *tannu*, in addition to for *ziji*, that subjecthood is not required as long as discourse conditions are met.

Finally, there are also sentences in which Japanese *zibun* may be bound by an object. Once again, the nonsubject binder of the LD reflexive is prominent in the discourse. In (233), for example, *Ziro* is not the subject of the matrix clause, but is the source of information in the embedded clause.

233. *Taroo-wa Ziroo$_i$-kara [$_S$ Hanako-ga zibun$_i$-o nikunde-iru to] kiita*

Taro-Top Ziro- from Hanako-Nom self-Acc hate Comp heard

'Taro heard from Ziro$_i$ that: 'Hanako hates me$_i$.''

(Aikawa 1999:170, from Kuno 1973)

In contrast, *zibun* cannot take an antecedent in the same structural position if the same discourse requirements are not met, as in (234).

234. *Taroo-ga Ziroo$_i$-ni [$_S$ Hanako-ga zibun$_i$-o nikunde-iru to] itta*

Taro-Nom Ziro-Dat Hanako-Nom self-Acc hate Comp said

'Taro said to Ziro$_i$ that: 'Hanako hates me$_i$.''

(Aikawa 1999:171, from Kuno 1973)

Here, Taro is the source of information in the embedded clause, and *Ziro* cannot be coreferential with *zibun*.

3.3.5.2 Subcommand

Although the antecedent of *sig* is often a subject, *sig* can also take an antecedent that subcommands but does not c-command it, as in (235).

235. [Skoðun Jóns$_i$] er [að sig$_i$ vanti hœfileika]

Opinion John's is [that self-Acc lacks talents]

'John's opinion is that he lacks talents.'

[Reuland 2001a: 343]

Jóns does not c-command *sig* but can be its antecedent. Importantly, subcommand in Icelandic does not seem to be okay when binding is "local." Thus, (236) does not allow binding of *sig* by a subcommander.

236. *[Skoðun Jóns$_i$]$_j$ virðist t$_j$ vera hœttuleg fyrir sig$_i$.

Opinion John's seems be-Infl dangerous for self

'John's opinion seems to be dangerous for him.'

[Reuland 2001b: 344]

In this raising sentence, *skoðun Jóns* ('John's opinion') started out as a clausemate of *sig*. Nonetheless, *Jóns* is not a valid antecedent for *sig*. Of course, John is not the person whose viewpoint or opinions are being represented— probably it is the speaker, rather than John, who is asserting that John's opinion is dangerous. This rules out *Jóns* being the LD antecedent of *sig*. However, it looks like *Jóns* should be able to locally bind *sig*, if *sig* allowed subcommanding antecedents—not only did they start out as clausemates, but *sig* in infinitivals can usually be bound by the subject of the first finite clause (and in fact, it is obligatory to use *sig* rather than a pronoun in such cases). The conclusion is that Icelandic only allows subcommand when *sig* is used logophorically. Local uses of *sig* do not allow subcommand.

Like *sig*, *ziji* may sometimes take an antecedent that subcommands it rather than c-commands it (Tang 1989, Cole, Hermon, and Lee 2001, Huang and Liu 2001). That is, the specifier of a c-commanding NP may be a valid antecedent for *ziji*. Interestingly, even local *ziji* may take a subcommanding antecedent. Whether subcommand is allowed seems to depend on whether the c-commanding NP would have been a valid antecedent or not—*ziji* needs an animate antecedent. For instance, in (237), *Zhangsan* may be the antecedent for *ziji*.

237. Zhangsan$_i$ de baogao biaoshi tamen dui ziji$_i$ mei xinxin.

Zhangsan ‘s report indicate they to self no confidence

‘Zhangsan’s report indicates that the have no confidence in him.’

[Huang and Liu 2001: 187, footnote 18]

Not only is ‘Zhangsan’s report’ inanimate (making subcommand acceptable), but Zhangsan himself can be understood as the source of communication, making *Zhangsan* a valid antecedent for discourse reasons.

Note that even with an inanimate subject, LD subcommand is not always allowed. This is due to discourse restrictions as discussed below: *ziji*’s antecedent needs to be roughly a Source, Self, or Pivot as in Sells (1987).

238. *Zhangsan de shibai biaoshi tamen dui ziji$_i$ mei xinxin.

Zhangsan ‘s failure indicate they to self no confidence

‘Zhangsan’s failure indicates that they have no confidence in him.’

[Huang and Liu 2001: 170, ex. 79]

Here, Zhangsan is not a source of communication, nor is Zhangsan clearly a self whose mental state is reflected or a pivot who is a center of deixis. Therefore, even though *Zhangsan* subcommands *ziji* and is contained in an inanimate DP, *Zhangsan* cannot be a logophoric antecedent for *ziji* (Huang and Liu 2001).

Interestingly, even local *ziji* allows subcommand, though only when the local subject is not a valid antecedent. For instance, *Zhangsan* may be the antecedent for *ziji* in (239a) but not in (239b).

239. a. [Zhangsan$_i$ de chezi]$_j$ haile ziji$_i$

Zhangsan 's car harmed self

'Zhangsan's car harmed *itself/him.'

[Cole, Hermon and Lee 2001: 6, ex 8]

b. [Zhangsan$_i$ de taitai]$_j$ haile ziji$_j$

Zhangsan 's wife harmed self

'Zhangsan's wife harmed herself/*him.'

[Cole, Hermon and Lee 2001: 7, ex 9]

In both sentences, *Zhangsan* subcommands *ziji*. However, in (239b), *Zhangsan de taitai* ('Zhangsan's wife') would have been an acceptable antecedent for *ziji*, so *Zhangsan* cannot be the antecedent. In contrast, in (239a), *Zhangsan de chezi* 'Zhangsan's car' would not be an acceptable antecedent, because *ziji* has to be animate. In this case, the subcommanding NP *Zhangsan* may be an antecedent for *ziji*.

Likewise, *zibun*, like *ziji*, can take a subcommander as a local antecedent (Nishigauchi 2005). As with binding by a subject, though, this is only possible when the verb is "inherently reflexive", allowing *zibun* to be bound by a coargument. Therefore, (240a) is quite acceptable, while (240b) is only marginal.

240. a. Yamada-no taido-wa zibun-o kenson-site i-ru

Yamada-Gen attitude-Top self-Acc humble(V) be-Pres

Yamada's attitude humbles self.

b. ??Yamado-no gooman-sa-ga zibun-o kizu-tuke-ta

Yamada-Gen arrogance-Nom self-Acc hurt-Past

'Yamada's arrogance hurt self.'

[Nishigauchi 2005: 113]

Nishigauchi claims that for subcommand to be allowed, the head noun has to be interpreted "as if" it is a coargument of *zibun:* "local" binding means binding by a coargument. For *zibun* to be bound by a coargument, the verb needs to be inherently reflexive.

3.3.5.3 Sentence-free LD reflexives

Furthermore, not only can LD reflexives be used with non-subject antecedents, but sometimes they can be used with no antecedent in the sentence at all. In this case, as with LD reflexives with overt antecedents, the reflexive has to hold a discourse role having to do with point-of-view.

Here is an example in which *ziji* may be used without any antecedent at all. Without a sentential antecedent, *ziji* usually refers to the speaker, as in (241)[38] (Yu 1992, 1996, Huang and Liu 2001).

[38] Of course, as shown by the gloss, even normally local reflexives such as English *myself* can be used sentence-free sometimes (Huang and Liu 2001, citing Kuno 1987, Ross 1970.)

241. Zhe-ge xiangfa, chule ziji, zhiyou san-ge ren zancheng.

This-CL idea, besides self only three-CL people agree

'As for this idea, besides myself, only three other people agree.'

[Huang and Liu 2001: 157. ex. 36.]

This is consistent with the idea that *ziji* must be bound by a source, self or pivot. The external speaker is an obvious source of communciation, because he is the one currently speaking.

Likewise, consider this example of sentence-free *zibun*. Speaker B's response below may refer to John, even though speaker B does not use *John* at all.

242. A: *John$_i$-ga dareka-o soko-ni okutta n-desu-ka?*

'Did John send someone there?'

B: *Iie, zibun$_i$-ga itta n-desu.*

'No, himself (=John) went there.'

(Fukui 1984:40, quoted with modifications in Aikawa 1999: 157.)

Alternately, *zibun* in some dialects may be first or second person, taking as its antecedent the speaker or audience. For instance, in (243) *zibun* may be used to mean 'me' or it may be bound by *Masao*.

243. Masao-ga zibun-o semeta

Masao-nom self-acc blamed

'Masao$_i$ blamed himself$_i$/me.'

(Aikawa 1999:158, quoting Gunji 1987, Aikawa 1993, Iida 1996)

The acceptability of sentence-free first-person *zibun* seems to vary by dialect: Nishigauchi (2005) says that in his dialect first-person *zibun* is only allowed in "military or athletes' speech." On the whole, though, it is important to note *zibun* does not require an (overt) antecedent that is present in the sentence itself.[39]

Similarly, Icelandic *sig* may be used in indirect discourse to refer to a pre-established "secondary ego" (Sigurðsson). In (244), the antecedent of *sér* is understood to be *formaðurinn* (the chairman), and there is no overt antecedent in the same sentence as *sér*. (Note that *sér* is the dative form of *sig*.)

244. Formaðurinn varð óskaplega reiður. Tillagan vœri svívirðileg og
the chairman became furiously angry. the proposal was(subj) outrageous and
vœri henni beint gegn sér persónulega. Sér vœri sama…
was(subj) it aimed against SELF personally. SELF was(subj) indifferent…
[Sigurðsson 1990 ex. 22]

That is, *sig* does not need an overt antecedent in the sentence in which it appears. Here, instead, it gets its reference from the previous discourse. However, even though *sig* does not require an antecedent in the sentence, it cannot be used anywhere that ordinary

[39] This does not preclude the possibility that apparently sentence-free *zibun* must be bound by a null element. Indeed that is what Nishigauchi 2005 argues and I adopt this part of his account, as discussed below.

pronouns can. For example, it would be unacceptable to start a written work with *sig*, although starting it with *hann* ("he") would be acceptable (Thráinsson 1991). This leads Thráinsson to conclude that *sig*, even when used without a syntactic antecedent, cannot be deictic or have independent reference.

The use of subjunctive mood carries over across sentences in this case, just as it can carry across clauses within a single sentence (the 'domino effect'). If a string of sentences is meant to represent indirect reported speech, all of these sentences may appear in the subjunctive. Furthermore, when the domino effect applies across sentences, this appears to license the use of *sig* as an LDR referring to the POV-holder of the sentence.

245. Jón$_i$ sagði að hann héldi margar ræður. Sumar væru um efnahagsmálin,
John said that he held(sbj.) many speeches Some were about economics,
aðrar fjölluðu um trúmál eða fjölskyldumál.
others dealt with religion or family values
Samt kæmi ég aldrei til að hlusta á sig$_i$.
yet came I never for to listen to REFL
'John said that he gave many speeches. Some of them were about economics, others about religious matters or family values. Still I would never come to listen to him.' (Thráinsson ex. 9.28 p. 472)

Just as with embedded clauses, if the domino effect is broken and a further sentence appears in indicative mood, this indicates that the sentence is once again meant to be from the speaker's POV. When this happens, *sig* can no longer refer to an LD antecedent.

246. … Samt fer ég aldrei til að hlusta á *sig$_i$/ hann$_i$.
yet go(ind.) I never for to listen to *REFL/ him

This is exactly what happens when the domino effect is broken within a single sentence, such as (247). When *sig* is inside an embedded indicative clause, it cannot take an LD antecedent.

247. *Jón$_i$ segir að Haraldur viti að María elskar sig$_i$
'John says (ind) that Harold knows (subj) that Mary loves (ind) her/(??him).
[Thráinsson 1990: 298]

I discuss the domino effect further in section 3.4.1—but for now I note that LD uses of *sig* in a single sentence show similar restrictions to uses of *sig* with an extrasentential antecedent. This suggests that the relationship between LD *sig* and its antecedent is not mediated by a direct structural relationship, such as c-command, holding between the reflexive and antecedent. Rather, the presence of a secondary ego (which in turn seems to be related to the use of subjunctive mood) is implicated.

Finally, *tannu* may be used without an antecedent in the sentence (Amritavalli p. 59, quoting Bhat p. 102). Bhat notes that unlike other pronouns in Kannada, sentence-

free *tannu* is "restricted to point-of-view contexts." Here is an example of *tannu* used to represent the point of view character, Vishaala.[40]

248. (vishaala) aa kaaDu manuSya tannannu aakramisuttaane yendukoNDidda. avanu
a name that wild man self-acc will attack had thought he
haageenuu maaDiralilla. samudra daNDeyinda tannannu yettikoNDu banda.
any such thing had not done sea shore from self-acc carried came
'(Vishaala) had thought the wild man would attack self. He had done no such thing. (He) had carried self back from the seashore.'

To sum up, LD reflexives may be used with no overt antecedent, subject or otherwise. When they are used this way, there are discourse requirements on them similar to the discourse requirement on LDRs with antecedents. This suggests that discourse role of the antecedent, rather than its structural relation to the reflexive, is the crucial factor in licensing the reflexive's use.[41]

3.3.5.4 Subjects of Passives

There is a potential snag for the idea that only discourse role of the antecedent is what matters for licensing LD reflexives. The problem is that sometimes the subject of a

[40] Kannada is a pro-drop language; the subject of the third sentence is null.
[41] This may be overly strong. In later sections I will argue that all LDRs (with or without overt antecedents) are licensed by something in an A' position associated with point of view. Depending on how this position is related to an overt antecedent higher up, it would not be incompatible to say that when there *is* an antecedent, its structural position matters.

passive makes a good antecedent for a reflexive, when the object of the corresponding active sentence does not.

Consider the contrast in acceptability of *sig* in the following Icelandic sentences.

249. a. Ég taldi Jóni$_i$ trú um [að *sig$_i$/hann$_i$ vantaði hæfileika].
I convinced John(D) belief about that *REFL/he(A) lacked talent
'I made John believe that he lacked talent.'

b. Jóni$_i$ var talin trú um [að ?sig$_i$/hann$_i$ vantaði hæfileika].
John was convinced belief about that ?REFL/he(A) lacked talent
'John was made to believe that he lacked talent.'

[Thráinsson 2007 ex. 9.70, quoting Maling (1984:239)]

When *Joni* is the object of the matrix verb, it cannot bind s*ig* within the embedded finite clause (249a). However, when the matrix verb is passivized, *Joni* becomes marginally acceptable as the antecedent to *sig* (249b). This is surprising given that the thematic role of John is presumably unchanged. The question is whether simply passivizing the sentence ought to make John a more felicitous POV holder for some reason, or whether, in fact, grammatical subjects are better binders of *sig* than objects, independent of POV considerations.

Furthermore, similar facts can be found for Kannada *tannu*. Amritavalli points out (based on Bhat, p.c.) that the nominative subject of a passive can be the antecedent of *tannu*.

250. avaLu$_i$ shaastrige$_j$ tanna$_{i,*j}$ gaambhiiryadinda mecchigeaadaLu

she-nom Shastri-dat self's dignity by became impressive

'She$_i$ became impressive to the Shastri$_j$ by self's$_{i,*j}$ dignity

(Amritavalli 2000 ex. 120)

Very oddly, it seems that the experiencer, Shastri (presumably a good Self) cannot be the antecedent, whereas that the nominative can. This does seem like evidence in favor of (grammatical) subject-orientation. In fact, this judgment is especially surprising given that elsewhere, Amritavalli says Bhat (1978: 56-57) does give sentences "purporting to show that an experiencer dative may block the choice of a nominative subject antecedent for *taanu*."[42] I am uncertain how to resolve this discrepancy.

I can think of two potential explanations for the influence of subjecthood on whether something can be an antecedent to a long-distance reflexive. First off, maybe subjecthood does matter, in addition to discourse requirements. Perhaps some reflexives require an antecedent that is both a subject and the bearer of certain discourse roles. If I assume that the discourse role is represented in the syntax in some way, I could still posit that it had to be linked to the antecedent through some particular structural configuration. See later sections for discussion. Alternatively, maybe for whatever reason it is easier for the subject of a passive to be considered a source/self/pivot than for the object of an active verb, even if they have the exact same thematic role. I am not sure why—perhaps it is easier or more common for the grammatical subject to be interpreted as a POV holder, or perhaps in a passive there are simply fewer other arguments to potentially have

[42] Amritavalli uses for the citation form of *tannu* its nominative, *taanu*. I am following Lidz in saying *tannu*.

these discourse roles. (This, however, fails to explain why the dative experiencer cannot be the antecedent of *tannu* in (250)).

3.3.6 Conclusions

All of the LD reflexives that I have considered here seem to be referring either to a point-of-view holder (a source or self in Sells's terms, or a logophoric reflexive in Oshima's terms) or else to an axis of deixis (a pivot in Sells's terms, or an empathic reflexive in Oshima's terms). The discourse role of the LDR's antecedent seems to be the key requirment. This section will therefore be the basis for my later argument that LD reflexives are licensed by something in an A' position. Specifically, I will say that this A' position is actually represented in the syntactic structure of the embedded clauses (section 3.4). More specifically, there is evidence (of varying qualities) that when you have these reflexives referring to POV holders you also have some kind of left periphery position associated with POV with a binder for them.

3.3.7 MD and LD reflexives in the same language

Above I argued that *sig* has separate long-distance and medium-distance uses that show different properties. In fact, *sig* is not anomalous in this regard. Here I argue that Japanese *zibun* also shows MD uses: it may be bound from outside an infinitive without requiring a POV holder for an antecedent. For this section, I will be using Oshima's distinction between two different types of long-distance reflexive: logophoric and empathic reflexives. The key thing to note is that *zibun* allows MD uses that are neither

logophoric nor empathic. This suggests that they are in fact patterning with local uses of *zibun*, much like local and MD *sig* pattern together.

Oshima (2004) argues that even the reflexive use of *zibun* may allow a somewhat non-local binder, such as the subject of a complex predicate. In the following sentences, for instance, *zibun* may take either the local subject, Pat, or the subject of the complex predicate, Max, as its antecedent.

251. Max$_i$-wa Pat$_j$-ni zibun$_{i/j}$-o bengo-sase-ta.
Max-Top Pat-Dat self-Acc defend-Caus-Past
'Max$_i$ made Pat$_j$ defend him$_i$/himself$_j$.' [Oshima 2004 ex. 13]

252. Max$_i$-wa Pat-ni zibun$_i$-o boku-ni wariate-sase-ta.
Max-Top Pat-Dat self$_i$-Acc I-Dat assign-Caus-Past
'Max$_i$ made Pat assign him$_i$ to me.' [Oshima 2004 ex. 14]

Oshima argues that *zibun* in (252) fulfills neither of the POV requirements that LD *zibun* normally has to fulfill. If *zibun* were being used as an empathic pronoun (roughly, a pivot, then we would expect to see blocking effects. The embedded clause has a first-person pronoun in it, which would rule out the use of *zibun* as an empathic pronoun. (In Oshima's terms, the speaker is a better empathy locus than Max, so Max cannot be the antecedent of empathic *zibun* if there is a first-person pronoun present). Furthermore, *zibun* cannot obviously be used as a source or self (a 'logophoric' *zibun*, in Oshima's terms). At least, it is not immediately evident that Max's speech or thoughts are being

reported. Nonetheless *zibun* may take Max as an antecedent[43]. Oshima argues by process of elimination that this means that this is an instance of 'reflexive' *zibun*, just as local binding of *zibun* is. In particular, he notes that "the application domain of the co-argumenthood condition of reflexive *zibun* must be extended to the "nested" argument structure of a complex predicate (see Manning *et al.* 1999)" (11).

I think that it is useful to make a further distinction among different types of 'reflexive' pronoun—I propose that Japanese *zibun*, similar to Icelandic *sig*, allows a MD use: it may take a nonlocal subject antecedent as long as this antecedent is within the first finite clause—as it is here. The grammar underlying when this is possible is distinct from that underlying when the use of a more strictly local reflexive may be used. That is, local reflexives seem to require something like co-argument-hood (as in Reinhart and Reuland 1991, 1993), but MD reflexives, in my theory, care about something like the possibility of movement to the antecedent position. (This may, again, be due to properties of the argument structure of verbs, though, rather than properties of *zibun* in and of itself.)

"Reflexive" *zibun* here behaves differently both from local reflexives in, for instance, English, and even from other reflexives in Japanese. Consider the following.

253. Max_1 made Pat_2 assign $\text{himself}_{*1/2}$ to me.

The only valid antecedent for *himself* here is *Pat*. Similar facts apply for Japanese if *zibun* is replaced with the complex forms *zibun-zisin* or *kare-zisin*: these forms can only be bound by the more local subject, Pat.

[43] Shin Tanigawa (p.c.) notes that he actually prefers the nonlocal subject, Max, as an antecedent in these sentences, although he allows Pat as well.

254. Max-wa Pat-ni zibun-zisin-o bengo-sase-ta.

Max-Top Pat-Dat self-Acc defend-Caus-Past

'Max$_i$ made Pat$_j$ defend him$_i$/himself$_j$.'

255. Max-wa Pat-ni kare-zisin-o bengo-sase-ta.

Max-Top Pat-Dat self-Acc defend-Caus-Past

'Max$_i$ made Pat$_j$ defend him$_i$/himself$_j$.'

Shin Tanigawa (p.c.) notes that either *zibun-zisin* or *kare-zisin* may take 'Pat' as its antecedent, whereas for both, it is "difficult" to take Max as the antecedent. That makes sense if *zibun*, but not the complex forms *zibun-zisin* or *kare-zisin*, may be used as a "medium-distance" reflexive. This medium-distance use is distinct both from LD uses (which require POV holders) and local uses (which require coargument binders).

Medium-distance *zibun*, I propose, is related to its antecedent directly by movement, just like medium-distance *sig*. Consider the derivation of (256).

256. Max$_i$-wa Pat$_j$-ni zibun$_{i/j}$-o bengo-sase-ta.

Max-Top Pat-Dat self-Acc defend-Caus-Past

'Max$_i$ made Pat$_j$ defend him$_i$/himself$_j$.' [Oshima 2004 ex. 13]

If 'Max' is the binder, the numeration is as follows, roughly. As with Icelandic, I assume that the nonfinite complement of the causative is a phase of the numeration, but not a

spell-out domain.

257. Numeration= {{{Max, zibun}, Pat, defend,} Caus}

Max and *zibun* are merged.

258. a. [Max *zibun*]

b. Numeration= {{{~~Max, zibun~~}, Pat, defend}, Caus}

Merge in the verb. The verb assigns a theta role to the NP, which is headed by *zibun*. *Max* still lacks a theta role and will need to get it by moving.

259. a. [Max zibun] defend

b. Numeration= {{{~~Max, zibun~~}, ~~Pat~~, defend}, Caus}

Now is the time to merge the subject of "defend". Merge over Move says that it is preferable to merge Pat from the numeration rather than moving Max:

260. a. Pat [Max zibun] defend

b. Numeration= {{{~~Max, zibun~~}, ~~Pat~~, ~~defend~~,} Caus}

Next, merge the causative.

261. a. Pat [Max zibun] defend-causative

b. Numeration= {{{~~Max, zibun~~}, ~~Pat~~, ~~defend~~,} ~~Caus~~}

Now it is time to bring in the argument of the causative. Since there are no more nouns in the numeration, we can move Max. In the process, Max gets a theta-role from the causative morpheme.

262. Max Pat [~~Max~~-zibun] defend-causative

If 'Pat' is the binder, the numeration will be different because the subject of the causative is in a higher phase.

263. Numeration= {{{Pat, zibun}, defend,} Max, Caus}

Merge *Pat* with *zibun*, and then merge the result with *defend*. *Defend* gives its theta role to the NP, which is headed by *zibun*. *Pat* still needs a theta-role.

264. a. {Pat zibun} defend

b. Numeration= {{{~~Pat~~, ~~zibun~~}, ~~defend~~,} Max, Caus}

Since there are no more NPs in this phase of the numeration, *Pat* may move to become the subject of defend, getting a theta-role in the process.

265. a. Pat [~~Pat~~ zibun] defend

b. Numeration= {{{~~Pat~~, ~~zibun~~}, ~~defend~~,} Max, Caus}

In the next phase, the causative is merged and then *Max* is merged as its argument.

266. a. Max Pat [~~Pat~~ zibun] defend Caus

b. Numeration= {{{~~Pat~~, ~~zibun~~}, ~~defend~~,} ~~Max~~, ~~Caus~~}

Making the complement of the causative a phase means that Merge-over-Move will not make any trouble for the local version of this sentence.

To sum up, then, *sig* is not the only reflexive that has both MD and LD uses. *Zibun* does as well (although Japanese has fewer obvious infinitives, making data on it harder to come by). When *zibun* is used as an MD reflexive, it and its antecedent are related directly by movement and they both are in the same spell-out domain.

Long-distance and medium-distance uses of reflexives do not necessarily go together: a language may have either, both, or neither. Mainland Scandinavian languages, for instance, have MD reflexives but not LD reflexives. Chinese has LD reflexives but not (to the best of my knowledge) MD reflexives. MD reflexives are related to their antecedents by doubling and movement. LD reflexives have antecedents with particular discourse roles. Nevertheless, I will argue that there is a connection between LD reflexives and MD reflexives: both involve doubling, though only MD reflexives take a double that is the DP antecedent.

3.4 Coding Discourse Roles in the Syntax

In the previous section, I presented evidence that long-distance reflexives in a variety of languages are associated with particular discourse roles. In terms of Sells (1987) they refer to a source (someone whose speech is presented), a self (person whose thoughts or emotions are presented), or pivot (reference point for deixis). Given all of this, it might be tempting to hypothesize that LD reflexives are not related to their antecedents via syntactic means, but solely through these discourse roles. Naturally, if LD reflexives have to refer to a source, self, or pivot, this limits their possible "antecedents" to NPs that make a good source, self, or pivot—and several apparent structural requirements on LD reflexives, such as a preference for c-commanding subjects as antecedents, can potentially be derived from this.

While this approach makes a lot of sense, it does not intuitively capture the fact that these "long-distance" reflexives are often the same word as reflexives with local or MD readings. Certainly it does not fit well with the account of local and medium-distance reflexives that I pursue in this work. It seems arbitrary that local or MD-bound *sig* should be related to its antecedent by doubling and movement, while LD *sig* should be able to refer to any source or self without reference to any such syntactic operations. Why would a language use the same word for both? Simple ambiguity is a possibility: LD *sig* and local *sig* are just homonyms. That, however, fails to explain the wide variety of LD reflexives from different language families that also use the same word as local form. Why should Icelandic *sig* and Japanese *zibun* share this same ambiguity, for instance? One solution would be to code the ambiguity into Universal Grammar in some way—the same kinds of words that are locally bound via the mechanism for MD

reflexives could also be used to refer to NPs with prominent discourse roles. The relation between the two uses is still arbitrary, but it is at least predicted to appear even in unrelated languages.

Better, though, would be if at least some of the grammatical account of MD reflexives could be carried over to long-distance, discourse-role-dependent uses of the same words. If similar grammatical mechanisms underlie both uses, then it follows that many languages use the same word for both. At the same time, I do not want to neglect the importance of discourse role to the LD uses of reflexives such as *sig* and *zibun*, given the wealth of evidence that this is important. My solution is to argue (and present arguments by others) that discourse roles are themselves represented in the syntactic structure of these sentences. I in particular will argue that long-distance reflexives have a double, just like local reflexives, but this double moves to a position associated with a discourse role, rather than moving to a theta-position.

In the following section, I argue for the existence of a left-periphery position associated with discourse role and used in the licensing of long-distance reflexives. After that (in section 3.5), I will consider evidence that such a position is related to a long-distance reflexive via doubling and movement.

What makes me think that long-distance reflexives are associated with a particular left-periphery position? Different languages that I examine provide different pieces of the puzzle. Icelandic (3.4.1) provides evidence that discourse role can have effects on the syntax of a clause. Specifically, subjunctive mood is used when a clause is not representing the point-of-view the external speaker (Sigurðsson 1990). This is a superset of the cases in which LD *sig* may be used—clauses in which some other person's point-

of-view is being represented (there are also clauses where no point-of-view holder is being represented, such as hypotheticals). I do not have direct evidence that *sig* is associated with a left-periphery position, but at least I know it is associated with a discourse role that has syntactic effects.

In Kannada, meanwhile (section 3.4.2), there is evidence that LD *tannu* goes along with an extra element in the left periphery of the clause (Lidz 2008). Specifically, long distance *tannu* creates weak island effects reminiscent of wh-islands, which would make sense if the use of LD *tannu* requires the filling of a Spec, CP position that a wh-word could otherwise have moved through. Whatever element fills spec CP, it can plausibly be associated with discourse role, although I do not have direct evidence for this.

As a side note, I will here consider a set of pronouns, called *n*-pronouns, in the African language Abe (section 3.4.3). Koopman and Sportiche (1989) argue based on coreference facts that *n*-pronouns must be bound in the left periphery of a clause. Anand (2006) also uses coreference facts to argue that Chinese *ziji* is bound by an operator in the left periphery (section 3.4.4). Interestingly, the particular coreference facts that they use are quite different. Coreference in Abe may be explained by operators if you assume that *n*-pronouns may be bound by an operator in any clause, not just the local one. In contrast, coreference facts in Chinese may be explained by operators if you assume that *ziji* must be bound by the most local operator to it. I explain the difference as follows: Abe *n*-pronouns are not reflexives at all-- sometimes *n*-pronouns may be used as logophorically, but they are also not used as the default form of the local reflexive. In contrast, *ziji* is a local reflexive that may also be used long-distance. Consequently, in

my account, only *ziji* has a sister to which it is related by movement (in the case of LD *ziji*, movement to a left-periphery position). (For more on this, see section 3.5.) Abe *n*-pronouns, in contrast, are bound by elements that are base-generated in the left periphery. Nonetheless, Abe provides evidence that pronouns can be dependent on left-periphery operators, which supports my account for reflexives inasmuch it gives evidence that such operators exist.

Finally, I will consider Japanese *zibun*. Japanese has a variety of modal heads associated with different discourse roles—and their presence can be used to license LD *zibun* (Nishigauchi 2005, 2010). This provides support for the view both that LD reflexives are licensed by something in the left periphery, and that this licenser is associated with discourse role. Furthermore, at least one of these modal heads, *-te simaw-*, may occur with an overt NP argument (Nishigauchi 2005)—and Nishigauchi hypothesizes that even when these modals do not take *overt* arguments, they take null ones. Thus, when I claim in later sections that even LDRs start out with a double, I have evidence that there is a place to which the double can move.

3.4.1 Subjunctive mood in Icelandic

Interestingly, for most Icelandic speakers[44] LD *sig* must occur in a clause with subjunctive mood. Some linguists have suggested that this is due to structural properties of subjunctive clauses. For instance, Manzini and Wexler (1987) have argued that this is due to subjunctive verbs being like infinitives in some relevant way: they would treat *sig* being bound from outside a finite subjunctive clause just like *sig* being bound from

[44] See Sigurðsson 1990 for an exception, though.

outside an infinitive. (Note, however, that Icelandic subjunctives do show tense and phi-feature agreement). I argue that such an account does not work because *sig* in a subjunctive clause does not really share the properties of MD *sig*. Instead, I will follow the proposals by Sigurðsson (1990) and Thráinsson (1990) that the subjunctive mood is only indirectly related to whether LD *sig* can be used. What is really going on is that *sig* is subject to a discourse requirement that it refer to a "secondary ego." The presence of a secondary ego is usually indicated by the subjunctive mood, but the subjunctive mood can also be used in other, non-*sig*-licensing, ways.

Subjunctive mood indicates that the speaker is not taking responsibility for the truth of an utterance. One reason for the speaker not taking responsibility for the truth of an utterance would be if the speaker is representing another person's viewpoint—that is, if there is a "secondary ego." (Other reasons would include, for instance, a conditional or hypothetical which is not being claimed to represent anyone's point of view.) In turn, LD *sig* must refer to a secondary ego (Sigurðsson 1990). Consequently, LD *sig* is usually used in subjunctives. In Sigurðsson's analysis, the subjunctive mood is not directly responsible for the licensing of *sig*: instead, discourse requirements are.

However, subjunctive mood itself does represent discourse in a relevant way, basically representing a superset of the discourse scenarios in which *sig* may be used. This therefore at the very least provides evidence that discourse role has effects on the syntax of the sentence. It is compatible with an account in which there is some syntactic reflex that *does* apply specifically to those scenarios in which *sig* is licensed.

For most Icelandic speakers, *sig* may only take an LD antecedent if it appears within a subjunctive clause. For instance, the use of LD *sig* is acceptable in (267a),

where *segir* 'says' takes a subjunctive complement, but not in (267b), where *veit* 'know' takes an indicative complement.

267. a. Jón segir að María elski sig/hann
John says (ind) that Mary loves (subj) SELF/him
'John$_i$ says that Mary loves him$_i$.'

b. Jón veit að María elskar *sig/hann
John knows (ind) that Mary loves (ind) *SELF/him
'John$_i$ knows that Mary loves him$_i$.'

[Sigurðsson 1990 ex. 3-4, from Thráinsson 1976, 1979, 1990]

The requirement that *sig* be in a subjunctive clause is not present for other LD reflexives such as Japanese *zibun* (although Japanese does not overtly mark the subjunctive in any event). However, Thráinsson (1990) and Sigurðsson (1990) convincingly argue that this apparently grammatical requirement actually follows from discourse considerations. Specifically, the antecedent of *sig* must refer to a secondary ego with referential point-of-view. The need for subjunctive mood simply follows from these discourse requirements. By itself, subjunctive mood is not sufficient to allow LD anaphora, and for some speakers of Icelandic, it is not even necessary.

First off, it is not the case that *sig* can be bound long-distance whenever it appears in a subjunctive clause. For example, *sig* cannot be bound from outside an adverbial clause in the subjunctive, as shown in (268) and (269).

268. María er hér enn þó að ég skammi *sig/hana

Mary is here still although I scold(subj) SELF/her

'Mary$_i$ is still here, although I scold her$_i$.'

[Sigurðsson 1990: 311]

269. a. *Jón$_i$ kemur ekki [nema þú bjóðir sér$_i$].

John comes(ind) not unless you invite(sbj.) REFL

b. *María$_i$ heimsækir þig [þótt þú hatir sig$_i$].

Mary visits(ind) you although you hate(sbj.) REFL

(Thráinsson 2007 ex. 9.17)

This makes sense if in such clauses, there is not necessarily a secondary ego. The subjunctive mood has other uses.

Before discussing LD reflexives, I should note an interesting phenomenon involving subjunctive mood. With the kind of verbs that take subjunctive complement clauses, consider what happens when these subjunctive complement clauses have their own clausal complements or adjuncts. The subjunctive mood is allowed to spread to these doubly embedded clauses in a process Thráinsson (1990, 2007) calls the "domino effect."

270. María segir [að Jón viti [að Helga sé farin]]

Mary says that John know(sbj.) that Helga be(sbj) gone

(Thráinsson 2007 ex. 8.13)

The verb *vita* 'know' normally takes an indicative complement. However, when it is itself embedded under a verb that takes a subjunctive complement, then its complement can also be in the subjunctive. The domino effect does not have to apply-- it would also have been possible for the complement of 'know' to be in the indicative, even though 'know' is itself in the subjunctive.

271. (María segir [að Jón viti [að Helga er farin]]
Mary says that John know(sbj.) that Helga be(ind) gone

Crucially, however, there is a distinction in meaning between (270) and (271). When the complement of 'know' is in the subjunctive, that means that the embedded clause is describing what Mary says is true, rather than what the speaker believes to be true. The speaker could go on to say that in fact, Mary is mistaken and Helga is not gone:

272. María segir [að Jón viti [að Helga sé farin]]
Mary says that John know(sbj.) that Helga be(sbj) gone
en hún er reyndar ekki farin
but she is(indic.) actually not gone
(Thráinsson 2007 ex. 8.14)

However, when the complement of 'know' is in the indicative, this means that the speaker is presupposing the truth of its complement. If the speaker tried to contradict

(271) in the same way, the result would be semantically anomalous. We can thus use subjunctive mood, at least in some cases, as an indicator that a clause is representing the viewpoint of someone other than the speaker.

Moreover, in such "domino-effect" sentences, *sig* can sometimes be bound by one antecedent, but not by another more local antecedent, as in (273), where the matrix subject *Anna* but not the intermediate subject *Jón* may be the antecedent of *sig.*

273. Anna segir að Jón viti að María elski sig

'Ann says (ind) that John knows (subj) that Mary loves (subj) her/(??him).

[Sigurðsson 1990 ex. 6]

In this case only the subject of 'say' is a valid antecedent for *sig*; the subject of *know* is not. Sigurðsson (1990:325) says that the use of LDR correlates with responsibility for the truth of an utterance. In this case, for example, Anna, the speaker, can be responsible for the truth of the whole embedded clause "John knows that Mary loves her." If so, Anna is asserting both that Mary loves Anna, and that John knows this. The content of the most deeply embedded clause is then being asserted by Anna, not the external speaker, which causes the use of subjunctive mood. (I assume furthermore that because Anna is the person asserting something, and John's knowledge is not considered an assertion, that this is why only Anna, and not John, makes a good referent for *sig*.)

Interestingly, when the domino effect does *not* hold, and the complement of 'know' takes the indicative, then LD binding of *sig* is not allowed, as shown below.

274. *Jón$_i$ segir að Haraldur viti að María elskar sig$_i$

'John says (ind) that Harold knows (subj) that Mary loves (ind) her/(??him).

[Thráinsson 1990: 298]

Once again this correlates with "responsibility"—the use of the indicative in the complement of 'know' indicates that the external speaker (not just John) is asserting that Mary loves someone. When a subjunctive clause indicates that somebody (but not the speaker) is responsible for the truth of an utterance, then an instance of *sig* appearing in that clause may take an LD antecedent (Thráinsson 1990).

As I noted above in section 3.3, the domino effect also can hold even across sentences—subjunctive mood is used to indicate a POV holder other than the speaker, as in indirect literary discourse. As before, if the domino effect is broken and the speaker switches back to indicative mood, then the sentence is no longer from the perspective of someone other than the speaker, and LD *sig* can no longer be used. Compare (275), in which the domino effect holds, to (276), in which it does not.

275. Jón$_i$ sagði að hann héldi margar ræður. Sumar væru um efnahagsmálin,

John said that he held(sbj.) many speeches Some were about economics,

aðrar fjölluðu um trúmál eða fjölskyldumál.

others dealt with religion or family values

Samt kæmi ég aldrei til að hlusta á sig$_i$.

yet came I never for to listen to REFL

‘John said that he gave many speeches. Some of them were about economics, others about religious matters or family values. Still I would never come to listen to him.’ [Thráinsson 2007 ex. 9.28]

276. … Samt fer ég aldrei til að hlusta á *sig$_i$/ hann$_i$.

yet go(ind.) I never for to listen to *REFL/ him [Thráinsson 2007 ex. 9.29]

In (276), as in the embedded clause of (274), the indicative mood indicates that the speaker is the point-of-view holder. Thus *sig* may not take an LD antecedent.

Not all uses of LD *sig* involve it being in the object of a speaking or thinking verb. LDR can be used even when the antecedent of *sig* is not the subject of a speaking or thinking verb. The use of *sig* in these places correlates with the use of subjunctive mood, and both correlate once again with the idea of a secondary ego whose viewpoint is represented. For example, predicates like “brought it about” may take either indicative or subjunctive complements, as in (277).

277. Jón kom því til leiðar að María kom/kœmi heim.

‘John brought it about that Mary came(ind/subj) home.’

[Thráinsson 1990: 292, ex. 15.]

However, the subjunctive complement cannot be used unless the event was brought about *on purpose*. In (278), where John brought it about inadvertently that Mary came home, the embedded verb *kom* may only appear in the indicative, not the subjunctive.

278. Jón kom því óviljandi til leiðar að María kom/*kœmi heim.
'John brought it inadvertently about that Mary came (ind/*subj) home.'
[Thráinsson 1990: 292, ex. 16]

LD *sig* can only be bound long-distance if the embedded verb takes the subjunctive mood, as in (279).

279. Jón$_i$ kom því til leiðar að María *kom/kœmi til sín$_i$.
'John brought it about that Mary came (*ind/subj) to himself.'
[Thráinsson 1990: 295, ex. 28]

So, subjunctive mood is used only when the thing brought about is intentional; in turn, only an intentional bringer-about can be the antecedent for an LD reflexive. *Jón* may be a potential antecedent for *sig* because John's "point of view" is in some way reflected in the subjunctive clause (Thráinsson 1990).

Some dialects of Icelandic, as well as some related languages, do not require long-distance reflexives to be in subjunctive clauses. Sigurðsson (1990: 313) notes that Old Icelandic allowed LDR into complements of verbs of saying (just as Modern Icelandic does), but that at that time these verbs took indicative rather than subjunctive

complements. Additionally, Faroese, a modern relative of Icelandic, has no subjunctive mood but allows long-distance anaphora. Finally, there are some speakers of Modern Icelandic who do allow LD reflexives in indicatives, as in (280).

280. María veit að Jón fyrirlítur sig/hana.
Mary knows that John despises (ind) SELF/her.
[Sigurðsson 1990:333, ex. 68a.]

Even though these speakers allow the use of LD *sig* with the indicative, they have semantic restrictions on its use. When (280) is used with reflexive *sig*, they prefer to interpret the verb *veit* in the sense of "be certain of"—thus the complement clause is describing Mary's thoughts. In contrast, when a pronoun is used, the preferred reading of *veit* is"be aware of." Even though some speakers let *sig* be bound from outside an indicative, they require an antecedent whose thoughts and feelings are described. This suggests that LD reflexives and subjunctive mood are only indirectly related: what is really important is that LD reflexives have an antecedent whose perspective is shown. Some speakers require subjunctive for this to be the case; others do not.[45]

Since the subjunctive mood is neither necessary nor sufficient to indicate that an LDR can be used, it is probably not directly responsible for whatever allows for whether or not LDRs can be used. However, the subjunctive mood will still be very useful to the

[45] For these speakers, then, subjunctive mood is not a good diagnostic of who the discourse role holder is. I assume that POV-holder may still be encoded in the syntax even for these speakers—for instance, if LD *sig* is bound by something in the left periphery, I assume that left-periphery binder is still there-- but that whatever is responsible for encoding it does not require the use of subjunctive mood.

analysis in the following sentences, because it provides a diagnostic of whose point of view an embedded clause is representing. As shown above, in various contexts, the choice of indicative vs. subjunctive mood can be used to indicate whether a given clause represents the truth as the speaker sees it (indicative), or whether it represents somebody else's point of view (subjunctive).

Furthermore, I find it interesting that these discourse requirements have effects on the syntax of the sentence. If subjunctive mood represents a superset of the scenarios in which LD *sig* may be used, then maybe other parts of the syntax represent these scenarios more directly. For instance, perhaps the left periphery of the clause codes (covertly) the point-of-view holder for that clause. When the clause's point-of-view holder is either no one (as in a hypothetical) or someone who is not the speaker, subjunctive mood is used. And when the POV holder is someone, but not the speaker, this POV holder licenses the use of *sig*. I schematize this below. When the domino effect holds, the clause containing *sig* has a POV holder other than the speaker.

281. a. Anna segir að Jón viti að María elski sig

'Ann says (ind) that John knows (subj) that Mary loves (subj) her/(??him).

[Sigurðsson 1990: 311]

b. Anna_i says [POV-Anna_i that John knows [POV-Anna_i that Mary loves sig_i]]

Normally "know" does not allow for a POV holder other than the speaker, but embedding the clause beneath a verb of saying allows the matrix POV holder to be the embedded POV holder as well. This is analogous to the behavior of an indicative clause embedded

beneath a question clause-- a wh-word is somehow able to move out of the embedded clause even if the clause would not normally be able to host a wh-word in its specifier.

This proposal is only tentative as applied to Icelandic, but as I show below, it is in line with my analysis of other languages in which there is more direct evidence associating LD reflexives with something in the left periphery of the clause.

3.4.2 Island effects caused by Kannada *tannu*

Lidz (2008) argues that in Kannada, long-distance uses of *tannu* create islands. Specifically, they create weak islands reminiscent of wh-islands. This is easily explained if the use of *tannu* goes along with a filled Spec, CP, and, as with wh-islands, a filled Spec, CP prevents movement of wh-adjuncts.

Before showing examples of *tannu* creating islands, I briefly discuss wh-movement and island effects in Kannada more generally. Kannada is wh-*in-situ*, meaning that wh-words appear within the clause of which they are an adjunct or argument. For instance, *yaake* 'why' appears *in-situ* in the embedded clause rather than in a Spec, CP position. This can lead to ambiguity as to whether it is the matrix or the embedded clause that is a question—but there is no ambiguity as to which clause 'why' is modifying.

282. jay-ige [amrit vidyaarthi-yaanu **yaake** ooD-aLu anta] gnapaka
Jay-DAT Amrit student-ACC **why** praise.PST-3SF that remembrance
ban-tu.

come.PST-3SN

'Jay remembered why Amrit praised the student.'

'Why did Jay remember that Amrit praised the student?'

(Why, according to Jay's remembrance, did Amrit praise the student?)

[Lidz 2008 ex. 20a]

For instance, (282) may be either a matrix or an embedded question, but either way, *yaake* is modifying the embedded clause—what is being questioned is Amrit's reason for praising the student, not Jay's reason for remembering.

As in Mandarin Chinese, another wh-*in-situ* language (Huang 1982), only *wh*-adjuncts such as the equivalents of 'how' and 'why' are island-sensitive. *Wh*-arguments that are *in-situ* are not. So in Kannada, an object wh-word may be extracted (at LF) out of a relative clause, with no resulting island effect.

283. Hari [[een-annu ood-id-a] vidyaarthi-yaanu] huduk-utt-idd-aane

Hari what-ACC read-PST-RP student-ACC look.for-PROG-be-3SM

'What is Hari looking for the student who read?' [Lidz 2008 ex. 16a]

However, extracting an adjunct wh-phrase out of a relative clause yields unacceptability:

284. *Hari [[pustaka-vannu **yaake** ood-id-a] vidyaarthi-yaanu] huduk-utt-idd-aane

Hari book-ACC **why** read-PST-RP student-ACC look.for-PROG-be-3SM

'Why is Hari looking for the student who read the book?' [Lidz 2008 ex. 17a]

This has the effect that moved wh-arguments will create islands for wh-adjuncts, but not vice versa (this works just as in Mandarin Chinese, as in Huang 1982). For instance, (285) may be interpreted with both wh-words as part of the embedded question: Hari asked why I read what. It may also be interpreted as if 'what' was a matrix question while 'why' was an embedded question: What is such that Hari asked why I read it?

285. hari [naanu **een-annu yaake** ood-id-e endu] keeL-id-a

Hari I-NOM **what-ACC why** read-PST-RP that ask-PST-3SM [Lidz 2008 ex. 18a]

However, (285) may not be interpreted with the 'why' as a matrix question and the 'what' as an embedded question: For what reason did Hari ask what I read for that reason?

The acceptable and unacceptable readings of (285) follow from the Empty Category Principle (Huang 1982)-- or from any other grammatical constraint meant to handle the same phenomena. If LF-movement does not need to obey locality constraints such as subjacency, then arguments, which are lexically governed, will be able to move across CPs with filled specifiers. Thus, if 'why' is interpreted as forming an embedded question, its presence in Spec, CP will not prevent the argument 'what' from moving (at LF) to the matrix Spec, CP. This is schematized in (286).

286. what Hari asked [$_{CP}$ why [C' I read t_{what} t_{why}]]

However, if adjuncts are *not* lexically governed, they must be antecedent-governed by a higher copy or trace. Thus, one-fell-swoop movement of the adjunct 'why' to the matrix Spec, CP is not acceptable. When 'what' is interpreted as forming an embedded question, then it will create a wh-island, blocking movement of 'why' to the matrix clause. This is schematized in 287.

287. why Hari asked [$_{CP}$ what [C' I read t_{what} t_{why}]]

X

To sum up, although Kannada is wh-*in-situ*, it shows weak island effects. Wh-adjuncts are sensitive to *wh*-islands, while arguments are not.

The crux of Lidz's argument is that the use of LD reflexives also creates islands for wh-adjuncts. Consider (288), with no reflexive, as a baseline. Here, *yaake* 'why' may be interpreted as forming an embedded question or a matrix question.

288. jay-ige [amrit vidyaarthi-yaanu **yaake** ooD-aLu anta] gnapaka
Jay-DAT Amrit student-ACC **why** praise.PST-3SF that remembrance
ban-tu.
come.PST-3SN
'Jay remembered why Amrit praised the student.'
'Why did Jay remember that Amrit praised the student?'
(Why, according to Jay's remembrance, did Amrit praise the student?)

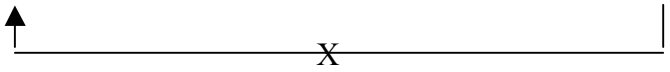
[Lidz 2008 ex. 20a]

However, when the embedded object is replaced with an LD reflexive, *tannu*, the matrix question reading is ruled out. Hence, (289) must be understood as having an embedded question, rather than being a matrix question.

289. jay-ige [amrit **taan-aanu yaake** ooD-aLu anta] gnapaka
Jay-DAT Amrit **self-ACC** **why** praise.PST-3SF that remembrance
ban-tu.
come.PST-3SN
OK: 'Jay remembered why Amrit praised him.' (*tann-annu* = Jay)
*'Why did Jay remember that Amrit praised him?' (*tann-annu* = Jay)
[Lidz 2008 ex. 20d]

What is going on? It could be that the use of *tannu*, like the use of a *wh*-word, causes the embedded Spec, CP to be filled. Then, at the relevant point in the derivation, covert movement of *yaake* 'why' through Spec, CP is blocked because Spec, CP is already full. For instance, if *tannu* is bound by an operator, perhaps this operator fills Spec, CP. Then movement of 'why' is blocked for the same reason that movement was blocked in (287)), when Spec, CP was filled with another wh-word.

290. why Jay_1 remembered [$_{CP}$ Op_1 [$_{C'}$Amrit $self_1$ praised t_{why}]]



Note that all that is crucial for this account to work is that something associated with *tannu* is blocking movement. Here I consider the possibility that *tannu* is bound by an operator, but it is possible that this operator is base-generated, or that it got to Spec, CP through movement. Furthermore, this is compatible with the possibility that Lidz 2008 puts forth, that it is actually the antecedent itself that is undergoing movement. If the antecedent moves through Spec, CP, that too would block wh-movement of 'why.' I schematize this below:

291. why Jay_1 remembered [$_{CP}$ ~~Jay_1~~ [$_{C'}$Amrit $self_1$ praised t_{why}]]

X

Crucially, Lidz only finds wh-island style effects with LD *tannu*, not with just any pronoun. If *tannu* is replaced by a pronoun, even a pronoun with the same antecedent, it no longer prevents the matrix question interpretation.

292. jay-ige [amrit **avan-aanu yaake** ooD-aLu anta] gnapaka ban-tu.

Jay-DAT Amrit **he-ACC** **why** praise.PST-3SF that remembrance come.PST-3SN

OK: 'Jay remembered why Amrit praised him.' (*avan-annu* may be Jay)

OK: 'Why did Jay remember that Amrit praised him?' (*avan-annu* may be Jay)

[Lidz 2008 ex. 20e]

Thus, it appears that it is *tannu* in particular that is responsible for the island effects.

Although *tannu* creates islands, the relation between *tannu* and its antecedent is not island-sensitive. For instance, *tannu* does not seem to be sensitive to wh-islands (as in 293) or relative clause islands (as in 294).

293. jay-ige [**yaar-u** **tann-annu** ooD-a anta] gnapaka ban-tu
jay-dat **who-NOM self-ACC** praise.PST-3SM that remembrance come.PST-3SN
'Jay remembered who praised him.' (LDA out of embedded question)
[Lidz 2008 ex. 19c]

294. hari [[**tann-annu** nood-id-a] vidyaarthi-yannu] huduk-utt-idd-aane
Hari **self-ACC** see-PST-RP student-ACC look.for-PROG-be-3SM
'Hari is looking for the student who saw him.' (LDA out of subject RC)
[Lidz 2008 ex. 19a]

Even under the hypothesis that *tannu* and its antecedent are related by movement, though, this fact is not surprising—as long as only adjuncts in Kannada are island sensitive. Since *tannu* is used as an argument, it might be expected to behave like argument wh-words, which are also not island-sensitive.

Anyway, island effects in Kannada give evidence that when *tannu* is used, something is filling a left periphery position such as Spec, CP. This does not in itself provide evidence that the left-periphery position is associated with a POV-holder role

(certainly not all complementizers would seem to have to be), but it is at least compatible with such an account.

I should note that, unfortunately for my analysis, not all LD reflexives create weak islands in the manner that *tannu* does. I present the evidence for this below.

Like Kannada, Chinese is wh-*in-situ* and shows island effects for *wh*-adjuncts. Thus, it might be expected that Chinese would behave similarly to Kannada. However, Wing Yee Chow (p.c.) does not find that LD *ziji* creates islands.

Chinese, like Kannada, is wh-*in-situ*.

295. John yiwei Bill weishemme zan Mary ne
John think Bill why praise Mary Q
'Why, according to what John thinks, did Bill praise Mary?'

Likewise, Chinese 'why' is sensitive to islands, including wh-islands.

296. John wen Bill weishemme zan shei (can only be an echo question)
John ask Bill why praise who

A different version of this could be a yes-no question, but there is no version of this sentence that is a matrix question in which *why* modifies the embedded clause.

Interestingly, however, while Chinese and Kannada appear to have much in common, *ziji* does not appear to create islands for 'why.'

297. John yiwei Bill weishemme zan ziji ne?

John think Bill why praise ziji Q

This is apparently acceptable as a matrix question with 'why' modifying 'praise'. *Ziji* may refer to John or Bill.

For Japanese, the data I was able to obtain is muddier. Japanese, similar to Chinese, shows island effects for adjuncts and is wh-*in-situ*. As a baseline, it is okay for there to be a matrix question where "why" is interpreted as modifying the embedded clause[46]:

298. Jay-wa Amrit-ga naze Mary-o ketta to omotteiru no?

Jay-top Amrit-nom why Mary-acc kicked C think Q

'Why, according to Jay, did Amrit kick Mary?'

This reading is less easily available if there is also an embedded wh-word. That is, words such as *ka dooka* 'whether' form a wh-island for (LF) movement of *naze*.

299. *Jay-wa Amrit-ga naze Mary-o ketta ka dooka kiita no?

Jay-top Amrit-nom why Mary-acc kicked whether asked Q

[46] Two of my consultants (Eri Takahashi and Shin Tanigawa) accept this sentence. Maki Kishida (p.c.) does not like this sentence at all with *naze* modifying the embedded clause—she similarly does not accept embedded *naze* readings in the rest of the sentences here.

intended meaning: what reason is such that Jay asked whether Amrit kicked Mary for that reason?[47]

Of my two consultants who accepted (298), one (Eri Takahashi, p.c.) accepted the intended reading of reading of (299)[48] while the other (Shin Tanigawa, p.c.) rejected it. At least for the consultant who rejected (299), then, Japanese shows island effects, like Kannada.

The crucial test sentence, then, is a matrix question in which *naze* 'why' modifies the embedded clause, and *zibun* is bound long distance.

300. Jay-wa Amrit-ga naze zibun-o ketta to itta no?
Jay-top Amrit-nom why self-acc kicked C said Q
'Why did Jay say that Amrit kicked him?"
(with "why" modifying the embedded clause:
Why, according to Jay, did Amrit kick him)
(to be determined: can *zibun* refer to *Jay*)

Of my consultants, the same consultant (Shin Tanigawa) who rejected (299) also does not accept LD binding of *zibun* in (300). He does, however, accept local binding. That is, *Amrit* but not *Jay* can be the antecedent of *zibun*. This is unusual because for many

[47] In fact, although Japanese is wh-in-situ (except when it isn't—A' scrambling), Japanese shows island effects even for arguments for some speakers. But I chose a sentence that would be as close as possible to the reference sentence in Kannada.
[48] I doubt that this means she does not get island effects. Maybe the effect just was not strong in this particular example.

Japanese speakers, plain *zibun* cannot be bound locally when it is the object of a verb like 'kick' or 'hit.' This seems like possible evidence that Tanigawa, at least, gets island effects caused by LD binding of *zibun*. Another consultant, Eri Takahashi, allowed either *Jay* or *Amrit* to bind *zibun*, suggesting she does not get island effects caused by *zibun*—but she also did not report island effects in (299). So, there is very tentative evidence in favor of LD binding of *zibun* inducing island effects, but the data is so muddy as to not make me very confident in it.

While obviously it would have been nice to duplicate this island-creating effect with *ziji*, I do not think the lack of it is a problem. This is still compatible with a grammatical account in which *zibun* and *ziji* are bound from the left periphery. I simply take it to mean that whatever binds them does not prevent *wh*-words from moving through Spec, CP. Perhaps they are in a different projection, or have features that do not compete.

3.4.3 Abe *n*-pronouns require left-periphery binders

The African language of Abe is another language in which a pronoun is thought to depend on something in an A' position. I would not consider these pronouns to be long-distance reflexives, but they do provide evidence that A' positions can be relevant for how pronouns are hooked up with antecedents.

Specifically, Koopman and Sportiche (1989) propose that one class of pronouns in Abe, called *n*-pronouns, must be bound in the left periphery of the clause. Unlike the other pronoun types discussed above, *n*-pronouns are not also local reflexives (although

an *n* pronoun plus another morpheme may be used locally) but they can be used as logophors.

Koopman and Sportiche argue that *n*-pronouns must be bound by a null operator of the same type, and that this operator is located in the left periphery of the clause (they say in Comp; I leave it more open). The other class of pronouns, termed *O*-pronouns, may never be bound by this operator. I schematize this below.

301. a. $[_{CP}\ Op_1\ \ C^o \ldots\ n_{1/*2}]$

b. $[_{CP}\ Op_1\ \ C^o\ \ldots\ O_{*1}\ \ldots]$

Assuming each clause may have at most one relevant operator, this has the interesting consequence that two *n*-pronouns within a single-clause sentence must corefer, since both must be bound by an operator and only one operator is present.

302. $[_{CP}\ Op_1\ \ C^o \ldots\ n_1 \ldots\ n_1]$

Moreover, an *O*-pronoun and *n*-pronoun in a single clause sentence may never corefer, because the *O*-pronoun must be free from the operator and the *n* pronoun must be bound by it.

303. a. $[_{CP}\ Op_1\ \ C^o \ldots\ n_1 \ldots\ O_{*1/2}]$

b. $[_{CP}\ Op_1\ \ C^o \ldots\ O_{*1/2} \ldots\ n_1]$

This can explain some otherwise curious facts about coreference in Abe.

In the following discussion, all of my data is quoted from Koopman and Sportiche 1989 and uses their transcriptions. Koopman and Sportiche discuss two types of third-person singular pronouns in Abe: *n*-pronouns and *O*-pronouns. They transcribe all *n*-pronouns, subject or object, as *n*. They note in the text that *n* may be pronounced with a different tone based on various grammatical features of the sentence, but this is not transcribed. All *n*-pronouns must refer to humans. The other type of third-person singular pronouns in Abe, *O*-pronouns, are null (transcribed Ø) when in subject position (or possessor of a genitive), and otherwise pronounced as *O*—they also have tonal variations which Koopman and Sportiche do not transcribe. Both *O* and *n* pronouns may be used without an antecedent. For example, either may be used in 192 as an answer to the questions in 304.

304. a. api a e
Api came Q
'Did Api come?'

b. f wu api e
you saw Api Q
'Did you see Api?' [Koopman and Sportiche 1989 ex. 2]

305. a. {n/Ø} came
'She came.'

b. m wu {n/O}
'I saw her.' [Koopman and Sportiche 1989 ex. 3]

There are, however, crucial differences between *n*- and *O*-pronouns which show up once you try to make a pronoun corefer with another NP. First, two n-pronouns often must corefer, as I discuss in section 3.4.3.1. Second, an *n*-pronoun often may not corefer either with an *O*-pronoun or a full NP, as I discuss in section 3.4.3.2. Koopman and Sportiche demonstrate that both of these phenomena can be explained by the presence of an operator that must bind *n*-pronouns. This operator ranges over a single person, and the person the operator ranges over cannot corefer with an *O*-pronoun or full NP.

Before I discuss this further, I should note that both *n*-pronouns and *O*-pronouns appear to obey something like Binding Condition B. The binding of an *n*-pronoun by another *n*-pronoun when both are coarguments is forbidden; similarly, an O-pronoun may not be locally bound by another O-pronoun or a full NP in this configuration.

306. a. n_i wu $n_{*i,*j}$

he(*n*) saw him(*n*) [Koopman and Sportiche 1989 ex. 14a]

b. $yapi_i/Ø_i$ wu $O_{j,*i}$

Yapi/he(*O*) saw him(*O*) [Koopman and Sportiche 1989 ex. 4]

However, Koopman and Sportiche note that there are variant *O*- and *n*-pronouns, transcribed *Ose* and *nse*, which appear to obey Condition A (or whatever underlies Condition A). These may be bound locally by a coargument.

307. a. yapi mU Ose/*nse

Yapi knows him(*O*)self

b. n mU nse/*Ose

he(*n*) knows him(*n*)self [Koopman and Sportiche ex. 20 (p. 564)]

They may not be bound from outside NPs or PPs, *even if* they're still within the clause.

308. a. *yapi mU [$_{NP}$ Ose erenyi]

Yapi knows him(*O*)self house

b. *n mU [$_{NP}$ nse erenyi]

he(*n*) knows him(*n*)self house [Koopman and Sportiche 1989 ex. 21]

From what I see, these pronouns behave mostly analogously to Icelandic forms with *sjálfan* or English forms with *self*; the added *se* affix allows (and in the case of Abe and English, requires) the pronouns to be bound by a coargument[49]. However, there are still differences between the use of *O*-pronouns and the use of *n*-pronouns, with or without *se*. For example, two *n*-pronouns often must co-refer, and an *n*-pronoun often must be disjoint from an *O*-pronoun (as demonstrated in (307)).

3.4.3.1 Two *n*-pronouns in Abe: coreference facts

When a sentence is only a single clause, two *n*-pronouns in it must corefer.

[49] The example in (308) suggests that –*se* may be stricter than English forms with –*self* about not being bound from outside of an NP or PP, though.

309. a. n_i wu $n_{i,*j}$ wo n

he(*n*) saw his(*n*) dog Det

b. n_i wu orovi [$n_{i,*j}$ sE]

he(*n*) saw snake him(*n*) near [Koopman and Sportiche 1989 ex. 14b,c]

If the *n*-pronouns in the same clause are unable to corefer without violating Condition B, then the sentence is unacceptable (see (306a) above).

Notice that the requirement that two *n*-pronouns corefer is independent of whether one c-commands the other. Here is a single-sentence with two *n*-pronouns, neither of which c-commands the other. Nonetheless, they must corefer.

310. n_i ceewu n kolo $n_{i,*j}$

his(*n*) friend Det likes him(*n*) [Koopman and Sportiche 1989 ex. 41]

The lack of a c-command requirement makes sense if the *n*-pronouns are not directly related by A-binding, but instead are each bound by something that c-commands them both. What is high enough that it c-commands into all of the arguments of the clause? An A' position in that clause, possibly Spec, CP. If we assume that only one A' position in the clause is capable of hosting the operator that binds *n*-pronouns, then we see that there is only one operator in a single-clause sentence, and it will bind any *n*-pronouns in that sentence. This is schematized below.

311. $[_{CP}$ Op$_1$ his(n)$_{1/*2}$ friend likes him(n)$_{1/*2}$]

The situation changes in a sentence with multiple clauses. If a clause containing two *n*-pronouns is embedded inside another clause, Koopman and Sportiche say it is possible, though dispreferred, for the two *n*-pronouns to disagree in reference.

312. api bO wu ye n (ceewu) kolo n erenyi

Api believes *ye* his(*n*) (friend) likes his(*n*) house

[Koopman and Sportiche 1989 ex. 44b]

Furthermore, if the embedded clause contains two *n*-pronouns that would violate condition A if they coreferred, it now becomes acceptable to use it, as long as each pronoun has a different referent.

313. api bO wu *ye* n kolo n

Api believes *ye* he(*n*) likes he(*n*) [Koopman and Sportiche ex. 44a]

Since the two *n*-pronouns do not corefer, they no longer violate Condition B.

By Koopman and Sportiche's hypothesis, the addition of a second clause introduces a second c-commanding operator in an A' position—this time, there may be one operator in the left periphery of the matrix clause, and another in the left periphery of the embedded clause. This is schematized below.

314. $[_{CP}$ Comp$_1$ . . . $[_{CP}$ Comp$_2$[. . . n . . . . . n . . .]]]

[Koopman and Sportiche 1989 ex. 43]

While their proposal is that the binder is in Comp, I think that their arguments would be equally consistent with a binder anywhere in the left periphery of the clause, as long as only one such binder is allowed in each clause.

315. $[_{CP}$ Op$_1$ …. $[_{CP}$ Op$_2$ … n$_1$… n$_2$]]

With two clauses, there can be two operators; each *n*-pronoun may be A' bound by a different operator so the two *n*-pronouns in the embedded clause need not corefer.

Koopman and Sportiche note that even in a multi-clause sentence, Abe speakers still prefer to treat two *n*-pronouns as having the same reference. For instance, the preferred reading of (312**)** is one in which the two *n*-pronouns corefer. Why might this be? Koopman and Sportiche's proposal is that it may be more economical to have operators that take the highest possible scope. Consequently it is preferable to have one operator (in the highest clause) rather than two.

316. a. preferred: $[_{CP}$ Op$_1$ …. $[_{CP}$ … n$_1$… n$_1$]]

b. dispreferred: $[_{CP}$ Op$_1$ …. $[_{CP}$ Op$_2$ … n$_1$… n$_2$]]

An alternative explanation that I can think of is that if having operators is costly, then there could be a preference for a sentence to have one operator rather than two. If there is

a single operator it will need to bind all the *n*-pronouns, which would have the effect that all the *n*-pronouns in the sentence would co-refer. This would not specifically require a preference for *higher* operators.

Actually, this same result could be explained in a different way. Maybe Abe has a preference (though apparently not a hard-and-fast rule) for local binding of *n*-pronouns by the nearest Comp position. If so, the preferred reading of (312) or (313) would be one in which both *n*-pronouns in the embedded clause are bound by an operator in the embedded clause, not the matrix clause.

317. a. preferred: $[_{CP} \ldots [_{CP}\ Op_1 \ldots n_1 \ldots n_1]]$

b. dispreferred: $[_{CP}\ Op_1 \ldots [_{CP}\ Op_2 \ldots n_1 \ldots n_2]]$

However, this would make a prediction that turns out to be false: that two *n*-pronouns in different clauses should preferably have different reference, with each being bound by an operator in the first c-commanding Comp.

318. $[_{CP}\ Op_1 \ldots n_1 \ldots [_{CP}\ Op \ldots n_2]]$

In fact, in Abe it is preferred for two *n*-pronouns in different clauses to corefer. (In the following examples, *ye* is a complementizer. Another Abe complementizer, *kO*, has different properties as I discuss below.)

319. a. n_i bO wu ye f mU $n_{i,(j)}$

he(*n*) believed *ye* you knew him(*n*)

b. n_i bO wu ye $n_{i,(j)}$ mU api

he(*n*) believed *ye* he(*n*) knew Api [Koopman and Sportiche 1989 ex. 15]

The preferred reading is one in which both *n*-pronouns refer to the same person.

320. [$_{CP}$ Op_i n_i believed [$_{CP}$ that you knew n_i]]

Only in the dispreferred reading, indicated with parentheses around the index, does each *n* pronoun need a different binder.

321. [$_{CP}$ $Comp_i$ [. . . n_i . . . [$_{CP}$ $Comp_j$ [. . . n_j . . .]]]] [Koopman and Sportiche 1989 ex. 45]

322. [$_{CP}$ Op_i n_i believed [$_{CP}$ Op_j that you knew n_j]]

Even though this reading of the sentence has each *n*-pronoun bound by the operator most local to it, it is still dispreferred. This is in line with Koopman and Sportiche's hypothesis that there is a preference for n-operators to take the highest possible scope. It is also consistent with a hypothesis that there is simply a preference for as few n-operators as possible. However, it is not consistent with there being a preference for local binding. At least, a preference for local binding is not responsible for the

preference for two *n*-pronouns to corefer, since this preference remains even when the two *n*-pronouns could have had different local binders.

3.4.3.2 Interactions between *n*-pronouns and other NPs

I have now shown, following Koopman and Sportiche 1989, that two *n*-pronouns often must corefer, and that this is plausibly explained by the need for an operator to bind them. This operator can also be used to explain a different coreference fact: *n*-pronouns in Abe may not corefer with *O*-pronouns or full NPs in a single-clause sentence. First, an *n*-pronoun cannot bind an *O*-pronoun (even when doing so would not violate Condition A).

323. a. n_i wu $O_{j,*i}$ wo n

he(*n*) saw his(*O*) dog Det

b. n_i wu orovi $O_{j,*i}$ sE

he(*n*) saw snake him(*O*) near [Koopman and Sportiche 1989 ex. 8]

Furthermore, an *n*-pronoun cannot be bound by an NP or *O*-pronoun.

324. a. $yapi_i/Ø_i$ wu $[_{NP}\ n_{j,*i}$ wo n]

Yapi/he(*O*) saw his(*n*) dog Det

b. $yapi_i/Ø_i$ wu orovi $[_{PP}\ n_{j,*i}$ sE]

Yapi/he(*O*) saw snake him(*n*) near [Koopman and Sportiche 1989 ex. 9b-c]

Finally, when an *n*-pronoun is in the same clause as an *O*-pronoun or a full NP, they may not corefer even if neither c-commands the other.

325. a. [n_i tEEwu foto n] lE $O_{j,*i}$ tE

his(*n*) enemy picture det bother him(*O*) Part

'The picture of his enemy bothered him.'

b. [O_i tEEwu foto n] lE $n_{j,*i}$ tE

his(*O*) enemy picture det bother him(*n*) Part

'The picture of his enemy bothered him.'

[Koopman and Sportiche 1989 ex. 32]

Coreference between an *n*-pronoun and another NP in the same clause is simply forbidden, regardless of whether either NP c-commands the other.

This is explained on the assumption that the operator that binds an *n*-pronoun is located in the left periphery (for Koopman and Sportiche, it is located in COMP) and may not bind any NP that is not an *n*-pronoun. All of the above sentences have a single clause, so any operator in the left periphery of that clause will c-command any arguments in the clause. From this position, the operator can and must bind the *n*-pronoun in that clause.

326. $[_{CP}\ Op_1\ C^o\ [\ n_{1,*2} \ldots O_{2,*1}]]$

However, the O-pronoun or full NP is not allowed to be bound[50] by the operator, by hypothesis. If the O-pronoun cannot corefer with the operator, it also cannot corefer with the *n*-pronoun bound by the operator.

This hypothesis also explains what happens when an *O*-pronoun and *n*-pronoun are located in different clauses. When the *O*-pronoun is in a higher clause than the *n*-pronoun, the two may corefer, though this is dispreferred.

327. a. $n_{i,j}$ a su, $Ø_i$ hE na hOrE

he(*n*) arrive he(*O*) told the truth

'After he arrived, he told the truth.'

b. [kolo n f kolo $n_{i,j}$] lE O_i tE

love Rel you love him(*n*) bothers him(*O*) Part

'The fact that you love him bothers him.'

[Koopman and Sportiche 1989 ex. 35]

Under Koopman and Sportiche's theory, this is made possible because an operator in the relative or adjunct clause binds the *n*-pronoun, but does not c-command the *O*-pronoun.

328. $[_{CP}\ [_{CP}\ OP_i \ldots n_i] \ldots O_{i,j}]$ [Koopman and Sportiche ex. 34]

[50] Strictly speaking, Koopman and Sportiche say that the operator cannot bind a non-*n* NP and cannot corefer with any NP, since it is an operator and has no referent. However, it is an operator that ranges over a single person—and in non-command configurations, another NP may refer to the person that this operator ranges over (see below). Thus, it appears that the operator cannot corefer with and c-command any non-n NP, whether or not such a relation is an instance of binding (in the Reinhart 1983 sense) or of accidental coreference between what the operator ranges over and what the NP refers to.

329. a. $[_{CP}\ [_{CP}\ Op_i$ After he$(n)_i$ arrived] he$(O)_{i,j}$ told the truth]

b. $[_{CP}\ [_{CP} Op_i$ that you love him$(n)_i$] bothers him$(O)_{i,j}$]

Coreference between the *O*-pronoun and the single person the operator ranges over is acceptable (see footnote 29). However, when the *n*-pronoun is in a higher clause than the *O*-pronoun, they may not corefer.

330. a. $Ø_j$ a su, n_i hE na hOrE

he(*O*) arrive he(*n*) told the truth

'After he arrived, he told the truth.'

b. [kolo n f kolo O_j] lE n_i tE

love Rel you love him(*O*) bothers him(*n*) Part

[Koopman and Sportiche 1989 ex. 37]

This is because any operator c-commanding the *n*-pronoun from a left-periphery position will also c-command the clause containing the *O*-pronoun.

331. $[_{CP}\ Op_i\ [_{CP}. . . O_{*i,j}] . . . n_i]$ [Koopman and Sportiche 1989 ex. 36]

332. a. $[_{CP}\ Op_i\ [_{CP}$ After he$(O)_{*i,j}$ arrived] he$(n)_i$ told the truth]

b. $[_{CP}\ Op_i\ [_{CP}$ that you love him$(O)_{*i,j}$] bothers him$(n)_i$]

As long as the O-pronoun cannot be c-commanded by and coreferential with the operator, it cannot corefer with the *n*-pronoun.

To sum up, Koopman and Sportiche (1989) show that some otherwise confusing coreference facts can be explained nicely if it is assumed that some pronouns must be bound by operators in the left periphery of the clause. Crucially, their analysis requires that each clause allows at most one such operator, but that the operator need not be the most local one to the pronoun that it binds.

3.4.3.3 'Logophoric' uses of pronouns in Abe

The multi-clause sentences I have so far looked at involve the complementizer *ye*. Abe clauses may also be introduced by the complementizer *kO*. Within these clauses, *n*-pronouns are preferably coindexed with the subject of the embedding verb, assuming that this subject has a speaker theta-role. In this same environment, an *O*-pronoun may not be coreferential with the speaker subject.

333. a. yapi$_i$ hE kO O$_j$/n$_{i,(j)}$ ye sE

Yapi said *kO* he is handsome

b. yapi$_i$ hE kO f wu O$_j$/n$_{i,(j)}$

Yapi said *kO* you saw him

c. yapi$_i$ hE kO f bO wu ye O$_j$/n$_{i,(j)}$ ye sE

Yapi said *kO* you take see *ye* he is handsome

[Koopman and Sportiche 1989 ex. 64]

Pronouns within *kO* clauses act strangely in two ways. First *n*-pronouns inside them are preferably coreferential with a higher subject, when they are usually preferably disjoint--unless the subject is another *n*-pronoun. Second, *O*-pronouns must have disjoint

reference with a higher subject, whereas in other kinds of complement clause they can be coreferential with the higher subject-- again, unless the subject is an *n*-pronoun.

Koopman and Sportiche propose that this is due to the fact that *kO* clauses mandatorily introduce an operator of the sort that binds *n*-pronouns. Furthermore, this operator (or in Koopman and Sportiche's account, a null NP argument of *kO* that is bound by an n-operator) is somehow controlled by the understood speaker. I schematize this below:

334. $[_{CP}$ Speaker$_1$ … $[_{CP}$ Op$_1$ kO[… n$_{1/*2}$ /O$_{*1/2}$ …]]]

An *n*-pronoun in the clause introduced by *kO* is preferably be bound by this operator, although it might be bound by a higher operator instead if such is available.

335. $[_{CP}$ Op$_2$ Speaker$_1$ … $[_{CP}$ Op$_1$ kO [… n$_{1,(2)}$…]]]

Meanwhile, an *O*-pronoun in the *kO*-clause is c-commanded by the [+n] operator and consequently may not refer to the person that the [+n] operator ranges over. Since the speaker does corefer with the NP bound by the [+n] operator, then by hypothesis, then the speaker and the *O*-pronouns must be disjoint.

This just leaves the question of what causes the [+n] operator to have to range over the speaker in this configuration. Koopman and Sportice say that *kO* introduces a null argument that is "controlled" (in Koopman and Sportiche's terms) by the matrix

speaker, if one exists—usually this is the subject. From this, it follows that *n*-pronouns are preferably coreferential with the speaker and *O*-pronouns must be disjoint from it.

Actually, Koopman and Sportiche's version of this is slightly more elaborate than what is schematized above. Koopman and Sportiche propose that there is additional internal structure to *kO* clauses: *kO* is an embedded (degenerate) verb of saying. It has a null n-pronoun subject (with a speaker theta-role) and a [+n] operator is introduced right above this subject to bind it. The *kO* degenerate-verb-of-saying then moves up to Comp.

This gives the configuration below, in which V is logophoric and NP* is a speaker.

336. NP* . . . V . . . $[_{CP1}$ Op_1 $[e_{[+n]}$ kO $[_{CP2}$ $Comp_2$ [. . . NP**

[Koopman and Sportiche 1989 ex. 83]

NP* controls Op_1, so if NP** is a pronoun, it can only corefer with NP* if it is the kind of pronoun that can be bound by Op—namely, an *n*-pronoun. Importantly, though, the CP immediately dominating *n* is actually not the CP that dominates *kO*.

There is good reason to believe that the operator is introduced by the *kO* clause rather than in the same clause as the speaker. Notice that *n*-pronouns in the clause containing the *kO*-clause act the same way they normally would. For example, *n*-pronouns in this clause can't corefer with *O*-pronouns or full NPs.

337. $yapi_i$ hE $n_{*i,j}/O_{*i,j}$ ceewu [kO . . .

Yapi said to.his friend that [Koopman and Sportiche 1989 ex. 74b]

This makes sense assuming that the structure of these sentences is as follows:

338. yapi$_i$ hE n$_{*i,j}$/O$_{*i,j}$ ceewu [Op$_i$ kO . . .

Yapi said to.his friend that

If the operator controlled by *Yapi* is introduced by the *kO* clause, then it cannot bind an *n*-pronoun in the higher clause.

The unusual coreference facts with speakers are unique to clauses introduced with *kO*. They don't work with any embedded clause where a higher subject is a speaker. Consider what happens when the subject of a higher clause is the speaker of the embedded clause, but the embedded clause has complementizer other than *kO*.

339. a. yapi$_i$ ka api ye *O*$_{i,j}$/n$_{(i),j}$ ye sE

Yapi tell Api *ye* he is handsome

b. yapi$_i$ ka api ko *O*$_j$/n$_{i,(j)}$ ye sE

Yapi tell Api *ye* he is handsome

[Koopman and Sportiche 1989 ex. 66]

Here (in 339a), the *n*-pronoun is preferably not bound by the speaker, and the *O*-pronouns may be bound by the speaker. This makes sense if the *ye*-clause does not introduce an operator bound by the speaker, so there need not be an operator referring to the speaker

that binds the *O*-pronoun. Only when the complementizer is *kO* is the O-pronoun prevented from referring to the matrix speaker. This makes sense if only *kO* introduces an operator that must refer to (or range over) the speaker.

Furthermore, the unusual coreference facts with *kO* apparently hold only if the subject of the next clause up from *kO* is third-person and has a speaker role. If the 'speaker' is first-person, or if a third-person subject is not the speaker, then the subject does not need to bind the *n*-pronoun.

340. a. m hE api$_i$ kO O$_{i,j}$/n$_{i,j}$ ye sE

I said to Api *kO* she is handsome

b. yapi$_i$ ce kO O$_{i,j}$/n$_{i,j}$ ye sE

Yapi heard *kO* he is handsome

[Koopman and Sportiche 1989 ex. 67]

Assuming that *kO* always introduces an *n*-Operator, this would mean that this operator does not require an antecedent in the sentence. What is most important is that the operator refers to someone who is the understood speaker. Consequently, an *O*-pronoun in the *kO* clause may be coreferential with Yapi or Api since neither of these needs to corefer with any n-operator. This view is consistent, I believe, with Nishigauchi's account of Japanese reflexives (2005), in which they are bound by an operator which is in turn related to the antecedent via non-obligatory control (NOC). The operator binding an *n*-pronoun could come to be related to the antecedent via the same mechanism.

On a side note, to account for the *n*-pronoun coreference facts in (340), the details of Koopman and Sportiche's structure for *kO* clauses become important. In particular, Koopman and Sportiche's proposal that the *kO* phrase is actually *two* CPs is necessary for their account to work for (340a-b). If the clause containing *kO* necessarily has an operator that refers to the speaker, this operator cannot bind an *n*-pronoun referring to Yapi or Api, who aren't speakers. Furthermore, the only clause above the *kO* clause contains Yapi or Api, so anything in the Comp of this clause would not be allowed to refer to Yapi or Api since n-operators cannot bind NPs other than *n*-pronouns. If there were no operators other than these, then there would be nothing to bind the *n*-pronoun, as schematized in (341).

341. [Op_i $Yapi_{*i}$ heard [Op_{*i} kO [n_i is handsome]]]

However, if there is a third CP underneath *kO*, an operator in this smaller CP could bind the *n*-pronoun and corefer with an NP in a higher clause.

342. [Op_i $Yapi_{*i}$ heard [Op_{*i} kO [$_{CP}$ Op_i n_i is handsome]]]

Importantly, it is not mandatory for the *n*-pronoun to be bound by the operator associated with *kO*.

In sum, it looks like some versions of *n*-pronouns are bound by something in an A' position which in turn gets its reference, often locally, from something in a higher A-position. So far, this looks much like the account of LD reflexives I wish to adopt for *sig*,

tannu, *zibun*, and *ziji*. Also, in this case, there is apparently a clear connection between the A' position (perhaps specifier of *kO*) and the point-of-view holder of the sentence (the operator must refer to a speaker).

Even for logophoric uses of *n*-pronouns, which frequently take antecedents in the sentence, I do not assume that the antecedent is related to the left-periphery operator via movement. Certainly it is optional for *n*-pronouns to have an antecedent in the sentence—because even in *kO* clauses, when there is no speaker in the higher clause, the *n*-pronouns can be A-free. When the speaker does bind *n*-pronouns, it is unclear whether there is really a "binding" relation between the speaker and the *n*-pronoun, or if it is simply a matter of the thematic requirements on *kO:* if *kO* takes an argument that mandatorily refers to a speaker, and a higher verb of speaking also takes an argument that is a speaker, then naturally they may corefer. However, Koopman and Sportiche 1989 analyze the relation between the operator and the speaker antecedent as one of "control", which is pretty similar to the Nishigauchi (2005, 2010) account of the relation between POV holders and their antecedents as one of non-obligatory control. So, perhaps, logophoric uses of *n*-pronouns involve an operator-antecedent relationship similar to that between A' binders of LD reflexives and *their* antecedents. While Abe does not provide any good evidence in favor of an account in which reflexives and their antecedents are linked by movement, it does share one piece of such an account: that there exist pronouns pronouns that are mandatorily bound by something in an A' position, and that this A' position may be associated with point-of-view.

3.4.4 Multiple *ziji* and what it indicates about the left periphery

I now look at an analysis of Chinese *ziji* which, like the analysis of Abe above, uses the presence of operators in the left periphery of a clause to explain coreference facts. Anand (2006) proposes that long-distance *ziji* is bound by an operator, and uses as evidence the behavior of multiple instances of *ziji* in the same sentence. Interestingly, Anand's analysis explains coreference facts based on the assumption that each instance of *ziji* must be bound locally—in stark contrast with Koopman and Sportiche's account of Abe, in which *n*-pronouns could be bound from any clause. My analysis of this difference is that *ziji* is related to a left-periphery binder via sisterhood and movement, whereas the binders of n-pronouns are base generated.

I adopt Anand's (2006**)** hypothesis that *ziji* must be bound locally, in a relative sense. The operator binding *ziji* does not need to be located in the same clause as *ziji*, but there cannot be any closer logophoric operators that intervene between *ziji* and its binder. As Anand shows, this will correctly account for what happens when there are multiple instances of LD *ziji* in a single sentence.

Recall that two instances of LD *ziji* in the same clause need to take the same LD antecedent, even in a sentence with multiple LD subjects. Consider a sentence with two instances of *ziji* in the same clause.

343. [Zhangsan renwei [Lisi zhidao [Wangwu ba ziji$_1$ de shu song-gei le

Zhangsan think Lisi know Wangwu BA self$_1$ DE book gave-to Perf

ziji$_2$ de pengyou]]]

self$_2$ DE friend

'Zhangsan thinks Lisi knows Wangwu gave self's book to self's friend.'

[Huang and Liu 2001 ex. 13, via Pan 1997 who attributes it to CL Baker]

It is acceptable for both *ziji*'s in (343) to refer to the same person, whether than person is Zhangsan, Lisi, or Wangwu. It is also possible for one *ziji* to have the local antecedent (*Wangwu)* while the other has an LD antecedent, either *Zhangsan* or *Lisi*. What is impossible is for the two *ziji*'s to have different LD antecedents. That is, (343) cannot mean that Wangwu gave Zhangsan's book to Lisi's friend, or that Wangwu gave Lisi's book to Zhangsan's friend. Thus, local binding of *ziji* does not block LD binding of another *ziji* in the same clause, but LD binding of one *ziji* blocks LD binding of another *ziji* by a different antecedent.

Let us assume that LD uses of *ziji*, but not local uses of *ziji*, are bound by an operator. (I will thus ignore all instances of *ziji* that are bound by Wangwu for the following analysis.) If both *ziji*'s take *Lisi* as an antecedent, we could schematize this as follows.

344. Zhangsan thinks Lisi$_1$ knows [Op$_1$ Wangwu gave ziji$_1$'s book to ziji$_1$'s friend].

Meanwhile, if *Zhangsan* is the antecedent of both LD *ziji*'s, then that could be schematized like so:

345. Zhangsan$_1$ thinks [Op$_1$ Lisi knows [Wangwu gave ziji$_1$'s book to ziji$_1$'s friend]].

Either there is no operator in the more deeply embedded clause or there's a trace of something that moves to the surface position of Op$_1$.

What is not allowed is a situation in which one *ziji* is bound by one operator and the other *ziji* is bound by another operator.

346. Zhangsan$_1$ thinks [Op$_1$ Lisi$_2$ knows [Op $_2$ Wangwu gave ziji$_1$'s book to ziji$_2$'s friend]].

347. Zhangsan$_1$ thinks [Op$_1$ Lisi$_2$ knows [Op $_2$ Wangwu gave ziji$_2$'s book to ziji$_1$'s friend]].

So far, that is consistent with the idea that Mandarin only allows one logophoric operator per sentence. However, it is also consistent with the idea that some kind of (relative) locality applies in binding of *ziji* by an operator. In (346) and (347), Op$_2$ comes between Op$_1$ and the *ziji* that it is trying to bind, which makes binding impossible.

Notice that Mandarin *ziji* differs from Abe *n*-pronouns. As Koopman and Sportiche (1989) noted, two *n*-pronouns in the same clause do not need to be coreferential, as long as there are multiple CPs whose specifiers can bind them. With

Mandarin *ziji*, however, every instance of *ziji* must be bound by the operator most local to it: you cannot have an intervening operator binding a different *ziji*.

Assuming that local *ziji* is not bound by an operator at all, but is instead bound by some coargument within its binding domain, then that can establish why one *ziji* can be local while another is LD: no other operator intervenes between the operator and the *ziji* it LD binds.

348. Zhangsan$_1$ thinks [Op$_1$ Lisi knows [Wangwu$_2$ gave ziji$_1$'s book to ziji$_2$'s friend]].

349. Zhangsan$_1$ thinks [Op$_1$ Lisi knows [Wangwu$_2$ gave ziji$_2$'s book to ziji$_1$'s friend]].

350. Zhangsan thinks [Lisi$_1$ knows [Op$_1$ Wangwu$_2$ gave ziji$_1$'s book to ziji$_2$'s friend]].

351. Zhangsan thinks [Lisi$_1$ knows [Op$_1$ Wangwu$_2$ gave ziji$_2$'s book to ziji$_1$'s friend]].

Thus, an account under which only LD *ziji* is bound by an operator would explain why only LD *ziji* causes intervention effects of this sort.

As I noted above, so far this account is consistent with the idea that each Mandarin sentence allows only one logophoric operator altogether. However, Anand (2006) further notes that there are interesting interaction effects when there are two instances of *ziji* in different clauses. It is not simply the case that all LD instances of *ziji* must corefer. Instead, two *ziji*'s may refer to different people, but there are intervention effects.

352. John xiwang Mary zhidao **[ziji** de mama renwei [ziji shi yi-ge chengshi de ren]]

John hope Mary know [self DE mother think [self COP one-CL honest DE

person]]

'John hopes that Mary knows that...

a. my mother thinks that {I, *he, *she (=Mary) } am an honest person.'

b**.** his mother thinks that {*I, he, *she (=Mary) } is an honest person.'

c. her mother thinks that {*I, *he, she (=Mary) } is an honest person.'

d. [{my, his, her} mother]$_i$ thinks that she$_i$ is an honest person.'

[Anand 2006 ex. 369]

Anand notes that this can be explained if every instance of *ziji* must be bound by an operator heading a clause. Attitude verbs optionally subcategorize for these operators. For any given *ziji*, it must be bound by the next operator up.[51] That is, the following schematic is ungrammatical:

353. a. [Op$_1$ … [Op$_2$ … [… ziji$_2$ … [… ziji$_1$ …]]]]

X

b. [Op$_1$ … [Op$_2$ … [… ziji$_1$ … [… ziji$_2$ …]]]]

X

[51] According to Anand's analysis, there is dialectal variation involving *ziji*. In one dialect, *ziji* is bound by an operator in the left periphery, whereas in the other one, *ziji* is a first-person pronoun that is "shiftable" so that it can refer to the embedded speaker. For now, I will consider the dialect of Mandarin for which *ziji* is bound by an operator, although the judgments hold for both groups of speakers.

In (353a) and (353b), Op_1 cannot bind *ziji*$_1$ because Op_2 intervenes. Every instance of *ziji* must be bound by the closest operator.

I can now illustrate how this explains the judgments in (352) according to Anand's account. Assume that in Mandarin, attitude verbs optionally subcategorize for a CP with a logophoric operator in its specifier. That is, every time there is an attitude verb, it optionally introduces an operator that can bind *ziji*. I schematize this below:

354. John$_1$ say [$_{CP}$ (Op$_1$) …]

Furthermore let us assume that when first-person *ziji* lacks an overt antecedent in the sentence, it is bound by an operator in the left periphery of the matrix clause.

Now I can schematize the different readings of (352). In (352a), the first *ziji* is sentence-free, meaning it must be bound by an operator in the left periphery of the matrix clause, and refers to the external speaker. In the only correct version of (352a), the second *ziji* must also refer to the matrix speaker. Here, we can assume that no other optional operators were introduced between the matrix clause and the first instance of *ziji*. Thus there are no intervention effects.

355. [**Op$_1$** John$_2$ hopes [Mary$_3$ knows [**ziji$_1$**'s mother thinks [**ziji$_1$** is an honest person]]]

(=John hopes Mary knows my mother thinks I am an honest person.)

In contrast, consider what would happen if the first *ziji* referred to the external speaker but the second *ziji* referred to John. Since the second *ziji* refers to John, we must introduce an operator that will bind this *ziji*. This operator is introduced by the attitude verb representing John's attitude.

356. *[**Op$_1$** John$_2$ hopes [Op$_2$ Mary$_3$ knows [**ziji$_1$**'s mother thinks [**ziji$_2$** is an honest

X

person]]]

(= John hopes Mary knows my mother thinks John is an honest person.)

The problem now is that Op$_2$ intervenes between Op$_1$ and ziji$_1$. Binding is blocked.

There is a similar problem if the first *ziji* refers to the external speaker while the second *ziji* refers to Mary.

357. *[**Op$_1$** John$_2$ hopes [Mary$_3$ knows [Op$_3$ **ziji$_1$**'s mother thinks [**ziji$_3$** is an honest

X

person]]]

(= John hopes Mary knows my mother thinks Mary is an honest person.)

The interpretations of (352b) and (352c) above are constrained in much the same way. Unless both instances of *ziji* are bound by the same operator (which gets its reference from John in (b) and Mary in (c)), there will be intervention effects.

However, there is one scenario in which intervention effects do not occur. Consider (352d), in which the first *ziji* is refers to the external speaker, to John, or to Mary, and the second *ziji* is refers to "*ziji*'s mother":

358. a. [**Op$_1$** John$_2$ hopes [Mary$_3$ knows [[**ziji$_1$**'s mother]$_4$ thinks [Op$_4$ **ziji$_4$** is an honest person]]]

(= John hopes Mary knows my mother$_4$ thinks she$_4$ is an honest person.)

b. [John$_2$ hopes [Op$_2$ Mary$_3$ knows [[**ziji$_2$**'s mother]$_4$ thinks [Op$_4$ **ziji$_4$** is an honest person]]]

(= John hopes Mary knows John's mother$_4$ thinks she$_4$ is an honest person.)

c. [John$_2$ hopes [Mary$_3$ knows [Op$_3$ [**ziji$_3$**'s mother]$_4$ thinks [Op$_4$ **ziji$_4$** is an honest person]]]

(= John hopes Mary knows Mary's mother$_4$ thinks she$_4$ is an honest person.)

In all of these scenarios, there are two different operators that bind two different instances of LD *ziji*. However, every operator is "local" to the *ziji* it binds in that there is no closer logophoric binder intervening between any *ziji* and its binder. From this I can conclude that Mandarin does allow different instances of LD *ziji* to be bound by a different

logophoric operators. However, importantly, there is a locality condition of sorts on the relation between each *ziji* and its operator.

To conclude this section, if it is assumed that LD instances of *ziji* are bound by a relatively local operator, that can explain some complicated coreference facts. This provides evidence in favor of treating *ziji* as dependent on something in the left periphery. The locality requirement between *ziji* and its operator, in turn, would go well with an account in which they are related via movement, as I will discuss in section 3.5. Interestingly, Abe n-pronoun coreference facts show that n-pronouns lack such a locality requirement. However, this difference follows pretty naturally if n-pronouns, unlike LD reflexives (by hypothesis), are not related to these operators via movement.[52] Perhaps constraints on movement are responsible for the apparent locality constraints on binding.

3.4.5 Japanese modal heads and *zibun*

Japanese *zibun* may also get its reference through the intermediary of something in the left periphery of the clause. Nishigauchi (2005, 2010) demonstrates that Japanese has overt modal heads in the left periphery of the clause that are associated with discourse roles. Furthermore, these modals take an argument, sometimes an overt NP, and sometimes (Nishigauchi proposes) a null PRO, which is the POV holder of the relevant discourse role. Finally, Nishigauchi argues that these arguments are the binders

[52] Adesola (2006), however, has a discussion of strong pronouns in Yoruba which leads me to think maybe some nonreflexive logophors do have locality requirements. Strong pronouns in Yoruba, like *n*-pronouns in Abe, have logophoric and nonlogophoric uses, and Adesola analyzes them as being A'-dependent on an operator. However, unlike in Abe, this operator seems to need to be local to the strong pronoun: even the presence of another coreferential strong pronoun in a c-commanding A-position is a problem. In future work, it would be good to test whether this behavior would be consistent with a movement account.

of *zibun*. When *zibun* is used to refer to the speaker or to an LD antecedent, it is bound by the null PRO argument of one of these modal heads. Perhaps even when there is no overt modal head, we can assume there is a null head associated with one of these discourse roles and that *zibun* is bound by an argument of this head.

In the sections below, I first present Nishigauchi's (2005) argument that there are modal heads, which may take either overt or null NP arguments (section 3.4.5.1). Then I show that the presence of these heads is associated with the ability to bind *zibun* (section 3.4.5.2). Furthermore (section 3.4.5.3), Nishigauchi 2010 demonstrates that Japanese has *multiple* modal projections, and more than one modal head may appear in a single clause. I will demonstrate that this has several useful effects. First, it can explain the variable behavior of *zibun* with respect to such things as *de se* requirements and blocking effects. Put into Oshima's (2006) terms, it can explain why *zibun* sometimes behaves as a logophoric reflexive and other times as an empathic reflexive. The relevant factor is which modal(s) *zibun*'s binder is an argument of. Second, it can explain some otherwise confusing data in which *zibun* appears to take an antecedent that is not a POV holder for a modal in the clause: in that case, assume that there is a second modal of which *zibun*'s binder is the argument.

3.4.5.1 Modal POV heads take NP arguments

Elements such as *–te simaw-* are used when a point-of-view holder evaluates the phrase (Nishigauchi 2005, 2010). When a verb takes the marker -*te simaw*-, that means that someone feels himself to be affected (probably negatively) by the content of the clause. For example, consider (359).

359. Hanako-wa sono botan-o osi-te simaw-ta

-wa that button-Acc press simaw-Past

(Nishigauchi 2005 ex. 5)

Here, the *–wa* marked NP, *Hanako*, can act either as a topic, or as both the topic and the POV holder. Nishigauchi summarizes the two meanings of the sentence below:

360. a. As for Hanako, she pressed a button and this led to a situation which annoyed me. [POV = the speaker]

b. Hanako was upset by her own embarrassing act of pressing a button. [POV = Hanako] (Nishigauchi 2005 ex. 6a-b)

The *–te simaw-* denotes the annoyance or upsetness of some observer. This observer may be overtly realized as an NP marked with *–wa* (as in meaning (b)). In this case, the *–wa* marked NP must be the specifier of ModP, from which it gets its POV role. I schematize this below. (The verb plus tense must at some point undergo head movement to the location of Modº.)

361. $[_{ModP}$ Hanako-wa [[sono botan-o osi-ta] $[_{Mod^o}$ te simaw]]]

However, the sentence is ambiguous because *–wa* may also be used just as a topic marker (as in interpretation (360a)). In this case, there is not an overt argument for *-te simaw-*; *Hanako-wa* is not in Spec, ModP, but is merely acting as a topic. However, *te*

simaw still does describe someone's annoyance—here, the annoyance of the external speaker. I schematize this below—*Hanako-wa* is the topic, and PRO (which ends up referring to the speaker) is the POV holder.

362. [$_{ModP}$ PRO [[$_{TopP}$ Hanako-wa sono botan-o osi-ta] [$_{Mod^o}$ te simaw]]]

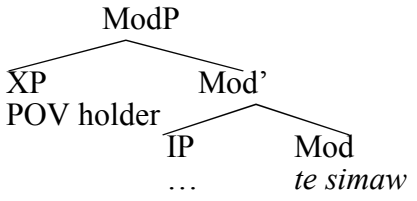
Under this account, then, *te simaw* may have as its argument either an overt *wa*- marked NP, which has moved there from a lower argument position, or else a PRO, which refers to the speaker.

Furthermore, sometimes *–te simaw*- can have an overt argument, but in a higher clause:

363. Taro-wa [kodomo-ga sono botan-o osi-te simaw-ta] to omow-teiru
-Top [child-Nom that button-Acc press simaw-Past that thinks

Nishigauchi (2005) argues that the structure of clauses is as follows. *–Te simaw*- is a Mod^o, and its argument NP (whether overt or null) is its specifier. Below the ModP is the Topic Phrase.

364.



[Nishigauchi 2005 ex. 3]

Nishigauchi notes that ideal evidence that Spec, ModP is a separate position from Spec, TopP would be if a single clause had two *wa*-marked NPs, one representing topic and the other representing a POV-holder. In fact, Nishigauchi notes that it is possible for a single clause to have two NPs with the –*wa* marker, but with more meaning restrictions than his account would predict. Consider the following sentence.

365. ??Yamada-wa Taro-wa Tokyo-e it-te simaw-ta
-wa -wa -to go-te simaw-Past [Nishigauchi 2005 ex. 13]

If *Yamada-wa* is allowed to be in Spec, ModP while *Taro-wa* is the topic, then the sentence would be expected to mean that "Mr. Yamada has been negatively affected by the fact that as for Taro he has gone to Tokyo" (Nishigauchi 2005:4). However, Nishigauchi reports that he does not get this reading. To the extent that this sentence is possible, the second NP (*Taro-wa*) has to be contrastive, rather than used as a topic. However, as expected, *Yamada-wa* can be a POV holder, representing the person who is negatively affected by Taro going to Tokyo. This at least gives evidence for multiple positions hosting –*wa* marked NPs in a clause. And of these *wa*-marked NPs, the higher one (if there are two) must be associated with POV. Consequently, there is at least some evidence for a left-periphery position associated with POV, that may host an NP specifier—though it interacts with other left periphery positions in unexplained ways.

Further evidence for treating Spec, ModP as separate from Spec, TopicP comes from interaction between –*wa* marked NPs and adverbs. Certain adverbs can occur after a –*wa* –marked NP only if that NP refers to a POV holder (as opposed to just a topic).

366. a. Zannen-na-koto-ni, Hanako-wa sono botan-o osi-te simaw-ta

regrettably -wa that button-Acc press Simaw-Past

'Regrettably, Hanako pressed that button (and this led to a situation in which the speaker is annoyed, etc.)

b. Hanako-wa zannen-na-koto-ni sono botan-o osi-te simaw-ta

-wa regrettably that button-Acc press Simaw-Past

'Hanako, regrettably, (had) pressed that button (and this had led to a situation by which she is annoyed, etc.)'

(Nishigauchi 2005 ex. 14a-b)

When the adverb precedes the *–wa* marked NP, the NP does not need to be a POV holder. For instance, in (366)a the POV holder is the speaker, not Hanako. However, when the adverb follows the *–wa* marked NP, the NP needs to be a POV holder. This makes sense if the adverb appears in a position above Spec, TopP but below Spec, ModP.

Importantly, ModP does not require an overt NP specifier in Nishigauchi's account. When ModP does not host an overt NP specifier, it has a null one. This null specifier can refer to the speaker as in (360a) above, or it can take an NP antecedent in a higher clause as in (363). I schematize these possibilities below:

367. $[_{ModP}$ PRO $[_{IP}$ …] *te simaw*] (PRO refers to speaker)

368. $[NP_i$ … $[_{ModP}$ $PRO_{i/j}$ $[_{IP}$ …] *te simaw*]]

Nishigauchi proposes that the PRO is related to its antecedent (if it has one) via the same mechanisms that underlie Non-Obligatory Control. As with non-obligatory control (see Williams 1980, Hornstein 2003), PRO does need an antecedent that c-commands it, or even an antecedent at all.

369. [Kodomo-ga sono botan-o osi-te simaw-ta koto]-ga
child-Nom that button-Acc press simaw-Past that-Nom
Yamada-o awate-sase-ta
Yamada-Acc embarrass-Past
'That the child had pressed the button embarrassed Yamada.'

Nishigauchi notes that the POV holder of the embedded clause here may be interpreted as being either Yamada or the speaker, and *Yamada-o* doesn't c-command the clause.

The evidence is at least consistent with the idea that Japanese clauses have a left-periphery NP position associated with Point-of-View, and that this left-periphery position can be related to a higher NP antecedent or to an extrasentential antecedent such as the speaker. So far, this Spec, ModP bears similarities to *zibun*, which can also take an antecedent in a higher clause or outside of the sentence.

3.4.5.2 Relating LD *zibun* to Spec, ModP

Nishigauchi goes on to argue that Spec, ModP may be the antecedent for *zibun*. That is, *zibun* may be bound within its clause either by a local subject (if it is used as a local reflexive) or by Spec, ModP (if it is used as an LD reflexive). In particular, every time that *zibun* is used with an LD antecedent, or no antecedent, what is really happening

is that there is a null PRO in Spec, ModP, and this PRO binds *zibun*.[53] This account could be assimilated to something like Sells's (1987) account, assuming that Spec, ModP represents a Source, Self, or Pivot and that that is what *zibun* is referring to, also. Notice that Nishigauchi assumes that every clause has a Mod°, whether or not it is overtly realized by a head such as *te simaw*. For instance, he would analyze any sentence with LD *zibun* as involving a PRO in Spec, ModP that is controlled by the antecedent.

Also notice that *zibun* does not need to have an "LD" binder to refer to a POV holder. In the event that Spec, ModP is filled with an overt, -*wa* marked NP, then that NP can be a "local" LD binder of *zibun*.

370. Hanako-wa zibun-no kodomo-ga botan-o osi-te simaw-ta

-wa self-Gen child-Nom button-Acc press simaw-Past

[Nishigauchi 2005 ex. 34]

Nishigauchi notes that *Hanako-wa* here needs to act like the POV holder (Hanako was upset by her own child pressing the button), and may not just act like the topic. This makes sense if *zibun* may be bound from Spec, ModP, but not from Spec, TopP.

Of course, it also is important to show how LD *zibun* interacts with indicators of ModP such as *te simaw*. Consider the following sentence.

371. Suzuki$_i$-wa [[Hanako-ga zibun$_{i/j}$-o hihan-si-te simaw-ta koto]-ga

[53] In a later section I will present arguments that there are also "medium-distance" uses of *zibun* when it is bound outside of a nonfinite clause. These uses, like local uses, do not require an intermediary in the left periphery.

Suzuki-wa Hanako-Nom self-Acc criticize simaw-Past that-Nom

Yamada$_j$-o odorokase-ta to] omow-ta

Yamada-Acc surprise-Past that think-past

'Suzuki thought that that Hanako had criticized self surprised Yamada.'

[Nishigauchi 2005 ex. 61]

Nishigauchi notes that this sentence has two possible meanings: the antecedent of *zibun* can be either *Suzuki* or *Yamada*. Maki Kishida (p.c.) says that the local subject, *Hanako*, could also bind *zibun*, but it cannot have the theta-role assigned by *te simaw*. This follows naturally from Nishigauchi's account: *zibun* may be bound by a local subject, or by an NP or PRO in Spec, ModP. *Hanako* is a local subject of the clause in which *zibun* appears, so it can locally bind *zibun* for reasons unrelated to POV.

Nishigauchi's analysis of the ambiguity in (371) is that the embedded clause has a null PRO in Spec, ModP, and this PRO gets its reference (through non-obligatory control) either from Suzuki or from Hanako. This PRO, in turn, locally binds *zibun*. Consequently *zibun* can refer to Suzuki or Hanako.

I schematize these possibilities below:

372. a. Suzuki$_i$-wa [[PRO$_i$ Hanako-ga zibun$_i$-o hihan-si-te simaw-ta koto]-ga

Suzuki-wa Hanako-Nom self-Acc criticize simaw-Past that-Nom

Yamada-o odorokase-ta to] omow-ta

Yamada-Acc surprise-Past that think-past

'Suzuki thought that that Hanako had criticized self (=Suzuki) surprised Yamada.'

b. Suzuki-wa [[PRO_j Hanako-ga $zibun_j$-o hihan-si-te simaw-ta koto]-ga
Suzuki-wa Hanako-Nom self-Acc criticize simaw-Past that-Nom
$Yamada_j$-o odorokase-ta to] omow-ta
Yamada-Acc surprise-Past that think-past
'Suzuki thought that that Hanako had criticized self (=Yamada) surprised Yamada.'

Assuming that the POV role assigned by *te simaw* (which, in Nishigauchi's 2005 account, assigns a theta-role) correlates perfectly with what is in Spec, ModP, this analysis predicts that the antecedent of *zibun* should also be the POV holder of *te simaw*. That is, if *Suzuki* is the antecedent of *zibun*, then the sentence is saying that Suzuki is negatively affected/annoyed by Hanako criticizing Suzuki. Likewise, if *Yamada* is the antecedent of *zibun*, the sentence is saying that Yamada is negatively affected/annoyed by Hanako criticizing Suzuki.

Japanese judgments change if the *te simaw* is present in a higher clause. Consider:

373. $Suzuki_i$-wa [[Hanako-ga $zibun_{i/??j}$-o hihan-si-ta koto]-ga
Suzuki-wa Hanako-Nom self-Acc criticize -Past that-Nom

$Yamada_j$-o odorokase-te simaw-ta to] omow-ta

Yamada-Acc surprise- Simaw-Past that think-past

'Suzuki thought that that Hanako had criticized self surprised Yamada.'

[Nishigauchi 2005 ex. 62]

Here, the preference is for *zibun* to refer to Suzuki rather than Yamada, although having *zibun* refer to Yamada is still marginally acceptable. Nishigauchi notes that if there is a PRO in the Spec, ModP of the middle clause, it must be controlled by Suzuki rather than Yamada, since *Yamada* appears inside the middle clause.

374. [Suzuki$_i$ [$_{ModP}$ **PRO$_i$** [Hanako zibun criticized] Yamada surprised-**Simaw**] thought]

On the marginal reading in which Yamada is the antecedent of *zibun*, it is because *Yamada* controls a PRO in the most deeply embedded clause (which is still a ModP, even if it lacks any overt indicators of POV such as *–te simaw*-).

375. [Suzuki$_i$ [$_{ModP}$ PRO$_i$ [$_{ModP}$ **PRO$_j$** Hanako zibun$_j$ criticized Mod^o] **Yamada$_j$** surprised-Simaw] thought]

The reason this reading is only marginal is that "if the ModP is headed by a POV-sensitive item, control involving that domain becomes more prevalent" (p. 21). This could be instantiated in a few different ways, although I'm not certain I know what Nishigauchi's intent is. If it is acceptable for *zibun* to get its reference from something in

a nonlocal Spec, ModP, then it could be that there are different NPs or PROs in each Spec, ModP, but that the nonlocal Spec, ModP antecedent for *zibun* is the more salient one. Alternatively, perhaps *zibun* does need to be bound by the most local Spec, ModP, but there is a preference for the Spec, ModP of the embedded clause to corefer with the Spec, ModP of the higher clause (perhaps the two are even related by successive-cylic movement or by binding). If so, this preference must become considerably more pronounced if the higher clause has *te simaw* in it, accounting for the differing judgments in (371) and (373).

At any rate, the goal is to establish a connection between the LD antecedent of *zibun* and the POV holder of the embedded clause. Under Nishigauchi's account, the relation between *zibun* and an LD antecedent is mediated by something in what is probably an A' position. This A'-position has a meaning associated with something like point-of-view (but see the next session for some complications). Nishigauchi (2005) follows Sells (1987) in assuming that LD reflexives must refer to a Source, Self, or Pivot. This requirement is handled by the syntax, under Nishigauchi's account, if ModP assigns to its specifier a theta-role that matches up with one of these.

3.4.5.3 Splitting the POV Projection

Nishigauchi (2010 draft, p.c.) argues that in fact the left periphery may be split into several different projections (following Speas 2004, although the projections he uses are different). Once this is done, Nishigauchi's (2010) account is easily reconciled with the dichotomy that Oshima (2004, 2006, 2007) observes between "logophoric" and "empathic" uses of *zibun*. Depending on which head's argument binds *zibun*, you get

either an empathic or a logophoric reading (or both, I assume, if multiple Mod° heads are present and their arguments corefer).

Here are the projections Nishigauchi proposes, from highest to lowest.

376. a. Evidential (Mood) Phrase (EvidP)

b. Desiderative Phrase (DesidP)

c. Evaluative (Mood) Phrase (EvalP)

d. Benefactive Phrase (BenefP)

e. Deixis Phrase (DeixP) [from Nishigauchi 2010 ex. 14]

When *zibun* is bound by the argument of one of the higher projections (a-c), this corresponds to what Oshima (2006) calls logophoric *zibun*. These uses of *zibun* require *de se* readings, and are compatible with first or second- person pronouns in the same clause. In contrast, when *zibun* is bound by the arguments of BenefP or of DeixisP, it acts like what Oshima calls empathic *zibun*. There is no *de se* reading, and the reading is not compatible with first or second person pronouns. That is, *zibun* when bound by Spec, BenefP or Spec, DeixP shows blocking effects similar to those reported by Huang and Liu (2001) for *ziji*.

I have already discussed EvalP at length—*te simaw* is an example of an Eval° head. Another use of *zibun* requiring *de se* readings is EvidentialP, whose argument Nishigauchi calls the Witness. EvidentialP describes "the nature of the [Witness]'s evidence for the truth of propositions". Some evidential heads include *soo-da* ('looks to

be/do') and *gar* ('show sign of'). These can be used along with *–te simaw-*, showing that EvidentialP and EvaluatorP are different projections since both appear in the same clause.

377. Kubi-ni nar-te simaw-i soo-da.

be fired Eval. Evid.

'The bad situation of being fired is lurking.' [Nishigauchi 2010 ex. 29]

378. Mari-wa kanasi gar-te iru.

Mary-Top sad Evid. is

'Mary (is showing sign that she) is sad.' [Nishigauchi 2010 ex. 30a]

Both the evaluative and the evidential projections show *de se* effects: in the (a) readings below, coreference between *zibun* and *Takasi* is problematic because Takasi, being asleep, cannot have first-hand knowledge of the event and thus makes a bad Evaluator (381) or Witness (382). When the sentences are changed in (b) so that Takasi is not only not asleep, but is actively emotionally reacting, then Takasi becomes an good Evaluator or Witness and a good binder for *zibun*.

379. a. *Minna-ga (oroka-nimo) zibun$_i$-o home-te simaw-ta toki,

everyone-Nom stupidly self-Acc praise Eval.-Past when

Takasi$_i$-wa gussuri nemut-te ita.

Taakasi-Top fast asleep be-Past

'When everyone praised self (by mistake), Takasi was fast asleep.'

b. Minna-ga (oroka-nimo) zibun$_i$-o home-te simaw-ta toki,

everyone-Nom stupidly self-Acc praiseEval.-Past when

Takasi$_i$-wa hido-ku odoroi-ta.

Taakasi-Top greatly surprised be-Past

'When everyone praised self (by mistake), Takasi was greatly surprised.'

[Nishigauchi 2010 ex. 56]

380. a.*Minna-ga (ima-nimo) zibuni-o erabi soo-datta toki,

everyone-Nom any time self-Acc elect Evid.-Past when

Takasi$_i$-wa gussuri nemut-te ita.

Taakasi-Top fast asleep be-Past

'When everyone appeared to be electing self (any time), Takasi was fast asleep.'

b. Minna-ga (ima-nimo) zibuni-o erabi soo-datta toki,

everyone-Nom any time self-Acc elect Evid.-Past when

Takasi$_i$-wa hido-ku huan-ni nat-ta.

Taakasi-Top greatly anxious be-Past

'When everyone appeared to be electing self (any time), Takasi was greatly anxious.' [Nishigauchi 2010 ex. 57]

When *zibun* is bound by the argument of either of these projections, EvalP or EvidP, it therefore acts as logophoric *zibun*.

In contrast, if *zibun* is bound by the specifier of one of the lower projections, DeixisP or BenefP, it acts as an empathic reflexive in the sense of Oshima (2006). It does not show *de se* effects, but does show blocking effects.

The lowest modal projection in Nishigauchi's (2010) analysis is DeixisP. Deixis° modals orient actions with respect to a given person called the Axis. The Deixis head *ki-ta* indicates action toward an Axis, while *ik-ta* indicates action away from the Axis. Often this POV holder is the speaker, as below.

381. a. Gakusei-ga apaato-o tazune-ta.
student-Nom apartment-Acc visit-Past
'A student visited an apartment.'
b. Gakusei-ga apaato-o tazune-te {ki-ta / ik-ta.}
student-Nom apartment-Acc visit come-Past / go-Past
'A student came / went visiting an apartment.' [Nishigauchi 2010 ex. 20]

Adding the modal head (as in the (b) example) indicates that the student's action is either toward or away from the speaker's reference point.

Sometimes the addition of a Deixis° head is enough to make binding of *zibun* possible when it otherwise would not be. In the (a) example below, *Takasi* is very marginal as an antecedent for *zibun*. Because Takasi was asleep, he could not have been aware of the event taking place. However, with the addition of *ki-ta* in (b), *Takasi* becomes a good antecedent for *zibun*.

382. a. ??Minna-ga zibun$_i$-o yon-da toki, Takasi$_i$-wa gussuri nemutte ita

everyone-Nom self-Acc call to-Past when Taakasi-Top fast asleep be-Past

'When everyone called to self, Takasi was fast asleep.'

b. Minna-ga zibun$_i$-o yobi-ni ki-ta toki, Takasi$_i$-wa gussuri nemutte ita.

everyone-Nom self-Acc call to come-Past when Taakasi-Top fast asleep be-Past

'When everyone came to call to self, Takasi was fast asleep.'

[Nishigauchi 2010 ex. 55]

It looks like without *ki* there is a *de se* requirement on *zibun*. But with *ki* there is not. All *ki* requires is that *Takasi* is used as a reference point for the orientation of action: in this case, action is coming toward Takasi. Takasi's awareness is irrelevant. I take the badness of the (a) example to mean that when there is no overt Deixis^o head, Japanese speakers are more likely to interpret *zibun* as having some discourse role requiring awareness (Nishigauchi suggests the Witness role, which I discuss below). However, the fact that it is only marginal, rather than entirely bad, may mean that speakers can allow *zibun* to have an Axis role even with no overt Deixis modal present in the sentence—this is just dispreferred.

Another modal projection that is relevant to the use of LD *zibun* is the BenefP projection. This projection represents for whose benefit a given action is done—for instance, *te-yar* indicates that the Axis does something for someone else's benefit, while *te-kure* indicates that someone else does something for the benefit of the Axis. As with the DeixisP, the Axis may simply be the speaker.

383. Gakusei-ga apaato-o tazune-te {ki-te / ik-te} kure-ta.

student-Nom apartment-Acc visit come / go Benefact.-Past

'A student {came / went} visiting an apartment for my benefit.'

[Nishigauchi 2010 ex. 21]

Again, however, the Axis may be someone other than the speaker. *Zibun* may refer to the axis of BenefP, and adding a Benef° head to a sentence may make binding of *zibun* acceptable where it otherwise would not be.

For instance, here is a sentence that would normally require a *de se* reading: the antecedent of *zibun* has to be aware of the action happening (and know that it is happening to him).

384. a. Minna-ga zibun$_i$-o home-ta toki, Takasi$_i$-wa hidoku odoroi-ta.

everyone-Nom self-Acc praise-Past when Taakasi-Top greatly surprised be-Past

'When everyone praised self, Takasi was greatly surprised.'

b. ??Minna-ga zibun$_i$-o home-ta toki, Takasi$_i$-wa gussuri nemutte ita.

everyone-Nom self-Acc praise-Past when Taakasi-Top fast asleep be-Past

'When everyone praised self, Takasi was fast asleep.' [Nishigauchi 2010 ex. 50]

The (b) example here is marginal because Takasi, being asleep, cannot have been a witness to everyone praising him. However, when the Benef° head *te-kure* is added, binding of *zibun* by *Takasi* becomes acceptable even when a *de se* reading is not possible.

385. Minna-ga zibun$_i$-o home-te kure-ta toki, Takasii-wa gussuri nemutte ita

everyone-Nom self-Acc praise do favor-Past when Taakasi-Top fast asleep be-Past

'When everyone praised self (as a favor), Takasi was fast asleep.'

[Nishigauchi 2010 ex. 52]

Here, the axis of BenefP^o is Takasi, making *Takasi* a valid antecedent for *zibun*. As with DeixisP, *Takasi* does not need to have *de se* knowledge of the events that have happened to him.

Very interestingly, *zibun* shows blocking effects when it is used with a BenefP head. That is, the presence of a first or second person pronoun is incompatible with the use of *zibun* as an axis. Compare (386) with (387).

386. [C Kyoozyu-ga zibun$_i$-o in'yoo-site kure-ta koto] ga Takasi$_i$-o

Prof. C.-Nom self-Acc quote do favor-Past that Nom Takasi-Acc

yuumei-ni si-ta.

famous make-Past

'That Prof. C. quoted him made Takashi famous.' [Nishigauchi 2010 ex. 64]

387. *[CKyoozyu-ga zibun$_i$-o in'yoo-site kure-ta koto] ga watasi-no musuko$_i$-o

Prof. C.-Nom self-Acc quote do favor-Past that Nom my son-Acc

yuumei-ni si-ta.

famous make-Past

'That Prof. C. quoted self made my son famous.' [Nishigauchi 2010 ex. 66]

The only difference between these is that (387) has 'my son' where (386) has 'Takasi'. However, the use of the first person pronoun is apparently enough to make it so that the clause must be from the point of view of the speaker, not the son. This looks like a blocking effect similar to those found for Chinese in Huang and Liu (2001).

To sum up, then, by dividing ModP into multiple projections, as in Nishigauchi 2010, it is possible to reconcile Nishigauchi's account of *zibun* as bound from a higher projection, with Oshima's account of *zibun* as having distinct logophoric and empathic uses. This makes a prediction for how Nishigauchi's account could be expanded to other languages, such as Chinese or Icelandic. Reflexives that can be logophoric but not empathic (such as Icelandic *sig*, in Oshima's 2007 account) must have to be bound from one of the higher modal projections, such as EvidP or EvalP. (This need not mean that Icelandic does not have lower projections, but just that *sig* does not get its reference from them.) Meanwhile, reflexives that are argued to have only empathic uses (such as Chinese *ziji*, according to Oshima 2007—explaining why *ziji* is subject to blocking effects), must be required to get their reference from a lower Mod° head such as BenefP or DeixP.

3.4.6 Summing up

To sum up, there is evidence that discourse roles affect the syntax of sentences (as witnessed by subjunctive mood in Icelandic). Furthermore, these effects can involve the presence of elements in the left periphery of the clause (as in Japanese, which has both discourse-role-related modal heads, and, sometimes, overt NP arguments for them).

There is also evidence from coreference facts (Chinese) and from island effects (Kannada) that long-distance reflexives in particular may be dependent on elements in the left periphery of the clause. (Other pronouns, such as Abe *n*-pronouns, may also be dependent on left-periphery elements.)

That is, in this section I have shown arguments pointing in the direction that when long-distance reflexives are used, not only are they dependent on discourse roles, but they are actually dependent on something overt in the left periphery of the clause that is associated with these discourse roles.

That is, when a long-distance reflexive is used, that means there is something in the left periphery that binds it. I am now in a perfect position to say what it has actually been my goal all along to argue: that long-distance reflexives, just like local uses of the same reflexives, involve doubling and movement. Although the double cannot move directly out of a finite clause, there is somewhere within the finite clause that it can move to—specifically, some kind of modal head.

3.5 Doubling and movement

So far I have given a fair amount of evidence that LD reflexives are associated with POV holders, that POV holders are associated with left-periphery positions, and that indeed, these left-periphery positions are associated with reflexives. Now what I will do is discuss how these reflexives are related to POV holders.

For the most part my analysis is similar to Nishigauchi (2005,2010). Like him, I assume that there are left-periphery phrases associated with point of view, that their heads may be overt (at least in Japanese) but do not have to be, and that they take arguments

which are usually null. I will assume for now, still following Nishigauchi, that their null arguments may in turn get their reference from a higher NP or from the speaker, in a process related to non-obligatory control.

Nishigauchi then proposes that the POV holder phrases (or rather, their arguments) in turn bind the reflexive. I will, instead, adopt a movement account: when a reflexive is related to the argument of a POV holder phrase, that means that this argument actually started out as the reflexive's sister.

For now I will code the reflexive's null sister as PRO. A derivation proceeds as follows. First a reflexive is merged with its sister.

1. PRO + refl

This NP, headed by the reflexive, is then merged to get a theta-role and, ultimately, case. Next, somewhere in the left periphery is merged a head associated with point-of-view (or more than one, if you're following Nishigauchi 2010). I will code this for now as POVº, and since Japanese is head-final, the POVº head will be on the right of its complement.

2. […. PRO+refl] POVº

Finally, the reflexive's sister moves to POVº to satisfy some kind of POV feature on it.

3. ~~PRO~~ […PRO+refl] POVº

I do not only mean for this account to hold for Japanese. For all of the reflexives I have considered, *zibun*, *ziji*, *tannu*, and *sig*, I will argue that this is the relevant account.

3.5.1 Some evidence in favor of a movement account: locality

Having sketched what a movement account might look like, I next consider some evidence in favor of treating this as movement. One answer is that we know movement is subject to locality constraints, and it turns out that the relationship between a reflexive and its left-periphery binder also needs to be local. I have already presented evidence for this involving LD *ziji*. I have discussed Anand's (2006) hypothesis that *ziji* must be bound locally, in a relative sense. In Anand's terms, the operator binding *ziji* does not need to be located in the same clause as *ziji*, but there cannot be any closer logophoric operators that intervene between *ziji* and its binder. He provided evidence for this based on the behavior of multiple instances of *ziji*. I will now show that this evidence is equally compatible with a movement account, and in fact provides evidence in favor of movement since movement generally requires locality.

Remember that two uses of nonlocal *ziji* in the same clause must corefer.

388. [Zhangsan renwei [Lisi zhidao [Wangwu ba ziji$_1$ de shu song-gei le
Zhangsan think Lisi know Wangwu BA self$_1$ DE book gave-to Perf
ziji$_2$ de pengyou]]]
self$_2$ DE friend
'Zhangsan thinks Lisi knows Wangwu gave self's book to self's friend.'
(Huang and Liu 2001 ex. 13, via Pan 1997 who attributes it to CL Baker)

It is impossible in Chinese for one instance of *ziji* to refer to Zhangsan and the other to Lisi. Anand noted that this follows if each instance of *ziji* must be bound by the most local possible binder. He assumed that the local binder was an operator, but I will assume instead that it is some kind of POV° head that takes a phonologically null argument. For now I will code this null argument as PRO, following Nishigauchi (2005, 2010). This null argument can have started out as the sister to *ziji*, and move to its destination.

I have not yet actually discussed the logistics of even grammatical instances of two reflexives referring to the same person in the same clause, as in a reading where both *ziji*'s refer to Lisi or both refer to Zhangsan. I assume that what is happening there is one of two things: either each PRO can somehow undergo across-the-board movement to the same local Spec, POVP, at which point they are covalued,[54] or else the two *ziji*'s may be directly related by movement, as I demonstrate below. First one of the *ziji*s is merged with its sister, one of the PROs.

389. [PRO + ziji]

This in turn becomes the sister for the other *ziji*.

390. [PRO + ziji] + ziji

[54] Howard Lasnik (p.c.) notes that ATB movement is usually just a single thing that is moving. If so, then if ATB can apply here then it would result in just a single instance of PRO in the Spec, POVP position.

This whole thing is merged into its theta and ultimately its case position.

391. to [[PRO + ziji] + **ziji**]'s friend

The *ziji* that I have bolded is the head of its NP. Having received a theta-role and case it is satisfied. Its associate is [PRO+ziji], which still requires theta and case. This too moves into its theta and ultimately its case position.

392. Wangwu gave [PRO+ziji]'s book to [[~~PRO+ziji~~]+ziji]'s friend

Next, PRO moves to Spec, POVP, becoming the argument of POVº.

393. [PRO POVº Wangwu gave [~~PRO~~+ziji]'s book to [[~~PRO+ziji~~]+ziji]'s friend

Finally PRO comes to corefer with either *Zhangsan* or *Lisi*, via whatever as-yet-unkown mechanisms or preferences underlie other uses of non-obligatory control.

One thing at least is clear: when two instances of *ziji* refer to the same person we can assume that they both end up with their associate(s) moving to the same Spec,POVP. Thus, they can easily both move to the most local Spec, POVP and no movement violation occurs. This contrasts with what happens when there are multiple *ziji*s in the same clause that refer to different antecedents.

Here is what will go wrong if the two instances of *ziji* in (343) refer to different antecedents. Every instance of LD *ziji* needs its sister to be the argument of a POVº head

in the left periphery of the clause, by hypothesis. Since there are two different antecedents of *ziji*, that means there will need to be at least two POV heads present. One will be in the left periphery of the middle clause (where 'Zhangsan' will be a valid antecedent) and one will be in the left periphery of the lowest clause (where definitely 'Lisi' and maybe 'Zhangsan' as well would be valid antecedents, except in this case it had better be Lisi so that both antecedents go along with a PRO). In that case, the movements in (343) can be schematized as follows.

394. Zhangsan$_1$ thinks [PRO$_1$ POV$^o_1$ Lisi$_2$ knows [PRO$_2$ POV$^o_2$ Wangwu gave ~~PRO$_1$~~

+ ziji$_1$'s book to ~~PRO$_2$~~+ziji$_2$'s friend]].

Here, the two instances of *ziji* do not corefer, so their sisters do not end up jointly being the specifier of the same POVP. One of them, I'll say PRO$_2$, has moved to the nearest POV head, POV$^o_2$. This means that PRO$_1$ must therefore move to a higher clause to become the argument of POV$_1$. This movement is most definitely nonlocal. It is clear that PRO$_2$ has skipped over a more local POV^o head to merge into the argument position of a less local POV^o head.

Anand (2006) (who formulates the A' constraints on *ziji* in terms of operators, not PRO) only notes that the operator binding *ziji* should be the most local existing operator, not that it should be in the most local clause. For him, it need not be the case that both *ziji*s in (343) are bound by an operator in their own clause, just that they are each bound by the most local operator. If they are bound by the matrix subject, *Zhangsan*, he

assumes that *Zhangsan* is associated with an operator in the next clause down, not the most deeply embedded clause. In this event, he assumes that *Lisi* need not be associated with any operator at all, and so the operator in the middle clause is the most local operator, even though it is not in the same clause as either instance of *ziji*.

395. Zhangsan$_1$ thinks [Op$_1$ Lisi knows [Wangwu gave ziji$_1$'s book to ziji$_1$'s friend]].

I consider, but ultimately reject, translating this into POVP terms as follows. (From now on I will not be worrying specifically about sentences with multiple *ziji*s, but about any sentences in which the antecedent is more than one clause away from the reflexive.)

396. Zhangsan$_1$ thinks [PRO$_1$ POV^o Lisi knows [Wangwu … ~~PRO~~+ziji

Here, I show PRO undergoing one-fell-swoop movement to the matrix clause. However, that will not work well with the account I have of medium-distance binding, in which I assume that finite CP is a spell-out domain. Movement through finite CP should be a problem.

Instead, I will assume that the PRO that comes to corefer with *Zhangsan* must also move through the left periphery of the embedded clause. This is true even though *Lisi*, as the subject of *know*, might have been a POV holder and indeed is in other readings of the same sentence.

397. Zhangsan thinks [PRO$_1$ POV^o Lisi knows [~~PRO~~ POV Wangwu … ~~PRO~~+ziji

Here, only the PRO coreferring with *Zhangsan* is coded as a POV holder and it is coded as a POV holder of both clauses.[55]

The Japanese reflexive *zibun*, similarly, does not work when two LD instances of it refer to different antecedents. Interestingly, however, having one use of local *zibun* and one use of LD *zibun* in the same clause is also often problematic.

Japanese *zibun* also shows limits on what happens when you have two instances of *zibun* in the same clause. Certainly, you cannot have two instances of *zibun* in the same clause with different long-distance antecedents. However, unlike with Mandarin, it is difficult even to have one local and one long-distance instance of *zibun*.

My consultants considered this sentence in which there are two instances of *zibun*, analogous to the Chinese sentence above.

398. [Rebecca wa [[Maki-ga zibun-no yuujin-ni zibun-no hon-o age-ta to]
Rebecca -Top Maki-Nom self-Gen friend-Dat self-Genbook-Acc give-past that
Norbert-ga omow-teiru to] iw-ta
Norbet-Nom think-progessive that say-past
'Rebecca said that Norbert thinks that Maki gave self's book to self's friends'

My consultants allowed meanings in which both *zibun*'s referred to the same person: either Maki (best), Norbert (also good), or Rebecca (though this was marginal for one

[55] In later sections, I will complicate this viewpoint a bit when I consider cases in which an embedded clause does not obviously have any kind of POVP in it and yet nonlocal binding by a POV holder is allowed.

consultant). None of my consultants allowed a meaning in which one instance of *zibun* referred to Rebecca and the other to Norbert: that is, like with Chinese, they did not allow two reflexives in the same clause to take different LD antecedents. However, unlike with Chinese, they did not even all allow one *zibun* to be local and the other to be LD. Two of my consultants accepted, marginally, a reading in which one *zibun* referred to Maki and the other to Norbert—and there, they had a preference for which *zibun* referred to which.

Similar findings are reported in the literature by Nishigauchi (2010). He quotes sentences with multiple occurrences of zibun (from Howard and Niekawa-Howard (1976), Kuno and Kaburaki (1977)). He says his sources report that both instances of *zibun* here must refer to the same person.

399. Syatyoo-wa butyoo-ga zibun-o zibun-ni yudane-ta to omow-ta.
President-Top manager-Nom self-Acc self-Dat entrust-Past that thought 'The president thought the manager entrusted self to self.'

Howard and Niekawa-Howard (1976) say that both instances of *zibun* must corefer, either to the president (*syatoo-wa*) or the manager (*butyoo-ga*). In contrast, Nishigauchi notes that he finds it marginally acceptable to have a reading in which the manager entrusts the manager to the president, though not the reverse—and says that some speakers share his judgments. That is, it seems that in some cases Japanese speakers do allow one local and one LD *zibun*, but it is marginal and finicky in a way that is not reported for similar sentences in Chinese.

To the extent that both instances of *zibun* in a clause require the same antecedent, this tallies well with an account in which LD *zibun* needs a local POV head as a binder. However, Japanese actually seems stricter than predicted, given that even local *zibun* cannot coexist with an LD *zibun*. A possible explanation, and one adopted by Nishigauchi (2010), is that even local *zibun* must be bound by a POV° head. Given the differences between local and nonlocal *zibun*, though, I find this less than ideal. On the other hand, at least sometimes a local and a nonlocal *zibun* may co-occur in a clause, even if this is more limited than I have reasons for.

3.5.2 More evidence in favor of a movement account: successive-cyclicity

Above, I showed that sentences involving multiple *ziji*, or multiple *zibun* for that matter, give evidence that each instance of the reflexive must be bound (relatively) locally: by the lowest possible left-periphery binder. As I noted, however, this only demonstrates the need for relative locality: if there is a lower left-periphery binder, then *ziji* cannot be bound by a higher one. That does not, however, show in itself that *ziji* needs to be bound by a left-periphery binder in its own clause.

However, from Icelandic comes evidence that in fact, the antecedent of *sig* must be the POV holder of the most deeply embedded clause in which *sig* is located. Recall that verbs with POV-holder subjects have complements in the subjunctive mood. Furthermore, via the "domino effect", the subjunctive mood may extend even to more deeply embedded clauses—though the domino effect may also be broken as in (274), where the most deeply embedded clause is in the indicative mood.

400. Anna segir að Jón viti að María elski sig

‘Ann says (ind) that John knows (subj) that Mary loves (subj) her/(??him).

[Sigurðsson 1990: 311]

401. *Jón$_i$ segir að Haraldur viti að María elskar sig$_i$

‘John says (ind) that Harold knows (subj) that Mary loves (ind) her/(??him).

[Thráinsson 1990: 298]

Only when the subjunctive mood extends all the way down can long-distance binding of *sig* occur. That is, *sig* may be bound by *Anna* when it is in a subjunctive-mood clause, but not when it is in an indicative-mood clause. Using the subjunctive as an indicator of POV-holder status, Anna is considered to be the POV holder of the most deeply embedded clause, not just the middle clause. The ‘domino effect’ facts lead me to believe that *something* like locality applies. It does not appear that *sig*’s antecedent can be any old POV holder; instead, it must actually be the POV holder for the clause that *sig* is in.

Perhaps when a sentence has domino-effect subjunctives, every clause below the subjunctive-taking verb has a left-periphery slot representing the POV holder. I schematize this below:

402. John$_i$ said [$_{ModP}$ PRO$_i$ POV^o that Mary knows(subj) [$_{ModP}$ ~~PRO~~ POV^o that Peter likes(subj) ~~PRO~~ +sig]]]

Remember, though, that verbs like 'know' do not usually come with POV holders, and their complements are normally in the indicative (when they are not embedded under a subjunctive-taking verb). Let us assume that 'know''s complement does not normally take a complement clause with a POV holder—if it has something like a POVP, the POVP either lacks a specifier or has a specifier that has to refer to the speaker. In that case, I would have to say that POVP is allowed in such complements only if they are embedded under a verb of saying—perhaps the Modº head is different than usual. Luckily for me, though, this is a problem exactly analogous to another problems in the linguistic literature: successive-cyclic movement of *wh*-words.

Consider an account in which wh-words move successive-cyclically through each clause until they reach the Spec, CP of the clause that is a question. If they move through various embedded clauses, then they must move through the left periphery of various embedded clauses that do not normally host wh-words.

403. *John asserted who won the award.

404. Who did John assert ~~who~~ won the award?

Is it acceptable to say that there is successive-cyclic movement through all the Spec CPs (even though they're not normally the kind of CPs that can host a question Cº)? I think that the issue of whether embedded clauses can host a POV holder is a similar phenomenon. The complement of "know", when subjunctive due to the domino effect, is allowed to host some kind of POV holder in its left periphery—even though said POV-holder can't refer to the most local higher subject.

On the other hand, it looks like when you embed multiple subjunctive taking verbs inside each other, then the antecedent of LD *sig* can be the subject of any of these verbs.

405. Jón$_i$ segir [að María$_j$ telji [að Haraldur$_k$ vilji
John says that Mary believe(sbj.) that Harold want(sbj.)
[að þú heimsækir sig$_{i/j/k}$]]]
that you visit(sbj.) REFL
'John says that Mary believes that Harold wants you to visit him/her.'
[Thráinsson 2007 ex. 9.19b p. 469]

For example, the antecedent of *sig* can be either John, Maria, or Harold, as all are viable POV-holders.

Given the facts with multiple *zibun* and *ziji,* I want to assume that the only POV holder coded into the syntax of this sentence, on the reading in which John binds *sig*, is John. Even though Mary and Harold are otherwise fine POV holders, I have to assume that they are not automatically coded as such. Otherwise we would get a scenario in which *sig*'s associate had to cross multiple POVPs before landing in the POVP associated with John.

406. John$_i$ says [PRO$_i$ POV^o that Mary$_j$ believes [e$_j$ **POV?** that Harold wants [e$_k$ **POV?** that you visit PRO +sig]

Instead, I adopt the hypothesis, at least temporarily, that all of the POV^{o} heads in the sentence host PRO as an argument on PRO's way up, and consequently, that John (the eventual controller of PRO) is the POV holder for all of the embedded clauses.

3.5.3 An attempted set of further tests

So far, I have given evidence that is cheering, but not conclusive, that reflexives must have a local left-periphery binder, and that this binder may in turn undergo successive-cyclic movement to a position near the antecedent. However, more complete evidence would be desirable. Here, island effects in Kannada may be a great help. These island effects may be used as a diagnostic of where *tannu*'s associate has moved to or through. Must the binder be in the most local clause? In any clause? In all clauses between the *tannu* and its antecedent? However, so far the sentences I have considered in Kannada have been inconclusive. Here, I describe a set of tests I used to examine whether Kannada speakers might require local A' binders of *tannu*. Unfortunately, the results were inconclusive because the test sentences were too complicated for Kannada speakers to be able to judge them, even with a large amount of context provided to make one meaning salient. Nonetheless, I will describe the logic of these test sentences in the hope that someone might in the future be able to use similar logic to construct more feasible tests.

Lidz's claim that *tannu* creates island effects raises many further questions. For instance, if these island effects are due to the filling of *some* A' position, the details of which A' positions must be filled are still very open. Even if we assume (for now) that the position we are dealing with is a Spec, CP—with some sort of C^{o} being associated

with POV-- this leads to the question of whether every Spec, CP position between *tannu* and its antecedent must be filled, or whether only some of them must be. How close does the reflexive's null sister (or the antecedent itself, on Lidz's account) have to be to the reflexive in its case position? How close does the intermediate A' position have to be to the antecedent's theta-position? A further, and deeper, question could be: what purpose is served by the null sister (or the overt antecedent) in Spec, CP? I will argue that there is a relevant line of inquiry for answering both questions.

At least two different types of locality requirement may be relevant. First, the left-periphery sites to which *tannu*'s associate moves might need to be local to the reflexive—for instance, in the specifier of the immediate CP. For instance, the configuration schematized in (407) might be acceptable, while the configuration in (408) is not. This is in fact what I would hope for, given my movement account.

407. $[[_{CP}\ \text{Rama}_1 \ \ldots [_{CP} \ldots [_{CP}\ \text{PRO}_1\ \text{C}^o \ldots \text{tannu}_2]]]$

408. $*[[_{CP}\ \text{Rama}_1 \ \ldots [_{CP}\ (\text{PRO}_1)\ \text{C}^o\ \text{Lisi}_2 \ldots [_{CP}\ [\ \ldots \text{tannu}_1]]]$

Additionally, the left-periphery site in which *tannu*'s associate ultimately lands might need to be local to the antecedent—for instance, in the Spec, CP position immediately below the antecedent. If so, the configuration in (409) may be acceptable, while (410) is not.

409. $[[_{CP}\ \text{Rama}_1 \ \ldots [_{CP}\ \text{PRO}_1\ \text{C}^o \ldots [_{CP} \ldots \text{tannu}_1]]]$

410. $*[[_{CP}\ \text{Rama}_1 \ \ldots [_{CP}\ [e]/\text{PRO}_2 \ldots [_{CP}\ \text{PRO}_1 \ldots \text{tannu}_1]]]$

Of course, these two locality requirements might both hold at once. Potentially, PRO might need to move to a position local to the *tannu*, and from there to a position local to the antecedent—assuming there are multiple CPs separating the two.

411. [[$_{CP}$ Rama$_1$ … [$_{CP}$ *(PRO$_1$) … [$_{CP}$ *(~~PRO~~$_1$) … ~~PRO~~+ tannu$_1$]]]

Finally, there might be no particular locality requirement on the left periphery position associated with *tannu*. Lidz' data indicate that *some* Spec, CP position between the antecedent and the reflexive must be filled, but there may not be any particular requirement on which position there is, when there are multiple CPs between them. This would not be particularly good news for a movement account, but it is not disproven by Lidz's (2008) data.

412. OK: [[$_{CP}$ Rama$_1$ … [$_{CP}$ PRO$_1$ … [$_{CP}$ … tannu$_1$]]]

413. also OK: [[$_{CP}$ Rama$_1$ … [$_{CP}$ … [$_{CP}$ PRO$_1$ tannu$_1$]]]

These four hypotheses make different predictions as to which Spec, CP positions must be filled when *tannu* is bound by a long-distance antecedent. I propose that these predictions may be tested using wh-islands as a diagnostic: a filled Spec, CP should create an island for a wh-adjunct trying to move across it. I now indicate some diagnostic sentences as follows. Please note that for ease of explication in the following sentences, I am using

English word order with overt wh-movement. The actual Kannada sentences would be verb-final and wh-in-situ.

First, here is a sentence that will test whether there has to be a PRO or moved reflexive in the Spec,CP that most closely c-commands the reflexive:

414. John$_1$ remembered [that Mary asked [why Bob said [Jim praised refl$_1$ t$_{why}$]]]

If there is no PRO in the most deeply embedded clause, then movement of *why* should not be prevented.

415. John$_1$ remembered [PRO$_1$ that Mary asked [why Bob said [Jim praised refl$_1$ t$_{why}$]]]

However, if there *is* a PRO in the most deeply embedded clause, then movement of *why* should be prevented, so this reading of the sentence should be judged ungrammatical:

416. Tony$_1$ remembered [that Abigail asked

[why Mark thought [PRO$_1$ Susan praised refl$_1$ t$_{why}$]]]

X

Having schematized the sentence, it is clearly rather complicated. Being concerned that it might be difficult for speakers to judge, even aside from the presence or absence of island effects, I tried ameliorate this difficulty by creating a context that

makes the relevant reading prominent. Here is one example in English, which was then translated into Kannada by Jeff Lidz.

417. Context:

Tony's friend: Hi, Tony, I hear you just won the City Dance Contest. Congratulations!

Tony (dancer): Thanks a lot! I can't talk just now, though, because I have to go watch the evening news. They're interviewing one of the judges from the contest. I'll call you back later.

(On the Evening News)

Abigail (interviewer): Welcome to the Evening News. I'm your host, Abigail Abrams, and today I'm interviewing Mark Mann, a local dance critic. Mark and Susan Somers were the judges in the recent City Dance Contest. Tell me, Mark, what was it like being a judge?

Mark (judge): Judging the contest was very challenging. There were many talented performers, but we ended up picking Tony Thompson as the winner.

Abigail: How did you two pick Tony?

Mark: Well, really, it was mostly Susan's decision. I was torn, but Susan was very fond of Tony's performance. Susan gave it a great deal of praise.

Abigail: What do you think were Susan's reasons for praising Tony?

Mark: I think Susan was impressed because Tony could jump very high.

(later)

Tony's friend: So, what was the interview like?

Tony: It was pretty long and I don't remember everything they said. But I remember that Abigail asked why Mark thought that Susan praised me.

418. Test sentence (gloss): $Tony_1$ remembered [that Abigail asked [why Mark thought [Susan praised $refl_1$ t_{why}]]]

This sentence should be judged as grammatical only if the reflexive does *not* require an operator in the most deeply embedded Spec, CP. (That would be consistent either with the hypothesis that the operator must be local to the antecedent, or with the hypothesis that no particular locality requirements hold.) (For more sample sentences and contexts, see the Appendix, contexts 1.1, 2.1, and 3.1.)

A similar test could be used to judge whether the A' binder of the reflexive must be local to the theta-position of the antecedent antecedent. The following sentence will test whether there has to be an operator/moved reflexive in the Spec,CP that is most closely c-commanded by the antecedent:

419. Why did $John_1$ think [that Mary said t_{why} [that Jim praised $refl_1$]]]

If there is a PRO in the Specifier of the clause that is complement to 'think', then wh-movement of *why* should be blocked.

420. Why did John$_1$ think [PRO$_1$ that Mary said t$_{why}$ [that Jim praised refl$_1$]]]

X

However, if there is *not* a PRO in the Spec, CP of this clause, then wh-movement of *why* should not be blocked.

421. Why did John$_1$ think [that Mary said t$_{why}$ [PRO$_1$ that Jim praised refl$_1$]]]

Again, regardless of the *logic* of these sentences, I expect they may be difficult for people to judge. I propose a context that might help to make the relevant reading prominent. Consequently I would provide speakers with the relevant context. For three example sentences and their contexts, please see the Appendix, contexts 1.3, 2.3, and 3.3.

If speakers accept this sentence, this would indicate that there is no operator in the embedded clause directly below the antecedent. This would be consistent with the hypothesis that the operator must be local to the reflexive, or with the hypothesis that there are no particular locality requirements on the operator. If speakers reject the sentence, it would indicate that there *is* an operator (or moved reflexive) in the embedded clause directly below the antecedent.

Another piece of evidence in favor of treating LD *tannu* as a logophor is that *tannu* is subject to blocking effects from first- or second-person pronouns. Interestingly,

these blocking effects may also provide clues as to where the operator must be located in relation to the antecedent.

Recall that when there is a first- or second- person pronoun in the same clause as *tannu*, there is a blocking effect: *tannu* may not refer to an LD subject.

422. ?[naanu tannanna$_i$ baide anta] raama$_i$ yendukoNDa

I self-ACC abused COMP Rama thought

'Rama$_i$ thought that I abused self$_i$.' [Amritavalli 2000 ex 48a]

423. ?[niinu tanna$_i$ makkaLanna baide anta] raama$_i$ yenda

you self's children-ACC abused COMP Rama said

'Rama$_i$ said that you abused self's$_i$ children.' [Amritavalli 2000 ex 48b]

The blocking effect is ameliorated when the first- or second-person pronoun is not in the same clause as *tannu*.

424. [ali tannanna$_i$ baide anta] naanu heeLide anta raama$_i$ yendukoNDa

Ali self-ACC abused COMP I said COMP Rama thought

'Rama$_i$ thought that I said that Ali abused self$_i$.' [Amritavalli 2000 ex. 49a]

425. [ali tannanna$_i$ hoDeyuttaane anta] niinu heeLide anta raama$_i$ yendukoNDa

you self-ACC will hit COMP you said COMP Rama thought

'Rama$_i$ thought that you said that Ali would hit self$_i$.' [Amritavalli 2000 ex. 49b]

Let us consider the possibility that the operator binding *tannu* must refer, roughly, to an understood POV holder. Consequently, this operator is incompatible with a first-person or second-person pronoun in its scope, as a these pronouns are from the point-of-view of the speaker of the whole sentence.[56] Consequently, (422) and (423) are bad because the embedded clause has to be from the point of view of Rama, not the external speaker, making it incompatible with first-or-second person pronouns. Hence, (422) and (423) can be schematized as follows.

426. $[_{CP}$ PRO_i $[_{C'}$ I $self_i$ abused $C^o]]$ $Rama_i$ thought

427. $[_{CP}$ PRO_i $[_{C'}$ you self's$_i$ children abused $C^o]]$ $Rama_i$ said

Of course, there is only one Spec, CP position here between *Rama* and *tannu*. These sentences therefore do not tell us anything about locality.

However, (424) and (425) do provide valuable information. These sentences have multiple embedded clauses, meaning they have multiple embedded Spec, CP positions in which an operator could sit. The acceptability of (424) and (425) then derives from the fact that the operator can be located in the specifier of the most deeply embedded CP, and thus not take scope over the first- or second-person pronoun. This is schematized below.

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[56] I am here following basically the arguments used by Huang and Liu 2001 and their sources in arguing that Mandarin *ziji*, in its long-distance uses, is logophoric. Like *tannu*, *ziji* is subject to blocking effects, although unlike *tannu*, such effects are not ameliorated by extra intervening subjects. See section 7.4 for further discussion.

(i) Zhangsan$_i$ renwei wo$_j$ zhidao Wangwu$_k$ xihuan ziji$_{*i/*j/k}$
Zhangsan think I know Wangwu like self
'Zhangsan thinks that I know that Wangwu likes himself.'
[Cole, Hermon and Lee 2001]

428. $[_{CP\,[e]}\ [_{CP}\ PRO_i\ [_{C'}$ Ali self$_i$ abused $C^o]]$ I said $C^o]$ Rama$_i$ thought.

429. $[_{CP\,[e]}\ [_{CP}\ PRO_i\ [_{C'}$ Ali self$_i$ will hit $C^o]]$ you said $C^o]$ Rama$_i$ thought.

The prediction is that only the *embedded* clause has to be from the POV of Rama.

If my analysis of blocking effects is correct, then that makes predictions about island effects. It predicts that it is not necessary for the CP closest to the antecedent to have an operator in its specifier. Thus, I predict that no island effects should be observed in (419), repeated below.

430. Why did John$_1$ think [that Mary said t_{why} [that Jim praised refl$_1$]]]

There should not have to be an operator in the specifier of the CP complement of *think*, so there need not be an island blocking movement of *why* into the matrix clause. If Kannada speakers *did* observe an island effect here, I would consider it to be strong evidence against my proposal.

This analysis does not make any particular prediction about whether there will be island effects in (414), repeated below.

431. John$_1$ remembered [that Mary asked [why Bob said [Jim praised refl$_1$ t_{why}]]]

If there must be an operator in the clause immediately dominating the reflexive, then an island effect would be predicted. But that need not be the case—it would also be possible

that the operator might be located in *any* of the Spec, CPs, in which event there would not be any island effects predicted.

Nonetheless, a variant of (431) could be useful in studying the interaction of blocking effects and *wh*-islands. If the operator must not c-command the first person pronoun, then it is predicted to have to be in the most deeply embedded clause.

432. John$_1$ remembered [*PRO$_1$ that Mary asked [*PRO$_1$ why I said [PRO Jim$_1$ praised refl$_1$ t$_{why}$]]]

Thus, (432) would be predicted to be ungrammatical regardless of whether (431) is grammatical or not, assuming that blocking effects are due to an operator c-commanding a first or second person pronoun. (For sample sentences and contexts involving sentences of the form in (432), see the Appendix, contexts 1.2, 2.2, and 3.2.)

Amritavalli notes that even the blocking effects in (423), repeated below as (433), may be ameliorated if the word order in the embedded clause is altered so that the reflexive precedes the first person pronoun (as in (434)).

433. ?[niinu tanna$_i$ makkaLanna baide anta] raama$_i$ yenda
you self's children-ACC abused COMP Rama said
'Rama$_i$ said that you abused self's$_i$ children.' [Amritavalli 2000 ex 48b]

434. [tanna$_i$ makkaLanna niinu baide anta] raama$_i$ yenda
self's children-ACC you abused COMP Rama said
'Rama$_i$ said that you abused self's$_i$ children.'[Amritavalli 2000 ex. 50]

On the face of it, this is quite a problem for the proposal I am pursuing. If *tannu* must be bound by a PRO in a POV projection, and this POV projection is incompatible with a second-person pronoun, then switching the order of constituents should not help.

There is, however, a potential solution. I speculate that this may be an instance of local binding. If fronting involves movement of *tanna makkaLanna* to Spec, CP, then perhaps *tanna* may be locally bound by the next subject up, Rama.

435. $[_{CP}$ [self's$_i$ children]$_j$ $[_{C'}$ you t_j abused C^o]] Rama$_i$ said

This might be analogous to binding in English in (436), where *the girls* becomes local to *each other* after A' movement of the constituent containing *each other*.

436. The girls$_i$ asked [which pictures of each other$_i$]$_j$ John liked t_j.

Consequently, if *tannu* is locally A-bound, it does not need to be bound by an A' operator. Thus no blocking effects would be expected to obtain.

Unfortunately, when Kannada speakers were shown the (translated) contexts and example sentences I used (see Appendix for the English versions), they were unable to give judgments on the sentences. Perhaps this means the sentences were simply too complicated, even with contextual cues. Nonetheless, in future work it would be worthwhile to see if there are simpler ways of using *tannu*'s island effects as a diagnostic for what Spec, CP positions must be filled when *tannu* takes a long-distance antecedent.

Whether or not these positions are local could be used to argue in favor of or against a movement account.

3.5.4 A concern for my account: LD reflexives do not show adjunct island effects

So far, I have shown evidence, or tests for future evidence, that LD reflexives might be related to a null associate that moves to a local left-periphery position associated with point-of-view. One argument in favor of a movement account is reflexives need to be local to their POV holder binders: an intervening POV holder causes trouble for binding. However, it would be nice if I could find evidence that other movement constraints apply. For instance, it would be good to be able to demonstrate that there are island effects applying between a reflexive and its left-periphery binder. Unfortunately, I have not yet been able to find them. I have even found one type of wh-island (adjunct islands) for which I have some evidence that it does not act as an island for relating reflexives to their antecedents.

First, I noted earlier (from Lidz 2008) that *tannu* is not subject to wh-island effects. Although *tannu* creates islands, it is not island-sensitive. For instance, *tannu* does not seem to be sensitive to wh-islands (as in (293), repeated as (437)) or relative clause islands (as in (294), repeated as (438)).

437. jay-ige [**yaar-u** **tann-annu** ooD-a anta] gnapaka ban-tu
jay-dat **who-NOM self-ACC** praise.PST-3SM that remembrance come.PST-3SN
'Jay remembered who praised him.' (LDA out of embedded question)
[Lidz 2008 ex. 19c]

438. hari [[**tann-annu** nood-id-a] vidyaarthi-yannu] huduk-utt-idd-aane

Hari **self-ACC** see-PST-RP student-ACC look.for-PROG-be-3SM

'Hari is looking for the student who saw him.' (LDA out of subject RC)

[Lidz 2008 ex. 19a]

This, however, is to be expected if only adjuncts in Kannada are island sensitive. Since *tannu* is used as an argument, it might be expected to behave like argument wh-words, which are also not island-sensitive. Of course, it is not *tannu* itself that is moving, but *tannu*'s antecedent. On the other hand, *tannu* lexically governs its sister, meaning that the sister is lexically governed. Then, movement of the sister out of the adjunct might violate only subjacency constraints (or a modern version of these) rather than for instance a version of Huang's Empty Category Principle. Then, as long as the sister's movement is covert, I would not expect to see subjacency violations being a problem. However, if the sister moves overtly (ie, if the sister is the antecedent itself), this probably would be a problem after all.

In Icelandic, too, there is evidence that you do not see all of the island effects with *sig* that you would with its antecedent. For instance, while evidence might temporarily point to the idea that *sig* is subject to adjunct islands, further data shows that that is not really the problem. I noted earlier that some adjuncts are in subjunctive mood and yet do not allow *sig* in them to be bound from outside.

439. a. *Jón$_i$ kemur ekki [nema þú bjóðir sér$_i$].

John comes(ind) not unless you invite(sbj.) REFL

b. *María$_i$ heimsækir þig [þótt þú hatir sig$_i$].

Mary visits(ind) you although you hate(sbj.) REFL

[Thráinsson 2007 ex. 9.17]

However, I follow Thráinsson and Sigurðsson in concluding that the problem with (439) cannot be just an island effect: the problem is not that *sig* is unable to take a POV holder binder outside of an adjunct. Rather than there being an island violation, the problem with (439) is just that John and Mary are not obviously POV holders, so they may not introduce POV^o heads (or may not be controlled by the arguments of any POV heads that do exist). When (439) is embedded under a verb of saying or thinking, the matrix subject becomes an excellent antecedent for the reflexive.

440. a. Jón$_i$ segir [að hann$_i$ komi ekki [nema þú bjóðir sér$_i$]].

John said that he come(sbj.) not unless you invite(sbj.) REFL

'John said that he won't come unless you invite him.'

b. María$_i$ heldur að hún$_i$ heimsæki þig [þótt þú hatir sig$_i$].

Mary thinks that she visit(sbj.) you although you hate(sbj.) REFL

'Mary thinks that she will visit you although you hate her.'

[Thráinsson 2007 ex. 9.17]

Thus, the problem cannot be that binding into an adjunct is itself impossible. If *sig*'s sister can move, it must be able to move out of the adjunct without problems.

3.5.5 Summary

To sum up, there is plenty of evidence that it would work to relate reflexives to their antecedents via some A' position, and some evidence that you could actually have movement of the reflexive's sister to that A' position. While the evidence is not conclusive, it is at least consistent with an account in which LD reflexives have a sister that moves to a left-periphery position. This, in turn, would handily connect my account of MD reflexives with my account of LD reflexives, for languages such as Icelandic and Japanese that have both.

3.6 Can antecedents of LD reflexives move directly?

In the past section, I explored the idea that LD reflexives are related to an A' position via copying and movement. The reflexive is introduced along with some kind of null sister that moves into a POV-related projection in the left periphery of the phrase. Following Nishigauchi (2005, 2010), I have assumed that this null sister is in turn related to the antecedent of the reflexive via something like non-obligatory control (NOC). However, here I will consider whether it is possible that, rather than having the reflexive and antecedent related via an intermediary, it would be possible to have the antecedent itself start out as sister to the reflexive and move, via these left-periphery positions, to its own eventual theta position.

I do not think it will be possible to argue that the antecedent is always related to the reflexive in such a way. For instance, Nishigauchi (2005, 2010) provides a number of ways in which the relationship between an LD reflexive and its antecedent actually

resembles non-obligatory control (NOC) and many of these reasons show that the relationship between an antecedent and its reflexive cannot be based on movement. For instance, as I have noted, LD reflexives, when referring to a point-of-view holder, do not require an antecedent in the sentence at all. All of the reflexives I have considered have sentence-free uses, repeated below.

441. *Zhe-ge xiangfa, chule ziji, zhiyou san-ge ren zancheng.*
This-CL idea, besides self only three-CL people agree
'As for this idea, besides myself, only three other people agree.'
[Huang and Liu 2001: 157. ex. 36.]

442. A: *John$_i$-ga dareka-o soko-ni okutta n-desu-ka?*
'Did John send someone there?'
B: *Iie, zibun$_i$-ga itta n-desu.*
'No, himself (=John) went there.'
[Fukui 1984:40, quoted with modifications in Aikawa 1999: 157]

443. Formaðurinn varð óskaplega reiður. Tillagan vœri svívirðileg og
the chairman became furiously angry. the proposal was(subj) outrageous and
vœri henni beint gegn sér persónulega. Sér vœri sama…
was(subj) it aimed against SELF personally. SELF was(subj) indifferent…
[Sigurðsson 1990 ex. 22]

444. (vishaala) aa kaaDu manuSya tannannu aakramisuttaane yendukoNDidda. avanu
a name that wild man self-acc will attack had thought he
haageenuu maaDiralilla. samudra daNDeyinda tannannu yettikoNDu banda.
any such thing had not done sea shore from self-acc carried came
'(Vishaala) had thought the wild man would attack self. He had done no such thing. (He) had carried self back from the seashore.'
[Amritavalli 2000 ex. 14a]

It should not be possible to say that the antecedent and reflexive are directly related by movement in these sentences—not unless sentences are allowed to be built up two (or more)-at-a-time. As long as each sentence has its own Numeration or base structure, I do not think this should be possible.

Furthermore, not even all sentences with an overt antecedent for the reflexive look as if they should allow movement. Importantly, not all instances of a reflexive need to be c-commanded by their antecedent. Here is an example from Japanese, for instance, in which *zibun* may refer to the politician, *seizika*.

445. Keizi-wa$_i$ sono seizika$_j$-kara [booryokudan-ga zibun$_{i/j}$-o odosi-te iru
detective-Top that politician-from gangsters-Nom self-Acc blackmail be Pres
koto] o kii-ta.
that Acc hear Past
'The detective heard from the politician that gangsters were blackmailing self.'
[Nishigauchi 2010 ex. 45]

Here *seizika* does not c-command *zibun* because it is inside a postpositional phrase, *seizika-kara.* From inside a PP, the antecedent does not c-command *zibun*—nor does it c-command the left periphery of any clause containing *zibun*. If movement has to obey the extension condition, there would be no way for this sentence to be generated by moving the antecedent from the embedded clause—unless sideward movement is allowed.

Likewise, Chinese *ziji* may take a subcommanding antecedent as in (446a).

446. a. [Zhangsan$_i$ de chezi]$_j$ haile ziji$_i$

Zhangsan 's car harmed self

'Zhangsan's car harmed *itself/him.'

[Cole Hermon and Lee 1990: 6, ex 8]

b. [Zhangsan$_i$ de taitai]$_j$ haile ziji$_j$

Zhangsan 's wife harmed self

'Zhangsan's wife harmed herself/*him.'

[Cole Hermon and Lee 1990: 7, ex 9]

However, a subcommanding antecedent may only bind *ziji* when the c-commanding NP dominating the subcommander is itself inanimate. In this case, the use of the subcommander as a binder strikes me as something of a last resort. Perhaps an argument for sideward movement could be made here.

Nonetheless, the ability of a non-commanding antecedent to bind *zibun* in (445) gives me pause. I think the strongest possibility I can consider is that the reflexive and its

antecedent are sometimes—but not always-- related by movement of the antecedent, directly, to its surface position.

Here is how I would derive such a sentence. Consider the reading of (447) in which *Jón* is the antecedent of *sig*.

447. **Jón** segir [að María elski **sig**]

John says (ind) that Mary loves (subj) self

'John$_i$ says that Mary loves him$_i$.'

(Sigurðsson 1990 ex. 4, from Thráinsson 1976, 1979, 1990)

First, the reflexive and its antecedent are merged together as sisters.

448. [Jón sig]

The reflexive gets theta and case in the usual manner, and after everything else in the phase is merged, the antecedent moves to a left-periphery position, in order to satisfy a feature on a POV head, on itself, or both.

449. [$_{POVP}$ Jon POV^{o} [that Mary loves(sbj.) [$_{NP}$~~John~~ sig]]]

So far this works exactly like my previous account in which the reflexive's sister is an operator or null PRO or other null element.

The only difference is at the end: when the antecedent has moved into the left periphery of a clause, it can move from there directly into its theta-position.

450. [John says [$_{POVP}$ ~~Jon~~ POV° [that Mary loves(sbj.) [$_{NP}$~~John~~ sig]]]

As described so far, this appears to be improper movement. If POV specifiers are A' positions, then the antecedent has moved into an A' position and then has to move from their into an A position, its theta position. However, the account can be amended fairly simply to avoid improper movement: the antecedent could itself be a sister to a null operator (451a). This operator is merged with *sig* (451b). After that operator has moved to its final resting place, satisfying its POV feature and/or the POV feature of the head (451c), then the antecedent may move away from the operator for the first time, into its theta-position (451d).

451. a. [$_{Op}$ Jón Op]

b. [$_{NP}$[$_{OP}$Jón Op] sig]

c. [$_{POVP}$ [$_{Op}$ Jón Op] POV° [that Mary loves(sbj.) [$_{NP}$. [$_{Op}$ ~~Jón Op~~] sig]]]

d. [Jón says [$_{POVP}$ [$_{Op}$ ~~Jón~~ Op] POV° [that Mary loves(sbj.) [$_{NP}$. [$_{Op}$ ~~Jón Op~~] sig]]]

Whether the antecedent moves directly to its theta-position, or whether it moves along with an operator, something like LD reflexive, then, would often be subject-oriented due to something like Merge over Move, just like in my account of MD

reflexives. The antecedent would not be moved to its theta-position until after all other earlier theta-positions in that phase of the derivation had been filled by merging new NPs. This predicts that LD reflexives should be subject-oriented just as MD reflexives are.

There are some cases in which subject-orientation apparently applies even to LD reflexives. For instance, in Icelandic, the subject of a passive sometimes is a valid antecedent for *sig* even when the object of the corresponding active verb is not.

452. a. Ég taldi Jóni$_i$ trú um [að *sig$_i$ /hann$_i$ vantaði hæfileika].
I convinced John(Dat) belief about that *REFL/he(A) lacked talent
'I made John believe that he lacked talent.'

b. Jóni$_i$ var talin trú um [að ?sig$_i$ /hann$_i$ vantaði hæfileika].
John(D) was convinced belief about that ?REFL/he(A) lacked talent
'John was made to believe that he lacked talent.'

[Maling 1984: 239, via Thráinsson 2007: 489]

Although *Jón* may be thought to have the same theta-role (and perhaps, by extension, POV-holder status) in (452a) as in (452b), in (452b) it is a much better antecedent for *sig*.

However, passivization does not always help that much:

453. a. Ég sagði Jóni$_i$ [að þú hefðir svikið *sig$_i$ / hann$_i$]
I told John that you had(sbj.) betrayed *REFL/him
'I told John that you had betrayed him.'

b. Jóni$_i$ var sagt [að þú hefðir svikið ?*sig$_i$ / hann$_i$]

John was told that you had(sbj.) betrayed ?*REFL/him

'John was told that you had betrayed him.'

[Maling 1984: 232ff, via Thráinsson 2007: 488]

Perhaps Jón in (453b) is out for other reasons, like not being a good POV holder. In fact Maling (1984)'s take on these sentences is that passivization makes John a better POV holder in (452) but not, for some reason, in (453). If this is all about what makes a felicitous POV holder, then Merge over Move may have nothing to do with it.

A key concern with an antecedent movement account is that it would not work very well with the evidence that c-command is not always necessary, such as in the above examples (445) and (446). There I would either need to argue that the antecedent is not related to the reflexive by movement, or that the antecedent was able to undergo sideward movement for some reason.

At least when an LD reflexive has an overt, c-commanding antecedent in the sentence, it is imaginable that this antecedent is related to the reflexive via movement. This still leaves the question if there are reasons (other than some kind of loose aesthetic preference) to believe that this movement is actually what is happening. There is only one that I can think of: the antecedent of the reflexive must, arguably, be in a local relation to the left-periphery POV phrase associated with the reflexive. This tallies well with a movement account in which finite clauses are spell-out domains. If the moving antecedent cannot move out of a clause unless it is in an escape hatch, and the left periphery position counts as such an escape hatch, then the left periphery position

associated with the reflexive would have to be in the clause directly below the antecedent's clause.

There is, happily, some evidence for assuming that the POV holder is associated with a left-periphery position in the highest embedded clause. First, it is reasonable to suppose that verbs of saying, thinking, etc may simply subcategorize for such a left-periphery POV position. This is what Anand (2006) assumes for Chinese, for instance (although he assumes there is simply an operator, not a moved element). This subcategorization would automatically build in the locality between an antecedent and the POV head. Furthermore, this is also consistent with subjunctive mood in Icelandic. Notice that the kinds of NPs that make good antecedents in Icelandic go along with subjunctive mood all the way down. Crucially, the clause that is an argument of these verbs always has subjunctive mood, even if more deeply-embedded clauses do not. To the extent that subjunctive mood correlates with the presence of a POV holder projection, that means that the antecedent should always go along with the POV holder projection of the most shallowly embedded clause.

454. Antecdent verb [~~antecedent~~ POVº …

To sum up, if I want to use locality as an argument in favor of movement, it does seem that the antecedent wants to be related to a POV-holder in the left periphery of the closest clause below it. This would follow if the antecedent (in these instances) actually has to get to its surface position via movement.

Chapter 4: Conclusion, with notes on typology

To conclude, in this dissertation I have set out to show that SE reflexives, whether bound locally, from outside of an infinitive, or from outside a finite clause, are related to a higher position in the sentence via sisterhood and movement. The prettier example of this is with local and MD reflexives: there, I argue that the reflexive and antecedent start their derivational life as sisters and then the antecedent moves to its surface position. Along with a set of plausible assumptions, this explains a number of distributional facts about the reflexives: they are subject-oriented (due to a combination of Merge over Move and a numeration divided into phases), and they are bounded to the nearest finite clause (due to finite clauses being spellout domains). This account has the desirable feature of relating binding to movement to capture their shared properties, such as requiring c-command (usually) and being locally bounded, and thus follows in the footsteps of other accounts seeking to find common causes for linguistic phenomena such as binding, movement, and control.

Furthermore, I have demonstrated that even though LD binding of reflexives has several different properties from local binding—most notably in requiring POV holder antecedents—that the LD and local uses of the same reflexive share common features. I unify my account of LD and local/MD uses of reflexives by arguing that in either instance, *sig* enters the derivation with a doubled sister. Local or MD *sig*'s double is its antecedent, whereas LD *sig*'s double is a null operator or PRO of some sort that moves to a point-of-view related position. Unifying these accounts, by saying that both uses of *sig* involve doubling and movement, has explanatory worth because it shows why the long-distance and the local reflexive take the same form in so many languages. Even if the

local reflexive may or must have an additional "self"-like morpheme (such as local *sjálfan sig* vs. local/MD/LD *sig*), the local and LD forms still have a morpheme in common (*sig*). It is this morpheme, I require, that takes a doubled sister.

However, I stated earlier that LD and MD uses of reflexives do not explicitly have to go together. It is clear, for instance, that some languages have MD uses of reflexives *without* having LD uses. Danish, for example, has reflexives that may be bound from outside of infinitives. (In fact, the reflexive form is still *sig*.)

455. Peteri bad $Jens_j$ om [PRO_j at barbere $sig_{i/j}$] (Danish)
Peter asked Jens to shave sig [Thráinsson 1991 ex. 4b]

However, Danish *sig*, unlike Icelandic *sig*, lacks LD readings.

456. *$Jens_1$ sagde [at jeg havde svigtet sig_i] (Danish)
Jens said that I had betrayed REFL [Thráinsson 2007 ex. 9.63a]

This is not really a problem for my account— I can say that some reflexives, such as Danish *sig*, may only take a sister that is a NP, whereas other reflexives, such as Icelandic *sig*, may either take an NP sister or a POV operator sister.

On the other hand, what about languages whose reflexives have LD uses but lack MD uses? (By this, I mean reflexives that can only be bound from outside of an infinitive if some kind of POV holder status is represented, just as with normal LD uses.) As far as I know, Chinese *ziji* is such a reflexive. On their LD uses, these reflexives have

sisters, in my theory. What about their local uses, though? My account would lose explanatory power if I assumed that local uses did not come with doubled sisters—it would fail to explain why so many languages have the same local and LD form. Instead, I will assume that all reflexives that have both local and (widespread) LD uses are, on their local readings, first merged with their antecedents. This predicts that all LD reflexives are, in their local uses, subject-oriented—at least to the extent that Merge over Move requires this.

In this case, having a doubled antecedent is necessary, but not sufficient, for a reflexive to have MD uses. When a reflexive is subject-oriented and in complementary distribution with pronouns, that means it has a doubled antecedent, but not that its antecedent is necessarily able to move out of an infinitive clause. I predict that in languages where the double cannot move out of an infinitive, this is because the infinitive is treated as a spellout domain. Testing this prediction would be a good avenue for further research.

In addition to the aforementioned languages, there are languages with local reflexives that are not related to their antecedents by doubling and movement. For instance, I would argue that English reflexives, such as "himself", are such a case. "Himself" is not subject-oriented, and allows a non-c-commanding antecedent out of a prepositional phrase.

457. Mary told John about himself.

458. Mary talked to John about himself.

The reason that "himself" acts like a reflexive at all is that it contains the morpheme "self". I follow Reinhart and Reuland (1993) in analyzing "self" as requiring the pronoun it modifies to corefer with a co-argument, roughly. While in some languages, cognates of "self" may be used along with a subject-oriented reflexive (such as *sjálfan* being used along with *sig*), in English it is just used with an ordinary pronoun.[57]

My prediction is that if such reflexives do not have doubling in the local uses, they also should not have LD uses, because LD reflexives have doubling. I think that, for English at least, this is largely true. At least, you do not see widespread uses of LD reflexives, or of sentence-free reflexives used to refer to a prominent POV holder in the discourse.

459. *John said that Mary liked himself.

460. *Mary sighed. Those other girls had been so mean to herself!

Reinhart and Reuland 1991 do note some apparent "logophoric" uses of English reflexives, particularly in places where the reflexive is not a normal argument of the verb.

461. a. This paper was written by (Ann and) myself.

b. John said that the paper was written by (Ann and) himself.

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[57] Languages that allow refl + self forms may also allow pronoun + self forms in situations where the reflexive would not be allowed. For example, Icelandic has the form *hann sjálfan* (him self), which may be used with an object binder.

(i) Ég talaði við Jón$_i$ um [hann sjálfan]$_i$/*[sjálfan sig]$_i$/*sig$_i$/*hann$_i$
I talked with John about him self / * self sig /*sig/ *him
[Kjartan Ottósson, p.c.]

[Reinhart and Reuland 1991, ex. 55a, 59a]

However, these are considerably rarer than LD uses of the reflexives I have considered above. My analysis is that these uses of "himself" have less in common with reflexive "himself" than the corresponding LD vs. local uses of *ziji*, *zibun*, *sig*, or *tannu*. The morpheme "self" here is, in these exceptional circumstances, exempted from requiring locality. It is, however, interesting that these have POV holder antecedents just like LD reflexives do.

Finally, there are pronouns that have 'logophoric' uses, and that seem to be linked to A' positions, but that do not act as reflexives at all. Abe *n*-pronouns are such an example. Although they do seem to have relationships with A' positions, as argued by Koopman and Sportiche 1989, they may not be used as local reflexives.

462. n_i wu $n_{*i,*j}$

he(*n*) saw him(*n*) [Koopman and Sportiche 1989 ex. 14a]

Or, rather, when they are used as local reflexives, it is the morpheme added onto them, -*se*, that is doing all the reflexivizing work. There is nothing "reflexive"-like about *n*-pronouns by themselves, given that *O*-pronouns may be used in the same way to equal reflexive effect.

463. a. yapi mU Ose/*nse

Yapi knows him(*O*)self

b. n mU nse/*Ose

he(*n*) knows him(*n*)self [Koopman and Sportiche 1989 ex. 20]

(There are, of course, differences between the uses of *n*- and *O*- pronouns, but these are not attributable to one of them being "reflexive" and the other not.) This makes sense, I argue, because *n*-pronouns do not have doubles at all, even though they are associated with operator positions. Unlike Chinese, *n*-pronouns need not be bound by the most local operator, which is why two *n*-pronouns in the same embedded clause may have different referents. Here, for instance, lack of coreference is dispreferred but possible.

464. api bO wu ye n (ceewu) kolo n erenyi

Api believes *ye* his(*n*) (friend) likes his(*n*) house

[Koopman and Sportiche ex. 44b]

465. Op_1 Api believes [Op_2 that n_1('s friend) likes n_2's house]

The lack of a locality requirement makes perfect sense if there is no movement—the operator is just base-generated in some left-periphery position. Consequently, it makes sense that such pronouns should not go along with a local/MD reflexive use: since there is no doubling with LD uses, there is no reason to expect doubling elsewhere either.

This leads to the following typological prediction: if a language has LD reflexives that may also be local reflexives, then both the LD and the local uses should act as if they have doubles: the LD uses should be dependent on the local left periphery, while the local

(or MD) uses should be subject-oriented. However, if a language has pronouns that may be "logophors" but that do not also act as reflexives, then these need not obey the diagnostics of LD reflexives. Furthermore, if a language has local reflexives that do not also act as MD or LD reflexives, then these might, but need not, behave as if they are sisters to their antecedents: for instance, they need not be subject-oriented.

My account leaves open a variety of questions. I touch on some of them below. First, in my discussion of MD reflexives, I mainly consider Icelandic, in which the reflexive *sig* rather than a pronoun is mandatory in MD contexts.

466. Haraldur$_j$ skipaði mér$_i$ [PRO$_i$ að raka sig$_j$/*hann$_j$].
Harold ordered me to shave sig$_j$/*him$_j$. [Maling 1986 ex. 14a]

I have been tacitly assuming some kind of transderivational constraint, in which binding by a pronoun is not allowed in precisely those sentences where MD *sig*, related to its antecedent by movement, could have been used instead.[58] Furthermore, when a reflexive is apparently optional to use, such as when bound by a nonsubject, I have explained this by saying the sentence has two possible numerations: one in which binding of *sig* by the nonsubject is possible, and one in which it is not.

Thus, whatever transderivational constraint I use to describe the complementarity between reflexives and pronouns will need to be dependent on the numeration: replace a pronoun with *sig* in the numeration, and if the resulting reading is good, then that same reading with the pronoun instead is ruled out.

[58] Reuland 2001b has such a constraint, although I could not use the same version of it, as it is couched in terms of his theory of reflexive movement, which differs from mine.

Unlike Icelandic *sig*, though, many MD reflexives are not in complementary distribution with pronouns even when they take a subject binder. The other Scandinavian languages, for instance have cognates of *sig* that may be bound from outside an embedded infinitive, but they also allow ordinary pronouns to be bound from outside control infinitives.

467. a. ?*Pétur$_i$ bað okkur$_j$ [að PRO$_j$ hjálpa honum$_i$]. (Icelandic)

Peter asked us to help him

b. Susan$_i$ bað mig$_j$ om [PRO$_j$ at ringe til hende$_i$]. (Danish)

Susan asked ne for to call to her

'Susan asked me to call her.'

c. Jógvan$_i$ bað meg$_j$ [PRO$_j$ hjálpa honum$_i$]. (Faroese)

Jogvan asked me help him

'Jogvan asked me to help him.'

d. Jón$_i$ bad oss$_j$ [PRO$_j$ hjelpe ham$_i$]. (Norwegian)

John asked us help him.

'John asked us to help him.'

e. Hon$_i$ bad mig$_j$ [PRO$_j$ klippa henne$_i$]. (Swedish)

she asked me cut her

'She asked me to cut her hair.'

[Thráinsson 2007 ex. 9.62]

Perhaps I could tie the optionality of MD reflexives to different sentence structures or numerations, as I did before with Icelandic objects. However, I am not sure what the structural differences should be. If I say that the embedded infinitive is optionally not a phase, this should mean that binding by the subject of the infinitive is optional—when it is not the highest theta-position in the phase, then merge over move will rule it out as a landing site for the antecedent of *sig*. However, it is MD, not local, use of the reflexives that is optional. Instead, I could argue that the embedded clause (or something like the vP within the embedded clause) is optionally a spell-out domain. When it is a spell-out domain, binding of the reflexive is blocked (since the antecedent cannot move to its theta-position). However, movement of a control NP should also be blocked in the same cases, barring some kind of escape hatch that is only available to embedded subjects—for instance, perhaps embedded TP could be an optional spell-out domain. This is a typological prediction that needs further testing, however.

Another question I leave unanswered is how to handle the differences between the simplex reflexives I look at (*sig*, *tannu, ziji, zibun*) and their complex forms. For forms such as *sjálfan sig* the additional morpheme looks like a cognate of English *self,* and like English *self* it can be added to regular pronouns as well (*hann sjálfan*). Similarly, Japanese *zibun* has a complex form *zibun-zisin*, but *zisin* can also be added to pronouns. With *ziji*, on the other hand, the complex form is *ziji* plus a pronoun (*ta-ziji*). Likewise, *ziji* seems to behave semantically differently from *zibun* or *tannu,* like a near-reflexive (in Lidz 2001's terms) rather than a true-reflexive. I have left open the question of why these reflexives can have such differences in meaning and in morphology. Ideally, I

would like it if the syntactic requirements on reflexives were compositionally based on the requirements of their pieces, but I have not shown how this works.

Finally, in the typology of reflexives that I have proposed appears to present something of a learning problem for children acquiring these languages. For the LD reflexives, different reflexives allow antecedents that are subtly different sorts of POV holders—such as POV holders that are centers of deixis vs. POV holders whose speech or thoughts are represented. While sometimes the POV status of the reflexives may be coded using modal heads (as in Nishigauchi's 2005, 2010 examples), this is not always necessary even in Japanese, let alone in other languages. Similarly, it seems like a child might have some trouble figuring out if his or her language had both MD and LD uses of a reflexive, or whether it just had logophoric uses. Given this, it might be tricky for a child to learn what kind of long-distance reflexives his or her language actually allows. With all this subtle variation, how do children settle on the right grammar?

After my work asking people for judgments, and reading other people's impressions of doing the same thing, I will cynically propose that people do not entirely settle on a single grammar for these words, at all. For instance, Kannada speakers were unable to assign particular meanings the multiclause examples from the appendix, even with a page worth of context to render a particular meaning salient (Lidz, p.c.). Similarly, speakers I asked for judgments sometimes changed their minds when asked again on a different day. Thirdly, looking at the different judgments of blocking effects in Chinese is perplexing: why did Cole and Wang (1996) get such different judgments from Huang and Liu (2001), or Anand (2006)? It seems possible that there may be

sufficient uncertainty in the minds of individual speakers that subtle differences in how they are asked for judgments might push them toward different response patterns.

Rögnvaldsson 1986:81, discussing people's judgments on whether objects can be antecedents of LDRs, notes:

> Informants' judgments on reflexivization differ very widely – much more widely than I thought previous to writing these comments. … But the situation is in fact much more complex than any of these papers would indicate, since judgments differ so much: not only do speakers differ, but the same speaker's judgments can differ from one day to another.

This report is consistent with my experiences in asking for judgments. Given the high degree of speaker uncertainty, it strikes me as possible that speakers have not always internalized a single grammar for handling LD reflexives.

Finally, I have a concern that is more about my theory's scope than about its descriptive or explanatory adequacy. The goal of this work has been to describe the relation between SE reflexives and their antecedents in terms of specifier-head relationships and movement (or, in the LD case, a mixture of movement and whatever underlies non-obligatory control). This lets me explain a variety of facts about these reflexives based on previously noted facts about movement, and continues in the footsteps of such approaches as the Movement Theory of Control. However, the account limits itself to a fairly small class of NPs: just SE reflexives, and not, for instance, ordinary bound pronouns (like *him*), or complex reflexives formed of an ordinary pronoun plus another morpheme (like *himself*). Is this a step backwards? In section 2.4, I discussed the programs of Kayne 2002 and Zwart 2002, who have similar sorts of project but for different kinds of element. Kayne describes all bound pronouns in terms of

movement, while Zwart at least describes all the reflexives. (Hornstein 2000, similarly, handles local reflexives, such as English *himself*, in a movement account. I borrow the Movement Theory of Control from him but not the reflexives.) It is possible, then, that my project is flawed by the narrowness of its goals.

Nonetheless, I think this approach has a variety of worthwhile effects. It accounts for a variety of the properties of MD reflexives-- subject-orientation, c-command, and locality-- in terms of preexisting movement constraints, in principle making for a more parsimonious theory. Further, it accounts for why the antecedents of MD reflexives (which are subject oriented) do *not* behave the same way as control NPs (which usually obey the minimal distance principle), while still assuming a movement account for both. Crucially, my account acknowledges need for such ny movement account of MD reflexives that also assumes the MTC *requires* that some difference between MD reflexives and controllers be used to account for their different behavior. A lot of early floundering—and, heck, a lot of suggestions from other people, so it's not just my floundering-- was caused by NOT addressing this need.)

Furthermore, it accounts for other binding facts (logophors) in terms of previously existing Non-Obligatory Control phenomena (following Nishigauchi 2005, 2010). This still leaves open the question of what interpretive mechanisms might underlie NOC, but at least the two problems are now linked. It also accounts for the lexical similarity of MD and LD reflexives in languages such as Icelandic and Japanese while also accounting for their differences. MD and LD reflexives are connected because both have sisters: but the sisters of MD reflexives are their antecedents, whereas the sisters of LD reflexives are null arguments that move to an A' position. Finally, by adopting Nishigauchi's theory of

A’ projections associated with Point-of-view heads, it accounts for why the discourse requirements on LD reflexives go along with apparent syntactic effects—most notably, island effects in Kannada, but also, POV heads in Japanese, subjunctive mood in Icelandic, and blocking effects in Chinese and (sometimes) Japanese.

Appendix

Contexts provided along with Kannada sentences for judgment

Context 1.1

Tony's friend: Hi, Tony, I hear you just won the City Dance Contest. Congratulations!
Tony (dancer): Thanks a lot! I can't talk just now, though, because I have to go watch the evening news. They're interviewing one of the judges from the contest. I'll call you back later.

(On the Evening News)
Abigail (interviewer): Welcome to the Evening News. I'm your host, Abigail Abrams, and today I'm interviewing Mark Mann, a local dance critic. Mark and Susan Somers were the judges in the recent City Dance Contest. Tell me, Mark, what was it like being a judge?
Mark (judge): Judging the contest was very challenging. There were many talented performers, but we ended up picking Tony Thompson as the winner.
Abigail: How did you two pick Tony?
Mark: Well, really, it was mostly Susan's decision. I was torn, but Susan was very fond of Tony's performance. Susan gave it a great deal of praise.
Abigail: What do you think were Susan's reasons for praising Tony?
Mark: I think Susan was impressed because Tony could jump very high.

(later)
Tony's friend: So, what was the interview like?
Tony: It was pretty long and I don't remember everything they said. But I remember that Abigail asked why Mark thought that Susan praised me.

Given the preceding dialogue, is the following sentence correct?
Tony$_1$ remembered [that Abigail asked [why Mark thought [Susan praised refl$_1$ t$_{why}$]]]

Context 1.2
(This is a variant on context 1 to test whether the first-person pronoun changes where the operator can be and consequently changes island effects.)

(On the Evening News)
Abigail (interviewer): Welcome to the Evening News. I'm your host, Abigail Abrams, and today I'm interviewing Mark Mann, a local dance critic. Mark and Susan Somers were the judges in the recent City Dance Contest. Tell me, Mark, what was it like being a judge?
Mark (judge): Judging the contest was very challenging. There were many talented performers, but we ended up picking Tony Thompson as the winner.
Abigail: How did you two pick Tony?
Mark: Well, really, it was mostly Susan's decision. I was torn, but Susan was very fond of Tony's performance. Susan gave it a great deal of praise.
Abigail: What do you think were Susan's reasons for praising Tony?
Mark: I think Susan was impressed because Tony could jump very high.

(A few days after the interview, Tony meets Mark on the street.)
Tony: Hi Mark. I saw you being interviewed on the Evening News the other day.
Mark: Hope you liked watching it.
Tony: Yeah, but it sounds like you didn't like my dancing that much. You mostly talked about why *Susan* liked me. I remember that Abigail asked why you thought that Susan praised me.

(later)
Mark's wife: I saw you talking to Tony earlier. What was that about?

Can Mark say:
Tony$_1$ remembered [that Abigail asked [why I thought [Susan praised refl$_1$ t$_{why}$]]]

Context 1.3

Dance Contest Announcer: Well, folks, that wraps up the performance of John Jacobs! Our judges, Sara and Meghan, now have 5 minutes to consult before they give John his final score.

(Meanwhile, John is waiting anxiously backstage with his coach, Dan.)
John: That dance was hard! I hope the judges thought I did okay.
Dan: Well, you did a great job. I'm not sure about Meghan, but I think that Sara really liked your performance. I expect that she will praise you.
John: Why do you think that?
Dan: While you danced, I watched the judges' reactions. And Sara was smiling the whole time.

Eddie: Excuse me, I'm a reporter for the local news. May I interview John briefly?
John: Sure, let's go over here.

(interview)
Eddie: I'm here with John Jacobs, whose dance performance is being scored right now. Tell me, John, how do you feel?
John: I'm pretty nervous. I don't know how well I did. But Dan, my coach, thinks that Sara will praise me.
Eddie: What would you say are Dan's reasons for thinking that?

(Meanwhile, John's dad is watching the interview on TV.)
John's dad: Oh, no, the TV lost power for a second! I missed John's answer to the last question!

Is the following a plausible question for John's dad to ask:
Why did John$_1$ say [that Dan thought t_{why} [that Sara praised refl$_1$]]]

Context 2.1
Elisabeth, Matt, Johnny and Becky are all high school students.

(Matt is talking to a girl, and Elisabeth's friend overhears them. Elisabeth's friend doesn't recognize the girl.)
Matt: Johnny likes Elisabeth.
mystery girl: Why would Johnny like Elisabeth? I'm much prettier.
Matt: Johnny likes Elisabeth because she is sweet and has cute freckles.

(Later on, walking home from school, Elisabeth's friend tells Elisabeth what she heard.)
Elisabeth's friend: Hey Elisabeth, I have some great gossip for you! Did you know Johnny likes you?
Elisabeth: Who said so?
Elisabeth's friend: Matt did. Matt said Johnny likes you. But there was this really rude girl Matt was talking to. She asked Matt what he said Johnny's reasons for liking you were. She seemed to think you were ugly and that Johnny shouldn't have reasons to like you.
Elisabeth: Did you see the rude girl? Was she a cheerleader?
Elisabeth's friend: As a matter of fact, she was.
Elisabeth: Becky's a cheerleader-- I bet it was Becky.

Does this accurately describe the situation?
Elisabeth$_1$ thinks that Becky asked [why Matt said [that Johnny liked self$_1$ t$_{why}$]]

Context 2.2
Elisabeth, Matt, Johnny and Becky are all high school students.

(Matt is talking to a girl, and Elisabeth's friend overhears them. Elisabeth's friend doesn't recognize the girl.)
Matt: Johnny likes Elisabeth.
mystery girl: Why would Johnny like Elisabeth? I'm much prettier.
Matt: Johnny likes Elisabeth because she is sweet and has cute freckles.

(Later on, walking home from school, Elisabeth's friend tells Elisabeth what she heard.)
Elisabeth's friend: Hey Elisabeth, I have some great gossip for you! Did you know Johnny likes you?
Elisabeth: Who said so?
Elisabeth's friend: Matt did. Matt said Johnny likes you. But there was this really rude girl Matt was talking to. She asked Matt what he said Johnny's reasons for liking you were. She seemed to think you were ugly and that Johnny shouldn't have reasons to like you.
Elisabeth: Did you see the rude girl? Was she a cheerleader?
Elisabeth's friend: As a matter of fact, she was.
Elisabeth: Becky's a cheerleader-- I bet it was Becky.

(A few days later, the news has spread that Elisabeth is angry with Becky. Matt and Matt's friend are talking about it after football practice.)
Matt: Oh, no, I hear that Elisabeth is mad at Becky.
Matt's friend: What happened?
Matt: I was talking to a bunch of people and I said that Johnny likes Elisabeth. But then some cheerleader said some mean things about Elisabeth. She said Elisabeth was ugly and unlikeable and asked me why, according to me, Johnny liked Elisabeth.
Matt's friend: Well I'm sorry that cheerleader was so rude, but what does it have to do with Becky?
Matt: Elisabeth thought that the cheerleader was Becky.

Would it be accurate for Matt to say:
Elisabeth$_1$ thinks that Becky asked [why I said [that Johnny liked self$_1$ t$_{why}$]]

Context 2.3
Elisabeth, Matt, Johnny, Becky, and Jeanette are all high school students.

(Matt and Elisabeth are talking before class)
Matt: Hey, Elisabeth! I think Johnny likes you!
Elisabeth: That's silly. What makes you think that?
Matt: I saw him writing a poem about you.
Elisabeth: That's pretty sappy, but sweet. Maybe he does like me.

(Later, Elisabeth meets Jeanette for lunch.)
Elisabeth: Hey Jeanette, I just heard the best news! Matt thinks that Johnny likes me!
Jeanette: Why does Matt think that?
Elisabeth: Because Matt saw Johnny writing a poem about me!

(After school, Jeanette talks to her friend Becky, who also likes Johnny.)
Jeanette: Bad news, Becky. Johnny doesn't like you after all. He likes Elisabeth.
Becky: Oh really? How did you find out?
Jeanette: I was talking to Elisabeth. She says she was talking to Matt. Matt has reasons for thinking that Johnny likes Elisabeth!
Becky: What were Matt's reasons?

Could Becky ask:
Why did Elisabeth$_1$ say [that Matt thought t_{why} [that Johnny liked refl$_1$]]]

Context 3.1
Bill, Sue, John, and Mary are all friends from school.

(Mary and Sue are waiting in line at the store.)
Mary: Hi, Sue, how are you doing?
Sue: I'm all right. I can finally buy that new necklace like the ones that all the other girls in the class have. I was feeling left out.
Clerk: What would you like to purchase?
Sue: Please give me this necklace.
Sue takes out a wallet and pays.
Mary: Wait a minute! That's not your wallet—it's John's!
(Sue runs away.)

(Later Mary is talking to Bill and John)
Bill: Hi, Mary. What's up?
Mary: John, I have news for you. I think that Sue stole your wallet.
John: That's weird. Sue's usually pretty honest. Why would she want to steal someone's wallet?
Mary: She probably needed the money to afford a necklace. She wanted one because all the other girls have them.
Bill: Ah, I see.

(When John goes home, he decides to tell his mom what happened.)
John: Mom, I think that Sue stole my wallet.
John's mom: But Sue seems like such a nice girl! Why would she steal from you?
John: I actually don't know. Mary thought she had some reason for stealing, but I forget what it was. But she told Bill, too, and he's got a much better memory than I do. Bill remembers why Mary thinks that Sue stole my wallet.

Is this a factually and grammatically correct way of describing the situation:
John$_1$ said that Bill remembers why Mary thought that Sue stole self$_1$'s wallet t$_{why}$.

Context 3.2
Bill, Sue, John, and Mary are all friends from school.

(Mary and Sue are waiting in line at the store.)
Mary: Hi, Sue, how are you doing?
Sue: I'm all right. I can finally buy that new necklace like the ones that all the other girls in the class have. I was feeling left out.
Clerk: What would you like to purchase?
Sue: Please give me this necklace.
Sue takes out a wallet and pays.
Mary: Wait a minute! That's not your wallet—it's John's!
(Sue runs away.)

(Later Mary is talking to Bill and John)
Bill: Hi, Mary. What's up?
Mary: John, I have news for you. I think that Sue stole your wallet.
John: That's weird. Sue's usually pretty honest. Why would she want to steal someone's wallet?
Mary: She probably needed the money to afford a necklace. She wanted one because all the other girls have them.
Bill: Ah, I see.

(When John goes home, he decides to tell his mom what happened.)
John: Mom, I think that Sue stole my wallet.
John's mom: But Sue seems like such a nice girl! Why would she steal from you?
John: I actually don't know. Mary thought she had some reason for stealing, but I forget what it was. But she told Bill, too, and he's got a much better memory than I do. Bill remembers why Mary thinks that Sue stole my wallet.
John's mother: Well, I could ask Bill what he thinks. But maybe it would be easiest just to talk to Mary.

(John's mom telephones Mary.)
John's mom: Hi, this is John's mom.
Mary: What can I do for you?
John's mom: Oh, I heard that Sue stole John's wallet. And I wanted to know why Sue would have done something like that.
Mary: Couldn't John have told you?
John's mom: John couldn't remember. He said Bill remembered what you thought about it all. But it seemed simpler to just ask you.

Can Mary describe the situation by saying:
John said that Bill remembers why I thought that Sue stole self$_1$'s wallet t_{why}.

Context 3.3
(John, Bill and Sue are all fifth-graders in Mrs. Murphy's class. Mr. Anderson is the principal at the school.)

(Bill and John are chatting before class.)
Bill: Hi John, what's happening?
John: I'm really annoyed. Last Thursday I earned a lot of money baby-sitting, but then after school on Friday I couldn't find my wallet! I think someone must have stolen it!
Bill: That's funny. On Friday I saw Sue looking at your backpack while you were playing ball at recess. Maybe she stole the money!

(Later on, John decides to report the theft to his Mrs. Murphy.)
John: Mrs. Murphy, somebody at school stole my wallet last Friday.
Mrs. Murphy: That's very serious. Do you know who did it?
John: Bill thinks it was Sue.
Mrs. Murphy: You can't just accuse someone without any reason. Why did Bill think that Sue stole your wallet?
John: Bill thinks Sue stole my wallet because he saw her looking at my backpack.
Mrs. Murphy: I'm not convinced, but I'll talk to the principal, Mr. Anderson, about it.

(After school, Mrs. Murphy goes to meet with the principal, Mr. Anderson.)
Mrs. Murphy: Hello, Mr. Anderson. Sorry to disturb you, but my class has had a problem. John's wallet was stolen. John said that Bill has reasons to think that Sue stole the wallet.

Is this a reasonable/grammatically correct thing for Mr. Anderson to ask:

Why did $John_1$ say that Bill thinks Sue stole $self_1$'s wallet?

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