# Copy-Reflexive and Copy-Control Constructions: A Movement Analysis

**CEDRIC BOECKX**
**NORBERT HORNSTEIN**
**JAIRO NUNES**

**Abstract**

This paper discusses reflexive and control constructions in San Lucas Quiaviní Zapotec (Lee 2003) and Hmong (Mortensen 2003), where instead of a reflexive in the former and a null category in the latter, one may find a copy of the antecedent. The paper argues that these constructions provide compelling evidence for a movement analysis of control (Hornstein 2001, 2003, Boeckx and Hornstein 2003, 2004) and reflexivization (Hornstein 2001), as well as the proposal that the phonetic realization of copies generated by movement is regulated by linearization and morphological requirements (Nunes 1999, 2004).

*Keywords*: copy theory, reflexivization, control, multiple copies

## Introduction

Consider the following question: how do grammatical elements interact? What are the operations in terms of which grammatical dependencies get coded? What, in short, are the grammatical "forces" that hold the disparate elements of a sentence together? These questions are family related to one asked by Frege: how is a proposition different from a list of words? That is, what is the "glue" that holds words together in a sentence/proposition and that is absent in a mere list of the words that make up the sentence/proposition? Frege's answer built on the distinction between concepts and objects, the former being elements with "holes" in them and the latter being elements that completed concepts by filling these holes.

Contemporary approaches to grammar have also addressed this question. In GB style theories, of which Chomsky (1981) and its various descendants (Chomsky 1986a, 1986b, Chomsky and Lasnik 1993) are the best-known variants, there are sundry mechanisms for linking expressions: $X^0$ to $Y^0$ selection, θ-assignment, A-movement, A'-movement, control, and binding to name six of the most prominent. These operations differ in that they occur between different kinds of elements (themselves subject to different kinds of licensing conditions) and are subject to differing locality conditions. The leading idea behind these views is that the Faculty of Language has a modular organization with different sub-modules concerned with licensing different kinds of interactions.

The GB approach to Frege's puzzle has been immensely successful. However, Minimalist considerations invites a reevaluation of the modular picture that animates it because, methodologically speaking, Occam urges that modularity *internal* to the Faculty of Language is, *ceteris paribus*, to be avoided. In effect, unless one has very strong empirical reasons for multiplying relations and grammatical operations, one should not do so. In the best case, there should be exactly *one* way of coupling disparate elements. In Pangloss's world, there should be but a single grammatical "force" that glues elements together into a sentence.

What could such an operation be? The best Minimalist suggestion is that it is some form of Merge, the operation licensed by virtual conceptual necessity, the one that puts two elements together in the first place. So, if movement is a species of Merge, as Chomsky has suggested over the years, then Merge should be sufficient to cover both local relations (e.g. the coupling of heads and phrases) and long distance ones (e.g. the coupling of antecedents and anaphors). In what follows, we concretely adopt a variant of this approach based on the copy theory of movement. The idea is the following: for an expression A to be related to an expression B, then a copy of A must be merged with a copy of B.[1] Thus, two grammatical elements can couple if and only if copies of these expressions are merged. As movement is nothing more than the composite of two more primitive operations, Copy and Merge, it is possible to establish relations via movement just as it is possible to do so via Merge. In effect, movement, i.e. Copy and Merge, will mediate long distance relations like operator-variable binding, control, and reflexivization by making copies of the relevant expressions and merging them in the required phrasal positions.

Of course, as for any interesting idea, the truth is in the details. However, that merging copies determines *some* relations is no longer an exciting thesis. For example, the idea that operator-variable relations are mediated by movement (Chomsky 1993, for instance) is now part of minimalist dogma (and will not concern us here). That control is mediated via movement is more controversial. Nonetheless, we will assume that this is largely correct and explore an immediate consequence in the context of the copy theory.[2] The advantages of relating anaphors to their antecedents by overt A-movement have also been explored elsewhere.[3] Interestingly, reducing anaphora to movement in many ways recalls

---

[1] We assume that there is no real distinction between "copies" and "originals". In other words, every "copy" of an expression is the same as the expression itself. In fact, where copies are used, it is (tacitly) assumed that they are nondistinct, i.e. all expressions of the same element. Under the merge-remerge view (e.g. Chomsky 2001, 2004), for instance, although expressions and occurrences are distinguished, every occurrence of an expression is on an equal footing.

[2] See Hornstein (2001, 2003), and Boeckx and Hornstein (2003, 2004) for elaboration and defense of this approach to control.

[3] See e.g. Lidz and Idsardi (1997), Hornstein (2001), Grohmann (2003), and for a somewhat

the theory of movement and anaphora in Chomsky (1981). There, Principle A of the Binding Theory applies to both anaphors and NP-traces. The main conceptual difference between Chomsky's (1981) approach and the approach explored here is that the former stipulates the c-command and locality requirements on anaphor binding and these conditions are now derivable from more general computational features of the grammar such as the Extension Condition and Shortest Move/Minimal Link Condition that govern (overt) movement operations. This, however, will not be the main focus of this paper.

Here we argue the particular virtues of treating antecedent-anaphor and control relations as instances of movement *understood as the composite of Copy and Merge*. Our empirical focus is on languages that retain their movement etiology on their morphological sleeves. In such languages, reflexive and control sentences such as (1a) and (2a) can be expressed as in (1b) and (2b), respectively.

(1) a. John saw himself.
b. John saw John.

(2) a. John wants to eat.
b. John wants John to eat.

This is precisely what one should expect were one to assume that all grammatical dependencies were mediated by movement and that movement was just the composite of Copy and Merge. Of course, a few more specific assumptions are also required, e.g. that movement into θ-positions is a grammatical possibility (e.g. Bošković 1994, Lasnik 1995, and Hornstein 2001). However, the main star of the show in what follows is the copy theory of movement.

The paper is organized as follows. In section 1 we discuss apparent local violations of Principles B and C in San Lucas Quiaviní Zapotec and Hmong. In sections 2 and 3, we show how the movement theory of reflexives and control plus the copy theory of movement explain the observed facts. In section 4, we discuss additional data from these interesting languages involving restrictions on overt copies and outline an account based on a more general approach to phonetic realization of copies. Finally, section 5 considers the theoretical implications of copy-reflexive and copy-control languages.

## 1 Reflexive Structures and Apparent Violations of Principles B and C

There are several languages that regularly display apparent violations of principles B and C. Among these are San Lucas Quiaviní Zapotec (hereafter,

---

different implementation, Kayne (2002) and Zwart (2002).

*SLQZ*) and Hmong.[4,5] In these languages one finds sentences like (3) and (4), which are well formed with a reflexive reading.[6]

(3) *SLQZ* (Lee 2003)
a. R-yu'lààa'z-ëng la'anng.
*HAB-like-3SG.PROX 3SG.PROX*
'S/he likes her/him-self'
b. B-gwa Gye'eihlly Gye'eihlly.
*PERF-shave Mike Mike*
'Mike shaved himself'

(4) *Hmong* (Mortensen 2003)
a. Nwg yeej qhuas nwg.
*3SG always praise 3SG*
'He always praises himself'
b. Pov yeej qhuas Pov.
*Pao always praise Pao*
'Pao always praises himself'

Evidence that what we have here is a form of reflexivization is provided

---

[4] Thai also appears to be one such language. For discussion of binding in Thai, see Lasnik (1989) and Lee (2003).

[5] The empirical material to be discussed below is mainly based on Lee (2003) (on SLQZ), on Mortensen (2003) (on Green Hmong), and on fieldwork carried out in Spring 2004 by Conor Quinn on White Hmong (Quinn 2004).

[6] SLQZ and Hmong also allow English-type of reflexivization with a pronoun and a *self*-morpheme, as illustrated in (i) and (iia) below. Hmong in addition allows a reflexive structure involving a copy and a *self*-morpheme, as illustrated in (iib). In this paper, we will focus on reflexive structures involving bare copies, discussing constructions such as (i) and (ii) only when they may shed light on the analysis of the bare copy construction.

(i) *SLQZ* (Pam Munro, p.c)
B-guhty Jwaany laa-g-nii'.
*PERF-kill Juan PRO-REFL-same*
'Juan killed himself'

(ii) *Hmong* (Mortensen 2003)
a. Pov yeej qhuas [nwg [tug kheej]]
*Pao always praise 3SG CLF self*
'Pao always praises himself'
b. Pov yeej qhuas [Pov [tug kheej]]
*Pao always praise Pao CLF self*
'Pao always praises himself'

by the fact that these constructions license sloppy readings in ellipsis contexts, as illustrated in (5a) and (6a) with pronouns as antecedents and in (5b) and (6b) with names.

(5) *SLQZ* (Lee 2003)

a. R-yu'lààa'z-ëng la'anng chiru' zë'cy cahgza' Gye'eihlly.
*HAB-like-3SG.PROX 3SG.PROX also likewise Mike*
'S/he likes her/him-self, and Mike does too (like himself/*her/*him)'

b. B-gwi'ih Gye'eihlly lohoh Gye'eihlly zë'cy cahgza' Li'eb.
*PERF-look Mike at Mike likewise Felipe*
'Mike looked at himself and Felipe did too (look at himself/*Mike)'

(6) *Hmong* (Mortensen 2003)

a. Koj yeej qhuas koj; nwg los kuj ua le hab.
*2SG always praise 2SG 3SG TOP also do as too*
'You always praise yourself and so does he'

b. Pov yeej qhuas Pov; Maiv los kuj ua le hab.
*Pao always praise Pao May TOP also doas too*
'Pao always praises himself and so does May'

As Lee (2003) and Mortensen (2003) note, the availability of sloppy interpretation in (5) and (6) indicates that the "bound" expression in object position is not referential at all, but is rather functioning as a bound dependent form, a form semantically akin to a reflexive.[7]

[7] Lee (2003) reports that in SLQZ sloppy reading in sentences such as (5) is obligatory, whereas Mortensen (2003) observes that in Hmong the sloppy reading is strongly preferred though a strict reading is possible in the case of (6b). A related contrast arises in constructions involving nonlocally bound copies such as the ones in (i) and (ii) below, this time with SLQZ allowing sloppy reading in addition to the strict reading and Hmong prohibiting it. Our conjecture is that the strict reading, when available, is due to accidental coreference, but why SLQZ and Hmong should contrast in the way reported remains to be determined. In what follows we will be mainly concerned with bound readings for locally bound copies, leaving aside nonlocally bound copies and readings arising from accidental coreference. What is important for our discussion is that nonlocally bound copies do *not* behave like their locally bound cousins.

(i) *SLQZ* (Lee 2003)
R-ralloh Gye'eihlly r-yu'lààa'z-ënn Gye'eihlly chiru' zë'cy cahgza Li'eb.
*HAB-think Mike HAB-like-1PL Mike also likewise Felipe*
'Mike$_i$ thinks we like him$_i$, and so does Felipe$_k$ (think we like Mike/him$_k$)'

As Lee and Mortensen further note, data such as (7) and (8) below show that we cannot simply conclude based on (3)-(6) that SLQZ and Hmong are exempt from Principles B and C. The coreferential/reflexive reading is not allowed in these sentences, which suggests that the disjoint/nonreflexive reading is being enforced by Principle B in (7a) and (8a) and by Principle C in (7b) and (8b).

(7) *SLQZ* (Lee 2003)

a. R-yu'lààa'z Gye'eihlly la'anng.
*HAB-like Mike 3SG.PROX*
'Mike likes him/*himself'

b. R-yu'lààa'z Gye'eihlly me's.
*HAB-like Mike teacher*
'Mike$_i$ likes [the teacher]$_{k/*i}$'

(8) *Hmong*

a. Pov yeej qhuas nwg. (Mortensen 2003)
*Pao always praise 3SG*
'Pao always praises him/*himself'

b. Pov yeej qhuas tug xibfwb. (David Mortensen, p.c.)
*Pao always praise CLF teacher*
'Pao$_i$ always praised [the teacher]$_{k/*i}$'

The contrast between (3) and (4), on the one hand, and (7) and (8), on the other, shows that reflexive readings with apparent violations of Principles B and C are allowed only when *exact copies* are involved. Lee (2003) dubs this the *Identical Antecedent Requirement*.

The unacceptability of (7a) and (8a) provides further evidence for taking (3) and (4) to be real instances of reflexivization. The natural interpretation of these facts is that these are simple manifestations of the generalization that bound pronouns are forbidden where reflexives are possible; i.e. the complementarity between reflexives and bound pronouns captured by Principles A and B. Thus, given the acceptability of (3b) and (4b) as reflexive constructions, (7a) and (8a) are unacceptable with the reflexive reading for the same reason that (9b) is out given the acceptability of (9a).

---

(ii) *Hmong* (David Mortensen, p.c.)
Pov has tas Maiv nyam Pov; Tub los kuj ua le hab
*Pao say that May like Pao Tou TOP also do as too*
'Pao$_i$ said that May likes him$_i$ and so did Tou$_k$ (say that May likes Pao/*him$_k$)'

(9) a. John likes himself.
b. *John$_i$ likes him$_i$

In sum, two types of facts support the claim that structures involving locally bound copies in SLQZ and Hmong such as (3) and (4) are reflexive. First, they license sloppy readings under ellipsis and second, the reflexive reading is in complementary distribution with a bound pronoun structure.

Lee (2003:109) proposes that in constructions such as (3) and (5) in SLQZ, the locally bound copies are bound variables spelled out as copies of their antecedents and that such copying serves to reflexive-mark the predicate (in the sense of Reinhart and Reuland 1993). In turn, Mortensen (2003:2) proposes that constructions such as (4) and (6) in Hmong involve a null anaphoric element – referred to as *ana* –, whose phonological form is necessarily copied from its antecedent. In the sections that follow, we will point out some empirical inadequacies of these proposals. For now, it suffices to note that both approaches introduce *ad hoc* mechanisms that replicate the copying operation involved in movement operations. If copying is indeed what is involved, Occam urges us to stick to the copying procedure that is already available in the system, namely, the Copy operation involved in movement. This is what we will do in the next sections.

## 2 The Movement Analysis of Copy-Reflexive Constructions

Assume that reflexive structures are formed by movement and that movement is the composite of Copy and Merge. What kind of movement should this be? Below we list several characteristics it should have.

First, it should involve movement to a θ-position. A sentence such as (10a) below, for instance, should be derived along the lines of (10b) (abstracting away from Case issues and the realization of the lower copy of *John* as *himself* for the moment). That is, *John* first merges with *likes*, thereby obtaining the internal "likee" role, and then moves to [Spec, vP], thereby gaining the external "liker" role. In effect, what we have in (10b) is the derivational equivalent of the reflexive predicate in (11).

(10) a. John likes himself.
b. [$_{TP}$ John [$_{T'}$ T [$_{vP}$ John [$_{VP}$ likes John]]]]

(11) John λx [x likes x]

Second, if reflexive structures involve movement to θ-positions, then this is a species of A-movement. As such, we expect its locality restrictions to be

identical to what we find holding between links of standard A-chains. In short, the relevant movement in reflexive structures should be very local. Constructions involving nonlocally bound copies are thus expected not to behave like the constructions under consideration, which is indeed the case (see fn. 7).

We also correctly predict the unacceptability of copy-reflexives in coordinate structures such as (12) below, for example. If reflexivization involves movement, movement from one of the conjuncts to [Spec, vP] in (12) should violate Ross's (1967) Coordinate Structure Constraint.

(12) *Hmong* (Quinn 2004)
a. *Pov qhuas Maiv thiab Pov.
*Pov praise Maiv and Pov*
'Pov praises Maiv and himself'
b. *Pov nyiam Pov thiab Maiv
*Pov likes Pov and Maiv*
'Pov likes himself and Maiv'

Notice that the unacceptability of (12) is completely unexpected under both Mortensen's (2003) and Lee's (2003) analyses. Neither of them can account for why the bound variable in Lee's proposal or the null anaphor element *ana* in Mortensen's proposal cannot copy the features of its antecedent outside the coordinated structure. In this regard, Lee's analysis is even more problematic. Recall that for her, locally bound copies function as SELF-anaphors (in the sense of Reinhart and Reuland 1993) as they are able to reflexive-mark a predicate (see section 1). Given that SELF-anaphors such as *himself* in English are allowed in contexts parallel to (12), as shown in (13) (see Reinhart and Reuland 1993, for discussion), Lee's analysis incorrectly predicts that languages that allow locally bound copies should also allow structures like (12).[8]

(13) a. John praised himself and Mary.
b. John praised Mary and himself.

The third feature in a movement analysis to reflexivization regards copies. If reflexivization results from local movement to a θ-position and movement involves Copy, then we expect Lee's (2003) Identical Antecedent Requirement to hold in reflexive constructions. In other words, we can now begin to understand why a bound pronoun is barred in reflexive constructions unless the pronoun is bound by an identical pronoun, as illustrated in (14) and (15) below. Only when

[8] It remains to be explained why sentences such as (13) are acceptable if they also involve movement from within the coordinate structure. We return to this issue in section 4.3 below.

the pronoun moves, i.e. when it is copied (cf. (14b)/(15b), is a reflexive predicate formed. No copy, no movement, no reflexivization (cf. (14a)/(15a). [9]

(14) *Hmong* (Mortensen 2003)
a. Pov yeej qhuas nwg.
*Pao always praise 3SG*
'Pao always praises him/*himself'
b. Nwg yeej qhuas nwg.
*3SG always praise 3SG*
'He always praises himself'

(15) *SLQZ* (Lee 2003)
a. R-yu'lààa'z Gye'eihlly la'anng.
*HAB-like Mike 3SG.PROX*
'Mike likes him/*himself'
b. R-yu'lààa'z-ëng la'anng.
*HAB-like-3SG.PROX 3SG.PROX*
'S/he likes her/him-self'

Contrasts such as those shown in (14) and (15) indicate that rather than being tuned to indexation, the interpretation of a given predicate as reflexive is actually sensitive to how the terms that saturate this predicate are computationally introduced in the derivation, whether by the operation Select or by the operation Copy. This in turn is congenial to the minimalist assumption that the Inclusiveness Condition (Chomsky 1995) should bar indices from being introduced in the derivation (see Hornstein, Nunes, and Grohmann 2005:chap. 8

[9] An anonymous reviewer questions if (15a) should really be treated as a Principle B effect, given that Lee (2003:83) points out that pronouns in SLQZ also resist nonlocal binding. If (15a) just reflected the pronoun's incompatibility with binding, (15b) should not allow binding either, contrary to fact. Furthermore, examples such (ia) below, which are parallel to the nonlocal cases discussed by Lee, have however been judged to be acceptable, as Pam Munro (p.c.) informs us. Moreover, it appears that the pronoun may have the interpretation of a variable, as shown in (ib). In light of this, we keep assuming, following Lee (2003), that the unacceptability of the pronoun in (15a) under a reflexive reading indeed instantiates a Principle B effect.

(i) *SLQZ* (Pam Munro, p.c.)
a. Zi'cy nnah Jwaany Lia Oliiby r-yu'laaa'z la'anng.
Thus NEUT-say Juan Ms. Olivia HAB-like 3SG.PROX
'Thus, Juan$_i$ said that Ms Olivia liked him$_i$'
b. Nyee'c te'ihby bunny nnah r-yu'laaa'z Lia Oliiby la'ang.
NEG one person NEUT-say HAB-like Ms. Olivia 3SG.PROX
'No one$_i$ said that Ms Olivia liked him$_i$'

for further discussion). What is less clear is how to state the complementarity between reflexive constructions and bound pronoun constructions given the absence of designated reflexive elements in constructions such as (14b)/(15b). We will return to this issue below.

The final ingredient of a movement analysis to reflexivization addresses Case requirements. It has been assumed that in general, a DP is frozen for purposes of A-movement once it has its Case-feature checked (e.g. Chomsky 2001, 2004). Thus, given that the object position in (16b) is associated with (accusative) Case, A-movement of *John* from this position should in principle be blocked.

(16) a. John likes himself.
b. [$_{TP}$ John [$_{T'}$ T [$_{vP}$ John [$_{VP}$ likes John]]]]

This unfortunate state of affairs can be circumvented if – here comes the key – the relevant Case in (16b) is checked by an element other than *John*. Hornstein (2001) argues that this is the syntactic role that the morpheme *-self* plays in (16a). Technical details aside (see section 4.3 below for further discussion), Hornstein proposes that the adequate structure underlying the reflexive sentence in (16a) is (17) below, rather than (16b). That is, *John* first merges with *-self* and the resulting category merges with *likes* allowing *John* to be assigned the internal θ-role. When the light verb is introduced into the structure, it checks its case against *-self* and *John* is free to move to [Spec, vP] and later check its Case-feature against the finite T.[10]

(17) [$_{TP}$ John [$_{T'}$ T [$_{vP}$ John [$_{VP}$ likes John-self]]]]

To put it in more general terms, morphemes like *-self* are not "anaphoric" in nature. They simply knock out a Case-feature that would prevent a (local) movement to a θ-position from taking place.[11] It should be noted that although the derivation sketched in (17) is somewhat masked by the fact that in English the

[10] The reasoning remains essentially the same if in some languages overt object shift moves the whole object to the outer [Spec,vP], creating an additional copy of the object, as sketched in (i). For purposes of exposition, we will focus on the simpler derivation outlined in (17).

(i) [$_{TP}$ John [$_{T'}$ T [$_{vP}$ John-self [$_{v'}$ John [$_{VP}$ likes John-self]]]]]

[11] Nothing that follows changes if *-self* also has semantic features that may contribute to the interpretation of the whole structure at LF. What is relevant for our current discussion is that the syntactic distribution of local reflexives is accounted for if *-self* is a Case-checker, thereby allowing the element it is associated with to undergo A-movement. See Hornstein 2001 for relevant discussion.

lowest copy of *John* surfaces as *him* (for reasons that we will come back to), this is certainly a language-specific and not a universal requirement. In fact, as mentioned in fn. 6, Hmong has another copy-reflexive which transparently illustrates the abstract structure proposed for English, as exemplified in (18).

(18) *Hmong* (Mortensen 2003)
Pov yeej qhuas [Pov [tug kheej]]
*Pao always praise Pao CLF self*
'Pao always praises himself'

The natural move is thus to assume that reflexive structures such as (19) in SLQZ or (20) in Hmong in fact have a phonetically null Case checking morpheme, which may check the accusative Case of a transitive structure, thereby allowing the thematic object to move to [Spec, vP].

(19) *SLQZ* (Lee 2003)
R-yu'lààa'z Gye'eihlly Gye'eihlly.
*HAB-like Mike Mike*
'Mike likes himself'

(20) *Hmong* (Mortensen 2003)
Pov yeej qhuas Pov.
*Pao always praise Pao*
'Pao always praises himself.'

Independent evidence for this postulated null version of 'self' in structures such as (19) and (20) is provided by the close-knit relation between the number of copies phonetically realized and the number of Case-licensers in the structure. Let us examine why. If copies are "real" elements in a derivation, the null assumption is that all copies are created equal, i.e. there should be no intrinsic difference between copies and "originals" as would be the case if we specifically identified some copies as traces. Thus, copies can be realized in a phrase marker just in case they meet the requirements the grammar imposes on expressions of their type. In the case of nominal copies, for instance, they can be phonetically realized only if they are Case licensed. In other words, given the reflexive structure sketched in (17), we predict that that at most two copies will appear, not three or four (see fn. 10) and this is what we indeed see in (19) and (20). This is because only two copies can be Case licensed in such configurations.

For the same reason, we do not expect passives to surface with two copies, as the copy in thematic object position cannot be Case licensed. This prediction cannot be checked in SLQZ, for it does not have passive constructions (Lee

2003:103), but can be checked in Hmong, which has adversive passives (David Mortensen, p.c.), as illustrated in (21).

(21) *Hmong* (David Mortensen, p.c.)
Nwg raug kuv tua.
*3SG be:hit 1SG kill*
'He was killed by me'

Note that (21) has only one instance of *nwg*, as we would expect if the object is not Case licensed.

Unaccusatives also behave as expected, with only one copy being allowed, as shown in (22) below. Interestingly, Quinn (2004) observes that the lower copy of unaccusative constructions may actually be realized, as shown in (23), if it is associated with *xwb*, which appears to be a focus marker.

(22) *Hmong* (Quinn 2004)
a. Pov tuag (*Pov).
*Pov died Pov*
'Pov died'
b. Pov tuaj (*Pov).
*Pov arrived Pov*
'Pov arrived'

(23) *Hmong* (Quinn 2004)
a. Pov los (*Pov).
*Pov came Pov*
'Pov arrived'
b. Pov los Pov xwb.
*Pov came Pov only*
'Pov came by himself'

As suggested by its English translation, (23b) can be accounted for if we take *xwb* in Hmong to pattern like emphatic focus in English constructions such as (24) in its ability to exceptionally license a Caseless reflexive element. The contrast in (23) thus provides further support for our proposal that the number of overt copies resulting from A-movement is regulated by Case Theory.

(24) a. John did it himself.
b. John himself did it.

One final point should be mentioned. Although the merge-remerge (e.g.

Chomsky 2001, 2004) and the copy-delete (e.g. Chomsky 1993, Nunes 1995, 2004, and the collection of papers in Corver and Nunes 2007) approaches to movement both rely on a distinction between tokens of an expression and the type they are tokens of (see fn. 1), the data discussed in this section seem to find a more natural place within a copy-delete approach than under the merge-remerge approach. Let us consider why. To the extent that they differ, the relevant distinction for the merge-remerge account is between an expression and its occurrences, whereas the relevant distinction for copy-delete account is between an element in the numeration and its copies. Thus, under the merge-remerge approach, a given DP can have various relational properties (that is, it can "occur" in several positions) but still be just a single expression. By contrast, under the copy-delete approach, every copy of a given DP is computationally treated as a "real" expression in its own right; hence, two occurrences require two copies. Given the data under consideration in this section, the merge-remerge approach should talk of phonologically expressing several occurrences of the relevant expressions. But there is something odd in this. The idea behind the merge-remerge concept is that bearing several relations does not imply that one need actually surface in two distinct "places". After all, what better evidence is there that there are two things rather than one than the fact that one sees "the same thing" surface in two separate places? This is what copies are good at. They can be tokens of the same thing and yet be discrete elements. Occurrences may do this only if they simulate this feature of copies. Of course, to the degree that we technically eliminate the intuitive differences between copies and occurrences, the two approaches become notational variants of one another and the "debate" becomes purely terminological.

To summarize, if reflexive structures are formed by movement, then the basic facts of section 1 follow immediately. Lee's (2003) Identical Antecedent Requirement follows from the copy theory, the number of copies realized follows from Case Theory, and the locality conditions, the interpretation, and the complementarity with bound pronouns follow from the type of movement we have: A-movement to θ-positions. We are left with the question of why the more transparent cases of reflexive structures involving overt copies are typologically more uncommon than the English type, where copies appear to be hidden under pronouns. In other words, why is the more transparent case less common? We will address this issue in detail in section 4.3. But before we get to that, let us first expand the scope of our discussion to control structures.

## 3 Extending the Data and Analysis: Copy-Control Constructions

Consider the data in (25).

(25) *SLQZ* (Lee 2003)

a. R-cààa'z Gye'eihlly g-auh Gye'eihlly bxaady.
*HAB-want Mike IRR-eat Mike grasshopper*
'Mike wants to eat grasshopper'

b. B-quìi'lly bxuuhahz Gye'eihlly ch-iia Gye'eihlly scweel.
*PERF-persuade priest Mike IRR-go Mike school*
'The priest persuaded Mike to go to school'

c. B-ìi'lly-ga' Gye'eihlly zi'cygàa' nih cay-uhny Gye'eihlly zèèiny
*PERF-sing-also Mike while that PROG-do Mike work*
'Mike sang while he worked'

(25) shows that a bound copy may also appear in the embedded subject position. Interestingly, these cases trigger a sloppy reading under ellipsis, as shown in (26), and are subject to the Identical Antecedent Requirement in that it is not possible to substitute a co-referential pronoun for the copy, as shown in (27).[12]

[12] We do not have comparable data on object control. Our expectation is that it should pattern like subject control with respect to sloppy readings and complementarity with bound pronouns, given their similarity in other aspects such as the optionality of the embedded subject copy and sensitivity to morphological restrictions, as will be discussed below.

Hmong also seems to allow structures such as (25), as illustrated in (i) below. However, we do not have information about their behavior with respect to slopping reading, the complementarity with coreferential pronouns, and the morphological restrictions discussed in section 4.1 below. We will thus focus our discussion on SLQZ data in this section.

(i) *Hmong* (Quinn 2004)

a. Pov xav kom Pov noj mov.
*Pov want/think so.that Pov eat rice*
'Pov wants to eat'

b. Maiv ntxias Pov kom Pov rov qab noj mov.
*Maiv persuaded Pov so.that Pov return back eat rice*
'Maiv persuaded Pov to eat'

c. Pov pais tom qab Pov hais *goodbye* rau tus pojniam.
*Pov left after back Pov said good-bye to CLF woman*
'Pov left after saying good-bye to the woman'

(26) *SLQZ* (Lee 2003)

a. R-cààa'z Gye'eihlly g-ahcnèe Gye'eihlly Lia Paamm
*HAB-want Mike IRR-help Mike FEM Pam*
zë'cy cahgza' Li'eb.
*likewise Felipe*
Mike wants to help Pam, and so does Felipe (want to help Pam/*want Mike to help Pam)'

b. Zi'cygàa' nih cay-uhny Gye'eihlly zèèiny b-ìi'lly-ga'
*while that PROG-do Mike work PERF-sing-also*
Gye'eihlly zë'cy cahgza' Li'eb.
*Mike likewise Felipe*
'While Mike$_i$ was working, he$_i$ sang, and so did Felipe$_k$ (sing while he$_k$ worked)'

(27) *SLQZ*

a. R-caaa'z Gye'eihlly g-ahcnèe-ëng Lia Paamm. (Felicia Lee, p.c.)
*HAB-want Mike IRR-help-3SG.PROX FEM Pam*
'Mike$_i$ wants him$_{k/*i}$ to help Pam'

b. Zi'cygàa' nih cay-uhny-ëng zèèiny (Lee 2003)
*while that PROG-do-3SG.PROX work*
b-ìi'lly-ga' Gye'eihlly.
*PERF-sing-also Mike*
'While he$_{i/*k}$ worked, Mike$_k$ sang'

In other words, the sentences in (25) appear to be the counterparts of standard obligatory control structures, with a copy instead of PRO. Standard obligatory control structures such as those in (28) and (29), for instance, can only yield a sloppy reading under ellipsis and do not allow PRO to be replaced by a bound pronoun.

(28) a. Mike wants [PRO to help Pam] and so does Felipe
b. Mike was persuaded [PRO to help Pam], as so was Felipe.
c. Mike sang while [PRO working], and so did Felipe.

(29) a. Mike$_i$ wants [PRO/*him$_i$ to help Pam].
b. Mike$_i$ spied on Mary without [PRO/*him$_i$ being recognized]

These similarities come as no surprise if obligatory control structures involve movement to θ-positions, as proposed by Hornstein (1999, 2001, 2003). Hornstein has argued that obligatorily controlled PRO is actually a trace (a copy) left by A-movement from an embedded subject position to a θ-position in the

subordinating clause. Details aside, the derivation of subject and object controlled sentences such as (30a) and (31a), for example, proceed along the lines of (30b) and (31b).

(30) a. Mike wants to help Pam.
b. [$_{TP}$ Mike [$_{vP}$ Mike want [$_{TP}$ Mike to [$_{vP}$ Mike help Pam]]]]

(31) a. Mike persuaded Pam to visit Mary.
b. [$_{TP}$ Mike [$_{vP}$ Mike [$_{v'}$ persudaded$_i$+v [$_{VP}$ Pam [$_{V'}$ $t_i$ [$_{TP}$ Pam to [$_{vP}$ Pam visit Mary]]]]

In (30b), *Mike* is generated in the embedded [Spec, vP], where it gets a θ-role, and moves to the embedded [Spec, TP]. Under the assumption that this is not a Case-licensing position, *Mike* moves further to the matrix [Spec, vP], where it gets another θ-role, and finally reaches the matrix [Spec, TP] and is Case-licensed. (31a) is derived in a similar way, the only relevant difference being the final landing site for the embedded subject undergoing movement; it lands in the [Spec, VP] headed by (the trace of) *persuade*, where it receives an internal θ-role and has its Case licensed (as accusative).

Of course, there are some superficial differences between "copy-control" structures such as (25) and standard control structures in (28). First, as Lee (2003:106) observes, SLQZ does not have clear cases of infinitival clauses, for tense/aspect marking on the verb is obligatory; the embedded clauses in (25a) and (25b), for instance, are irrealis/subjunctive clauses. Second – the most salient difference – the two sets of constructions also diverge in that we have two overt copies in (25), but only one in (28). However, this may be independently determined by Case Theory, as we have seen in section 2. Thus, only one copy surfaces in the sentences in (28) because there is only one Case-licensed position; in turn, the additional copy in (25) can be accounted for if the embedded T may assign Case.

Again, we see that the number of overt copies correlate with the number of Case licensing positions. In fact, *modulo* the realization of copies as reflexives, even English may allow control-like structures to surface with an additional copy if an extra Case is provided, as illustrated in (32) under the assumption that *want* and gerundive T optionally assign Case (cf. (29)).

(32) a. Mike wants [himself to help Pam]
b. Mike spied on Mary without [himself being recognized]

Conversely, SLQZ also allows structures that are more similar to standard control in that only one copy is realized, as illustrated in (33) below. This suggests that

Case-assignment by irrealis/subjunctive T in SLQZ is optional: if Case is assigned, two copies are realized (cf. (25)); if it isn't, only one copy surfaces (cf. (33)).[13,14]

(33) *SLQZ* (Lee 2003)

a. R-cààa'z Gye'eihlly g-auh bxaady.
*HAB-want Mike IRR-eat grasshopper*
'Mike wants to eat grasshopper'

b. B-quìi'lly bxuuhahz Gye'eihlly ch-iia scweel.
*PERF-persuade priest Mike IRR-go school*
'The priest persuaded Mike to go to school'

Let us finally examine adjunct control (see Hornstein 1999, 2001, 2003, for relevant discussion). As seen above, adjunct control structures pattern essentially like subject and object control structures: they trigger sloppy reading

---

[13] Note that it is not at all unusual to have the kind of alternation in "finite" clauses noted here for SLQZ irrealis/subjunctive clauses. Hermon (1984), for example, describes a similar pattern in Ancash Quechua. So, if we assume that irrealis clauses optionally assign Case to their subjects, the alternation noted here can be described. A similar proposal has been made for Brazilian Portuguese finite clauses as well (see Ferreira 2000, 2004, and Rodrigues 2002, 2004, for discussion).

[14] Lee (2003:102) presents the contrast between (ia) and (ib) below as evidence that locally bound subjects should not be analyzed as traces of A-movement. (ib) shows that when a contrastively focused element moves to a preverbal focus position, an overt copy becomes obligatory. Despite being interesting in itself, the contrast in (i) need not be interpreted in terms of an intrinsic difference between overt copies and traces (deleted copies). Given that Lee (p. 103) also assumes that subjunctive T optionally assigns Case to its Spec in order to account for the optionality in (ia), we may well account for (ib) by resorting to this independently motivated difference between the constructions with and without an overt copy, without making reference to the copies themselves. Suppose, for instance, that [Spec, TP] in SLQZ is an A'-position. This would account for the general VS order in SLQZ unless the subject is focalized or topicalized (Lee 2003:90, 101). Suppose further that contrastive focus is only associated with Case-assigning Ts. If so, every time contrastive focus is involved, the subject will have to be realized to check the Case-feature of T; hence, the optionality of the subject in (ia), but not in (ib). We are not claiming that this suggestion is correct, but rather showing that the contrast in (i) by itself cannot be used as a clear-cut evidence that locally bound subject copies are different from traces (deleted copies).

(i) *SLQZ* (Lee 2003)

a. R-cààa'z Gye'eihlly g-auh (Gye'eihlly) bxaady.
*HAB-want Mike IRR-eat Mike grasshopper*
'Mike wants to eat grasshopper.'

b. R-cààa'z Gye'eihlly bxaady g-auh *(Gye'eihlly).
*HAB-want Mike grasshopper IRR-eat Mike*
'Mike wants to eat *grasshopper* (and not something else).'

under ellipsis (cf. (28c)); they do not allow the controlled position to be filled by a bound pronoun (cf. (29b)); and if there is Case available for the controlled position, it is overtly realized (cf. (32b)). Hornstein (1999, 2001, 2003) argues that obligatorily controlled PROs in adjunct structures are also copies left by movement. The only difference is that the relevant movement is sidewards (in the sense of Nunes 1995, 2004). Details aside, the derivation of an adjunct control structure such as (34), for example, involves the steps represented in (35)-(36).

(34) Mike sang while visiting Mary.

(35) a. [while [$_{TP}$ Mike [$_{vP}$ Mike visiting Mary]]]
[$_{vP}$ v [$_{VP}$ sang]]

b. [while [$_{TP}$ Mike [$_{vP}$ Mike visiting]]]
[$_{vP}$ Mike [$_{v'}$ v [$_{VP}$ sang]]

(36) a. [$_{vP}$ [$_{vP}$ Mike [$_{v'}$ v [$_{VP}$ sang]] [while [$_{TP}$ Mike [$_{vP}$ Mike visiting]]]]
b. [$_{TP}$ Mike [$_{vP}$ [$_{vP}$ Mike [$_{v'}$ v [$_{VP}$ sang]] [while [$_{TP}$ Mike [$_{vP}$ Mike visiting]]]]]
c. [$_{TP}$ Mike [$_{vP}$ [$_{vP}$ ~~Mike~~ [$_{v'}$ v [$_{VP}$ sang]] [while [$_{TP}$ ~~Mike~~ [$_{vP}$ ~~Mike~~ visiting]]]]]

In (35) *Mike* moves from the specifier of the gerundive clause to the specifier of the light verb associated with *sang* (an instance of sideward movement). After the *while*-clause is adjoined (cf. (36a)), *Mike* moves from the specifier of the matrix vP to the specifier of the matrix TP, yielding (36b), which surfaces as (34) after the lower copies of *Mike* are deleted in the phonological component (cf. (36c)). It is worth observing that sideward movement of *Mike* in (35b) takes place *prior to the adjunction of the gerundive clause to vP*. In other words, at the derivational step depicted in (35a), the gerundive clause is not an adjunct island because it is not an adjunct yet; hence, movement can take place without problems. Only after the gerundive clause adjoins to vP in (36a) does it function as an island for movement, as exemplified in (37).

(37) *Who did Mike sing while visiting?

Given that embedded subject of the SLQZ adjunct clause in (25c), repeated below in (38), behaves like obligatorily controlled PRO in triggering sloppy readings (cf. (26b)) and blocking bound pronouns (cf. (27b)), it should also be derived via sideward movement along the lines sketched above, before the adjunction of the 'while'-clause. As we should expect, once the 'while'-clause is

adjoined, it does behave like an island, preventing extraction from within it, as illustrated in (39).

(38) *SLQZ* (Lee 2003)
B-ìi'lly-ga' Gye'eihlly zi'cygàa' nih cay-uhny Gye'eihlly zèèiny
*PERF-sing-also Mike while that PROG-do Mike work*
'Mike sang while he worked'

(39) *SLQZ* (Felicia Lee, p.c.)
*Tu b-dii'b Gye'eihlly tra'ast chih w-luhahazh g-uhcnee'
*who PERF-wash Mike dishes when PERF-finish PERF-help*
Gye'eihhly?
*Mike*
'*Who did Mike wash the dishes after helping'

In other words, the only thing special regarding the (sideward) movement from the embedded subject position in (38) (and (39)) is that the copy left behind is phonetically realized, but this is possible thanks to the Case licensing discussed above. Other than this independent difference, sideward and upward movement in structures involving adjuncts in SLQZ proceed exactly like in languages like English. Thus, the presence of overt *identical* copies in SLQZ adjuncts provides independent support for the idea that adjunct control is the product of sideward movement from within an adjunct to a thematic position within the subordinating vP.[15]

To summarize, the data in this section provide evidence for an analysis of

[15] Copy control involving adjunct clauses has also been documented in Telugu and Assamese, as illustrated in (i) and (ii) (*CNP* stands for conjunctive participle particle).

(i) *Telugu* (Haddad 2007)
[Kumar sinima cuus-tuu] [Kumar popkorn tinnaa-Du]
*Kumar.NOM movie watch-CNP Kumar.NOM popcorn ate-3-m.s*
'While watching a movie, Kumar ate popcorn.'

(ii) *Assamese* (Haddad 2007)
[Ram-Or khong uth-i] [Ram-e mor ghorto bhangil-e]
*Ram-GEN anger raise-CNP Ram-NOM my house destroyed-3*
'Having got angry, Ram destroyed my house.'

Haddad (2007) shows that constructions such as (i) and (ii) have properties of obligatory control and argues that they should also be analyzed in terms of sideward movement and phonetic realization of multiple copies.

obligatory control in terms of the copy theory such as Hornstein's (1999, 2001, 2003). It is hard to see how a PRO-based approach to control, be it within the GB framework or within minimalism (e.g. Landau 2000 and Martin 1996), would account for the realization of copies in the data discussed here. These data also allow us to distinguish two movement approaches to control within the minimalist framework. In an approach such as Hornstein's (1999, 2001, 2003), DPs may get multiple θ-roles as they move to different θ-positions, whereas under Manzini and Roussou's (2000) approach, a DP is merged in the position where it surfaces and from this position it may trigger movement of (the features of) the predicate. The realization of multiple copies of DPs in control-like structures in SLQZ clearly supports the former view.

In the next section, we will see that a uniform movement analysis to reflexive and control structures receives further support from the fact that both constructions are subject to the same kind of morphological restrictions.

## 4 Linearizing Reflexive and Control Structures

### 4.1 Restrictions on Reflexive and Control Structures Involving Overt Copies

Lee (2003) notes that locally bound copies in SLQZ are not permitted in the case of quantified expressions, as illustrated in (40).

(40) *SLQZ* (Lee 2003)

a. *B-guhty cho'nn ra bxuuhahz cho'nn ra bxuuhahz.
*PERF-kill three PL priest three PL priest*
'Three priests killed themselves'

b. *Yra'ta' zhyàa'p r-cààa'z g-ahcnèe' yra'ta' zhyàa'p Lia Paamm.
*every girl HAB-want IRR-help every girl FEM Pam*
'Every girl wants to help Pam'

To convey the relevant meanings, different alternative constructions are employed instead. The relevant bound reading of (40b), for instance, is obtained under the other option generally available for subjunctive control-like structure in SLQZ, namely, a null embedded subject (cf. (33)), as shown in (41).

(41) *SLQZ* (Lee 2003)
Yra'ta' zhyàa'p r-cààa'z g-ahcnèe' Lia Paamm.
*every girl HAB-want IRR-help FEM Pam*
'Every girl wants to help Pam'

In turn, reflexive structures resort to two other alternatives. Under the first one, the quantified expression appears in a preverbal position binding *identical* distal

pronouns in subject and object position, as illustrated in (42) below. In other words, we still have a copy-reflexive structure in this case, but now involving bound pronouns. The second alternative seems to be closer to the one found in languages like English, with an overt reflexive, as illustrated in (43) (see fn. 6), where "the reflexive is realized as a pronominal base *laa* with the reflexive marker *–ag*, and a person/number clitic" (Lee 2003:92).

(42) *SLQZ* (Lee 2003)
Cho'nn ra bxuuhahz b-guhty-rih la'arih
*three PL priest PERF-kill-3PL.DIST 3PL.DIST*
'Three priests killed themselves'

(43) *SLQZ* (Lee 2003, citing P. Munro, lecture notes)
Tu b-guhty laa-g-ih.
*who PERF-kill PRO-REFL-3SG.DIST*
'Who killed himself'

Mortensen (2003) observes that in Hmong a quantified expression cannot license a reflexive structure via copying either, as illustrated in (44). Like in SLQZ, the quantified expression instead appears in the left periphery binding two *identical* copies of a distributive pronoun, as shown in (45a), or it binds a reflexive expression composed of a pronominal base, a classifier, and a reflexive morpheme, as shown in (45b) (see fn. 6).

(44) *Hmong* (Mortensen 2003)
a. Ob tug dlev pum ob tug dlev.
*two CLF dog see two CLF dog*
'Two dogs see two (other) dogs'/*'Two dogs saw themselves'
b. Txhua tug dlev pum txhua tug dlev.
*every CLF dog see every CLF dog*
'Every dog sees every (other) dog.'/*'All the dogs see themselves'

(45) *Hmong* (Mortensen 2003)
a. Txhua tug dlev mas nyas rov qaab pum nyas.
*every CLF dog TOP DIST return back see DIST*
'Every dog saw itself'
b. Peb tug kwv-tij yeej qhuas nwg tug kheej
*three CLF brothers always praise 3SG CLF self*
'The three brothers always praised themselves'

Lee (2003) and Mortensen (2003) treat this restriction on copies of

quantified elements as semantic in nature. Lee proposes that bound copies of quantified expressions such as the ones in (40) induce a type clash between the bound variable and the quantified expression. In turn, Mortensen stipulates that his proposed null anaphoric expression *ana* must be licensed at LF by a c-commanding antecedent in an A-position and proposes that quantified expressions cannot license *ana* because they move to A'-positions at LF.

From a minimalist perspective, both approaches face conceptual problems. Given standard minimalist assumptions, every movement operation must leave a copy behind, regardless of the type of expression undergoing movement or the landing site for such movement. In other words, movement of quantified expressions – be it A or A'-movement – must leave copies behind. In fact, the first arguments for the incorporation of the copy theory into the Minimalism Program (Chomsky 1993) were based on reconstruction effects and crucially exploited the idea that *wh*-movement leaves copies behind. Thus, if the copy theory is on the right track, it raises questions for the semantic account provided by Lee (2003). Likewise, the copies in A-positions left by moved quantified expressions (copies that must be present at LF as they are interpreted as variables) should be able to license the *ana* expression in Mortensen's proposal.

On the empirical side, Lee's and Mortensen's proposals also face challenges. First, if the restriction on copying quantifiers is semantic in nature, it is not clear how languages that only allow overt copies of *wh*-elements, as illustrated in (46), can be accounted for.

(46) a. *German* (McDaniel 1986)
Wen glaubt Hans wen Jakob gesehen hat?
*whom thinks Hans whom Jakob seen has*
'Who does Hans think Jakob saw'

b. *Romani* (McDaniel 1986)
Kas misline kas o Demìri dikhlâ?
*whom you-think whom Demir saw*
'Who do you think Demir saw'

The second kind of data is much more damaging in the sense that it shows that even within SLQZ and Hmong, we find evidence that the restriction on local bound copies discussed above is not necessarily related to quantification. We have already seen one such example in (12), repeated below in (47). As discussed in section 2, a name cannot be locally bound if it is within a coordinate structure and this was attributed under our movement analysis to a violation of the Coordinate Structure Constraint. Interestingly, we also find an unacceptable result if the

whole coordinate structure is locally A-bound, as illustrated in (48).[16]

(47) *Hmong* (Quinn 2004)
a. *Pov qhuas Maiv thiab Pov.
*Pov praise Maiv and Pov*
'Pov praises Maiv and himself'
b. *Pov nyiam Pov thiab Maiv
*Pov likes Pov and Maiv*
'Pov likes himself and Maiv'

(48) *SLQZ* (Lee 2003)
*R-yu'làà a'z Li'eb cuann Gye'eihlly Li'eb cuann Gye'eihlly.
*HAB-like Felipe and Mike Felipe and Mike*
'Felipe and Mike like themselves.'

Also very interesting is the behavior of the morpheme *-ni'*, which functions as a possessive reflexive (see Lee 2003:sec. 6.1.5, for details), as shown in (49) below. What is peculiar about *-ni'* is that it prevents the structure containing it from being copied even in structural environments that allow copies of phrases with the same meaning, as illustrated by the contrast between the object control structures in (50).

(49) *SLQZ* (Lee 2003)
B-to'oh Gye'eihlly x:ca'rr-ni
*PERF-sell Mike GEN.car-REFL.POSS*
'Mike sold his own car.'

(50) *SLQZ* (Lee 2003)
a. R-e'ihpy Gye'eihlly behts Gye'eihlly g-a'uh (behts Gye'eihlly)
*HAB-tell Mike brother Mike IRR-eat brother Mike*
bx:àady.
*grasshopper*
b. R-e'ihpy Gye'eihlly behts-ni' g-a'uh
*HAB-tell Mike brother-REFL.POSS IRR-eat*
(*behts-ni') bx:àady.
*brother-REFL.POS grasshopper*
'Mike told his brother to eat grasshoppers.'

[16] The ungrammaticality of (48) leads Lee (2003:89) to treat coordinate structures like quantified expressions. Regardless of the appropriateness of this specific assumption, we will see below that it cannot generalize to other counterexamples.

Mortensen hints that specific pieces of morphology in Hmong may also rule out locally bound copies. Hmong is a classifier language where nouns without classifiers generally refer to properties rather than entities; classifiers are required to give a noun an entity interpretation, at least in the usual case. If only entities can be reflexively interpreted, then it would appear that in general one will need classifiers in antecedents of reflexives. However, there are exceptions. As Mortensen (p. 10-11) observes, if the noun can be made sufficiently name-like by adding markers of the right kind, then the reflexive reading becomes more readily available, as illustrated below, with the addition of an individuating adjective in (51a) and an individuating prefix in (51b). Interestingly, as soon as a classifier is added to the mix, copy-reflexives become unacceptable, as shown in (52), and one of the other two reflexive structures exemplified in (45) must be resorted to, instead.

(51) *Hmong* (Mortensen 2003)

a. Nam dlev pum nam dlev.
*great dog see great dog*
'The Ol'Dog sees itself'

b. Quas-dlev pum quas-dlev.
*IND-dog see IND-dog*
'The/a dog sees itself'

(52) *Hmong*

a. ?Tug dlev yeej tum tug dlev. (Mortensen 2003)
*CLF dog always bite CLF dog*
*'The dog always bites itself'

b. Tug tuabneeg thuam tug tuabneeg. (David Mortensen, p.c.)
*CLF person criticize CLF person*
*'The person criticized himself'

c. Tus txivneeg nyob ntawm Pov ib sab qhuas (Quinn 2004)
*CLF man be.at at Pov one side praise*
tus txivneeg nyob ntawm Pov ib sab.
*CLF man be.at at Pov one side*
*'The man next to Pov praises himself'

The contrast between (51) and (52) then suggests that the problem with copy-reflexives involving quantified expressions in Hmong is not with their quantificational aspect, but with the fact that quantified expressions in Hmong usually contain classifiers (Mortensen 2003:11) and nominals with classifiers are excluded from copy-reflexive structures. The obvious question is why this is so.

Before we propose an account for the restrictions on overt copies found in

SLQZ and Hmong, we will first briefly review Nunes's (1995 1999, 2004) general approach on phonetic realization of copies, which will underlie our proposal.

### 4.2 Realization of Copies and Linearization of Chains

One question that any version of the copy theory must address is why if movement requires copies, we see so few of them in languages like English. In earlier GB style accounts no analogous problem arose, but not for deep reasons. Rather, in GB, movement operations leave traces, which are phonetically empty by stipulation. This, of course, does not *explain* why traces are phonetically null. It sidesteps the question. Within Minimalism, this is no longer an option. This is so for two reasons. First, the GB answer is deeply unattractive on methodological grounds. Even if it is true that traces are null, minimalists wish to know *why* this is so, and stipulation is no salve for this sort of anxiety. Second, copies are important for trying to eliminate S-Structure (SS) as a level of representation. More specifically, as Chomsky (1993) showed, the elimination of SS requires using the idea that copies of moved elements are available for interpretive purposes at LF. But, once we accept that movement provides copies at LF, we need to understand why we do not detect these copies at PF.

Nunes (1995) proposes that traces are phonetically null due to requirements of Kayne's (1994) Linear Correspondence Axiom (*LCA*). The thinking goes as follows. In order to converge, a derivation must converge at both the LF and PF interfaces. Part of PF convergence involves linearizing the lexical items of the numeration (more or less) along the lines of the LCA. However, if a derivation has copies, then the LCA cannot consistently linearize the terminals, given that some items of the numeration will be assigned to more than one position. This then forces all but one copy to delete in the normal case.[17] Thus, the *reason* that traces are phonetically null is that if they weren't, derivations could not converge as they could not be linearized and so would not receive PF interpretations.

This line of thinking correctly predicts that *if copies do not interfere with linearization, they should in principle be able to surface overtly*. Nunes (1999, 2004) argues that under certain conditions, this actually happens. Here is his reasoning. The LCA linearizes lexical terminals. Following Chomsky (1995) (and *pace* Kayne 1994), he assumes that the LCA does not operate within words. Thus,

[17] This does not entail that the head of the chain is necessarily the link to escape deletion. If the realization of the head of the chain causes the derivation to crash at PF, a lower copy is pronounced instead (for data and general discussion, see Franks 1998, Bošković 2001, 2002, Bobaljik 2002, Nunes 2004, and Bošković and Nunes 2007, among others). We will abstract away from this possibility in the discussion that follows.

if one element were to "hide" within another, say by morphologically fusing with it (Halle and Marantz 1993), it would not be subject to the LCA. More to the point of our discussion, if a copy resulting from movement gets morphologically fused with another element, it will become invisible to the LCA. Such a copy will then be assigned a linear position as the terminal resulting from the morphological reanalysis is linearized with respect to the other terminals of the structure. In other words, the LCA is as oblivious to copies within terminals as it is with respect to affixes and phonemes within terminals.

An example should make his idea relatively clear for present purposes. Consider verb clefting in Vata, as illustrated in (53).

(53) *Vata* (Koopman 1984)
li à li-da zué saká
*eat we eat-PAST yesterday rice*
'We ATE rice yesterday'

Koopman (1984) shows that the two verbal occurrences in (53) cannot be separated by islands, which indicates that they should be related by movement. The problem, however, is that if these occurrences are to be treated as copies under the copy theory, then the structure containing them should not be able to be linearized in accordance with the LCA. Since the pronoun *à* 'we', for example, asymmetrically c-commands and is asymmetrically c-commanded by (a copy of) the verb *li* 'eat', the LCA should induce the contradictory requirement that *à* precede and be preceded by *li*.

Nunes (2004) proposes that this possibility does not in fact arise because the highest copy of the clefted verb gets morphologically reanalyzed and thereby evades the purview of the LCA, which, recall, cannot look inside words. More precisely, he analyzes verb clefting in Vata as involving verb movement to a Focus head, followed by fusion in the morphological component between the moved verb and the Focus head, as represented in (54) ("#" annotates fusion).

(54) $[_{FocP}\ \#[_{Foc0}\ V^i\ [_{Foc0}\ Foc^0]]\#\ [_{TP}\ \ldots\ [_{T0}\ V^i\ [_{T0}\ T^0]]\ [_{VP}\ \ldots\ V^i\ \ldots]]]$

Out of the three verbal copies in (54), the LCA only "sees" the lower two after the highest copy gets fused with $Foc^0$. The lowest copy is then deleted (see fn. 17) and the structure is linearized, yielding surface sentences such as (53) with two copies of the verb phonetically realized.

Nunes (2004) presents two bits of evidence in favor of his account of verb clefting in Vata. The first one relates to Koopman's (1984:158) observation that the restricted set of verbs that cannot undergo clefting has in common the property that they cannot serve as input for morphological processes that apply to

other verbs. If these verbs cannot participate in any morphological process, they certainly should not be able to undergo the morphological fusion with $Foc^0$ depicted in (54) and should not be allowed in predicate clefting constructions. The second piece of evidence is provided by the fact, also observed by Koopman, that the fronted verb in these focus constructions must be morphologically unencumbered; in particular, none of the tense or negative particles that occur with the verb in Infl may appear with the fronted verb, as illustrated in (55) below. This makes sense if these particles render the verb morphologically too complex, thereby preventing the verb from undergoing fusion with the focus head.

(55) *Vata* (Koopman 1984)

a. (*na`-)le wa ná`-le-ka
*NEG eat they NEG-eat-FT*
'They will not EAT'

b. li(*-wa) wà li-wa zué
*eat TP they eat-TP yesterday*
'They ATE yesterday'

What is relevant for our purposes here is these restrictions indicate that the realization of multiple copies should indeed be very sensitive to morphological information, given that multiple copies are only allowed when some copies get morphologically reanalyzed as being part of a fused terminal. The first kind of relevant information regards the feature composition of the elements that are to be fused. After all, not any two terminals can get fused, but only the ones that satisfy the morphological requirements of one another. In Vata, for instance, the duplication of focused material only affects verbs and, as mentioned in section 3, many languages only allow multiple copies of *wh*-elements. This may be interpreted as a reflex of the morphological (categorial) restrictions a given head may impose on the copy with which it may fuse.

The second kind of information concerns morphological complexity. As a rule, the more morphologically complex a given element is, the less likely it is for it to undergo fusion and become part of a terminal. And it may be the case that the addition of specific morphemes (which may vary from language to language) makes the resulting element morphologically "too heavy" to become reanalyzed as part of a word. This seems to be what is going on in (55), with the addition of Infl particles to the fronted verb. Of course, if a given copy is syntactically complex, i.e. it is phrasal, it is also morphologically complex and not a good candidate to undergo morphological fusion. So, although languages such as German and Romani allow multiple copies of *wh*-elements (cf. (46)), this is precluded in the case of *wh*-phrases, as shown in (56) (see Nunes 1999, 2004 and

Bošković and Nunes 2007, for further discussion).

(56) a. *German* (McDaniel 1986)
*Wessen Buch glaubst du wessen Buch Hans liest?
*whose book think you whose book Hans reads*
'Whose book do you think Hans is reading'

b. *Romani* (McDaniel 1986)
*Save chave mislinea save chave o Demìri dikhlâ?
*which boy you-think which boy Demir saw*
'Which boy do you think Demir saw'

To summarize, Nunes (1995, 1999, 2004) provides an explanation for why all but one copy of a given syntactic object must be deleted in the general case and offers a general description of the exceptional conditions under which one may find licit cases of multiple copies. Deletion of copies is triggered by linearization considerations, that is, by convergence requirements. That is why multiple copies are not garden-variety objects in natural languages. Only when such convergence requirements are circumvented by removing copies from the visual field of the LCA is it possible for multiple copies to surface. If this does not happen, multiple copies prevent the linearization of the structure containing them and the derivation crashes at PF.

Let us now return to the restrictions on locally bound copies detected in SLQZ and Hmong discussed in section 4.1.

### 4.3 Overt Copies in Reflexive and Control Structures and the LCA

In sections 2 and 3, we argued that copy-reflexive and copy-control structures provide extensive evidence for treating local reflexives and obligatorily controlled PRO as copies left by movement to a θ-position. The question that was then raised was why copy-reflexive and copy-control constructions are the exception, rather than the rule. We have seen in section 4.2 that multiple copy constructions are marked because they require additional licensing conditions. Not only do we need a head that allows for morphological fusion and a copy that satisfies the requirements and restrictions of this head, but also the copy cannot be morphologically too complex. If such requirements are necessary to license multiple copies, their relative rarity makes sense. Similarly, even when a language tolerates multiple copies, what kinds are permitted should be very constrained.

Thus, the restrictions on locally bound copies in SLQZ and Hmong seen in section 4.1 are not unexpected. They just illustrate the kinds of morphological restrictions that we generally find in constructions involving multiple copies (see Nunes 1999, 2004 and Bošković and Nunes 2007). The data suggest that features

borne by quantifiers (cf. (40)-(43)) and the possessive morpheme *-ni* (cf. (50)) in SLQZ and by classifiers (cf. (51)-(52)) in Hmong prevent morphological reanalysis either because they are not of the right type (i.e. they do not meet the demands of the head with which they are supposed to fuse) or because they render the copies complex enough so that they prevent reanalysis. On either option, if more than one copy containing such features is shipped to the phonological component, all but one must delete; otherwise, the structure cannot be linearized. This, then, is what accounts for the impossibility of the second copy of the *-ni'*-phrase in (57a) and the unavailability of the reflexive reading in (57b), which is only acceptable under a derivation that starts with two instances of *tug dlev* in the numeration.

(57) a. *SLQZ* (Lee 2003)
R-e'ihpy Gye'eihlly behts-ni' g-a'uh
*HAB-tell Mike brother-REFL.POSS IRR-eat*
(*behts-ni') bx:àady.
*brother-REFL.POS grasshopper*
'Mike told his brother to eat grasshoppers'

b. *Hmong* (Mortensen 2003)
?Tug dlev yeej tum tug dlev.
*CLF dog always bite CLF dog*
*'The dog always bites itself'

Like the restrictions we saw in the case of *wh*-copying, when reflexive and control structures involve syntactic phrases, the morphological complexity of the copies prevents fusion. Thus, all but one copy must be deleted in order for linearization to apply properly; hence, the unacceptability of the multiple copies repeated in (58) below, for instance, under the reflexive reading. The sentences in (58) can only be acceptable under the interpretation where we are talking about different people, whose derivation starts with two instances of the relevant lexical items in the numeration and no problem of linearization arises. [18]

[18] Given the discussion above, *behts Gye'eihlly* in (50a), repeated below in (i), should not count as morphologically complex in the relevant sense, as it does not block fusion. Pending further research, we speculate that the relevant notion of morphologically complexity in SLQZ takes into consideration whether the expression to be fused has overt functional material (like the reflexive affix *-ni* in (57a) or the coordinating head *cuann* in (58a)) or not (as in *behts Gye'eihlly* in (i)).

(i) *SLQZ* (Lee 2003)
R-e'ihpy Gye'eihlly behts Gye'eihlly g-a'uh behts Gye'eihlly bx:àady.
*HAB-tell Mike brother Mike IRR-eat brother Mike grasshopper*
'Mike told his brother to eat grasshoppers'

(58) a. *SLQZ* (Lee 2003)
*R-yu'lààa'z Li'eb cuann Gye'eihlly Li'eb cuann Gye'eihlly.
*HAB-like Felipe and Mike Felipe and Mike*
'Felipe and Mike like themselves.'

b. *Hmong* (Quinn 2004)
Tus txivneeg nyob ntawm Pov ib sab qhuas
*CLF man be.at at Pov one side praise*
tus txivneeg nyob ntawm Pov ib sab.
*CLF man be.at at Pov one side*
*'The man next to Pov praises himself'

If this is correct, we can then trace the parametric difference between English-like languages and copy-reflexive and copy-control languages to the difference in the availability of morphological operations that render copies invisible to the LCA. This proposal now raises new questions: in SLQZ and Hmong, which copy escapes the purview of the LCA by fusing and what does it fuse with? Although we cannot offer a definitive answer at this point, the following speculation suggests itself.

We argued in section 2 that in SLQZ and Hmong, locally bound copies first merge with a null version of 'self', which checks the Case of the local Case-checker, thereby allowing the copy it has merged with to undergo A-movement. Suppose, then, that this null 'self' is in fact the head with which copies may fuse in the morphological component. If so, the copy that merges with the null 'self' is the one that will be disregarded by the LCA and will not induce linearization problems with respect to other copies. The parameter that makes locally bound copies possible would be marked (i.e. would require overt evidence to be set), thus making grammars *without* such constructions, the unmarked case. Fortunately, there would plenty of primary linguistic data available to the child to set this parameter.[19]

---

[19] Lee (2003) observes that whereas the realization of a copy in the embedded subject position of a control-like structure is optional in the case of a name, it is obligatory in the case of a pronoun, as illustrated in (i) below. Lee proposes that the subject in these constructions is actually a null *pro* and that the pronominal clitics are heads of AgrsP. Curiously, however, these Agrs heads *only* appear with pronominal subjects and they are *obligatory* in these contexts.

(i) *SLQZ* (Lee 2003)
a. R-cààa'z Gye'eihlly g-auh (Gye'eihlly) bxaady
*HAB-want Mike IRR-eat Mike grasshopper*
'Mike wants to eat grasshopper'

Let us finally examine the following contrast between English and Hmong:

(59) a. John praised Mary and himself.
b. John praised himself and Mary.

(60) *Hmong* (Quinn 2004)
a. *Pov qhuas Maiv thiab Pov.
*Pov praise Maiv and Pov*
'Pov praises Maiv and himself'
b. *Pov nyiam Pov thiab Maiv
*Pov likes Pov and Maiv*
'Pov likes himself and Maiv'

In section 2, we pointed out that (60) can receive a straightforward account if it involves movement, for movement out of one of the conjuncts should violate the Coordinate Structure Constraint. The problem, however, is that this reasoning should also rule out the English sentences in (59) under a movement analysis for the reflexives.[20]

Before we tackle this issue, let us first reexamine the derivation of a simple structure like (61a) under Hornstein's (2001) proposal, given in (61b), which we are assuming here.

(61) a. John praised himself.
b. [$_{TP}$ John [$_{vP}$ John [$_{VP}$ praised John-self]]]

As mentioned earlier, Hornstein takes *-self* as a Case-checking morpheme that frees its associate for purposes of A-movement. So, *John* in (61b) moves from the object position to [Spec, vP] and then to [Spec, TP], yielding a structure with

---

b. R-càà'z-rëng g-achnèe*(- rëng) Gye'eihlly
*HAB-want-3PL.PROX IRR-help-3PL.PROX Mike*
'They want to help Mike'

These facts suggest an alternative account. Let's assume that pronouns obligatorily cliticize onto the verbs that precede them in SLQZ. This will restrict "agreement" to just those cases that involve pronominal subjects. If this cliticization is obligatory and if it triggers fusion between the pronoun and the verb, then deletion will be unnecessary for convergence as the LCA will be applicable without it. Given standard minimalist reasoning, an "unnecessary" operation won't ever apply and the "agreeing" form will surface. Moreover, "agreement" will only occur with pronouns, as they are its source.

[20] As argued by Reinhart and Reuland (1993), the reflexives in constructions such as (59) cannot be analyzed as logophors, for they are in complementary distribution with bound pronouns.

three copies of *John*. Following Nunes (1995), Hornstein assumes that such a structure cannot be linearized unless all but one copy is deleted. However, deletion of the two lower copies does not yield a grammatical output, as shown in (62) below, which he attributes to the fact that *-self* does not have its affixal requirements satisfied. Hornstein then proposes that as a kind of last resort rescuing strategy similar to *do*-support in English, a pronoun is inserted to support *-self*, yielding the sentence in (61a).

(62) *John praised self.

Let us assume that something along these lines is correct. If so, the acceptability of the sentences in (59) should then be treated as another example of how (resumptive) pronouns may circumvent the effects of the Coordinate Structure Constraint, as illustrated in (63) below. The derivations in (60) in Hmong obviously do not resort to this repair strategy; hence their unacceptability.[21]

(63) a. Which man did you say you saw Mary and *(him) together?
b. Which man did you say you saw *(him) and Mary together?

Two pieces of evidence can be added in favor of this approach. The first one relates to the fact that Hmong also admits reflexive structures with English-like reflexive pronouns, as illustrated in (64) below (see fn. 6). Assuming that these structures also involve some sort of resumption, as Hornstein suggests for the English cases, we predict that if the copies in (60) were replaced by reflexive pronouns, the result should be acceptable. This is indeed the case, as shown in (65).

---

[21] It is worth mentioning that there may be an additional reason for why the sentences in (60) are unacceptable. As discussed above, in order for the structures underlying these sentences to be linearized, the copy of *Pov* inside the coordinate structure must fuse with the null 'self' morpheme. However, fusion in only one conjunct may also yield an ungrammatical result, as illustrated by preposition contraction in (i) (For relevant discussion on the effects of the Parallelism Requirement on morphological computations, see Ximenes and Nunes 2004).

(i) *Portuguese* (Ximenes and Nunes 2004)
a. Eu votei **no/*em o** Pedro.
*I voted in-the/in the Pedro*
'I voted for Pedro'
b. Eu votei **no** Pedro e **na/*a** Ana.
*I voted in-the Pedro and in-the/the Ana*
'I voted for Pedro and Ana'

(64) *Hmong* (Mortensen 2003)
Pov yeej qhuas [nwg [tug kheej]]
*Pao always praise 3SG CFL self*
'Pao always praises himself'

(65) *Hmong* (David Mortensen, p.c.)
a. Pov qhuas Maiv hab [nwg [tug kheej]].
*Pao praise Maiv and 3SG CFL self*
'Pao praises Maiv and himself'
b. Pov qhuas [nwg [tug kheej]] hab Maiv.
*Pao praise 3SG CFL self and Maiv*
'Pao praises himself and Maiv'

The contrast between (60), on the one hand, and (59) and (65), on the other, thus indicates that there is no deep parametric distinction between Hmong and English with respect to reflexive structures involving coordination. Hmong will pattern like or unlike English depending on the kind of 'self' morpheme it accesses in a derivation. If it accesses the null morpheme that requires fusion, resumption will be blocked, and we will have a Coordinate Structure Constraint effect (cf. (60)); by contrast, if it accesses the overt morpheme that allows resumption, no such effect will be observed (cf. (65)).

Secondly, David Mortensen (p.c.) informed us that although his consultants could get a coreferential reading for the two instances of *Pov* in (60a), they did not allow a sloppy reading interpretation for the corresponding ellipsis case in (66).

(66) *Hmong* (David Mortensen, p.c.)
Pov qhuas Maiv hab Pov; Tub los kuj ua le hab.
*Pov praise Maiv and Pov Tub TOP also do as too*
'Pov praises Maiv and Pov; and Tub does too praise
[Maiv and Pov]/*[Maiv and Tub]'

The lack of a sloppy reading in (66) indicates that the coreferential interpretation arises as a case of accidental coreference based on a derivation with two distinct instances of *Pov* in the initial derivation, and not a case of movement/copying, for such movement would violate the Coordinate Structure Constraint, as we have seen.

To summarize, we have proposed that languages that allow copy-reflexive and copy-control constructions phonetically display the mechanics of control and reflexivization by licensing the realization of copies that are not detectable overtly in languages like English. We have mentioned two broad kinds of evidence in

favor of this analysis. First, we have shown that copy-reflexive and copy-control constructions are adequately accounted for if one adopts the copy theory of movement and the movement theory of control and reflexivization. We find copies exactly where we expect them to be if in fact movement to θ-positions is what underlies control and reflexivization. Second, we have explained why it is that only some nominals can appear in copy-reflexive and copy-control constructions. Only those nominals can do so that can evade the strictures of the LCA by fusing with another lexical item. In this sense, copy-reflexive and copy-control structures mirror other types of multiple copy constructions found in different languages in exhibiting sensitivity to morphological information and morphological complexity. We thus find a relatively principled explanation for why some elements can yield copy-reflexive and copy-control constructions and others cannot. This relies on Nunes (1999, 2004) proposal that copies are subject to the LCA and must delete unless they can "hide" from the LCA's demands. Interestingly, this also provides an account of the difference between languages that allow copy-reflexive and copy-control constructions and those that do not. They differ morphologically in a rather superficial way; the former contain (overt or covert) morphemes that trigger morphological fusion thereby enabling a fused copy to escape the purview of the LCA. This is what we have seen in SLQZ and Hmong.

## 5 Conclusion

Let's say that the analysis of copy-reflexive and copy-control languages given above is roughly correct. What follows?

Most immediately, we gain a new source of evidence for the conclusion that both reflexive and (obligatory) control configurations are products of movement. In the case of control, we actually find evidence for a yet more controversial claim in the control literature; that adjunct control is also a function of movement. We noted that copy-control languages permit copies in the subjects of adjuncts and that these adjuncts function just like (obligatory) control adjuncts in English (i.e. the obey Lee's (2003) Identical Antecedent Requirement and require a sloppy identity reading under ellipsis). It is hard to resist the conclusion that if copy-reflexive constructions and subject and object control involving copies are products of movement, then adjunct control involving copies should also be analyzed in similar terms; after all, they share the same properties. This then supports the proposal in Hornstein (2001, 2003) that adjunct control is a product of (sideward) movement.

We further gain evidence that movement is best understood as the composite of Copy and Merge and that there is no grammatical distinction between the various copies. Thus, for example, notions like "trace" are merely

descriptive notions with no theoretical standing. It's because copies are all equal that many can surface so long as they meet the licensing conditions that expressions must meet to surface.

Furthermore, these constructions suggest that the correct technology for movement involves *copies*, in contrast to multiple mergers. If there is more than a terminological difference between merge-remerge based accounts and Copy and Merge approaches, it resides in how many token "links" a given chain may realize. Copy-reflexive and copy control languages overtly display multiple copies of the *same* expression. The copy theory *explains* this fact. The Identical Antecedent Requirement *follows* from the fact that such constructions are derived by movement *if* movement involves Copy as a sub-operation. Any other approach will have to stipulate this feature, not derive it. Recall that Mortensen (2003), for example, has to stipulate that *ana* – the null anaphoric element that he proposes – must copy its phonological form from its antecedent.

The movement analysis also supports Nunes's (1995, 1999, 2004) LCA-based account for why, descriptively speaking, traces are null. We saw that we could explain why only morphologically "thin" nominals allowed copy-reflexive and copy-control constructions if we assumed that the LCA forced deletion and that copies could remove themselves from the purview of the LCA by fusing with other elements.

These conclusions follow rather directly from the analysis if correct. Let's now turn to some more general conclusions.

The first is that SLQZ and Hmong would appear to cause trouble for theories of reflexivization that are based on morpheme specific operations. For example, some approaches (Burzio 1991, Safir 2004) rely on a hierarchy of anaphoric dependence roughly of the form *reflexive>pronoun>R-expression*, with the first being the most dependent kind of expression. The claim is then that the most dependent kind of element must be used when it can be. So, the reason that local reflexives and pronouns are in complementary distribution is that the former, being more dependent, must be used when it can be and this is what prevents the less dependent pronoun from surfacing.

SLQZ and Hmong cause problems for this sort of theory as they can employ R-expressions for purposes of reflexivization. This is problematic for two reasons: first that the *most* independent kind of expression is being used and second that pronouns cannot be used instead. Recall that the pronouns cannot replace copies of names in reflexive contexts (see section 1). In other words, if reflexives could not be used in these languages for some reason, why, given the hierarchy, doesn't one use pronouns in place of names?

In fact, things are actually somewhat worse than this. In both SLQZ and Hmong, it is possible to form a reflexive in roughly the manner English does, as shown in (67a) and (68a), and these reflexives are in complementary distribution

with pronouns, as shown in (67b) and (68b).

(67) *SLQZ* (Pam Munro, p.c)
a. B-guhty Jwaany laa-g-nii'.
*PERF-kill Juan PRO-REFL-same*
'Juan killed himself'
b. B-guhty Jwaany la'anng.
*PERF-kill Juan 3SG.PROX*
'Juan killed him (*him* ≠ Juan)'

(68) *Hmong* (Mortensen 2003)
a. Pov yeej qhuas [nwg [tug kheej]]
*Pao always praise 3SG CFL self*
'Pao always praises himself'
b. Pov yeej qhuas nwg.
*Pao always praise 3SG*
'Pao always praises him (*him* ≠ Pao)'

If this is so, then the presence of copy-reflexives in SLQZ and Hmong is a big problem: there exists a reflexive morpheme but it need not be used in reflexives. It can be replaced by a copy of the name but not a pronoun. Why?

Lee's (2003:109) proposal that locally bound copies in SLQZ are base generated and serve to reflexive-mark a predicate (in the sense of Reinhart and Reuland 1993) faces similar difficulties. In Reinhart and Reuland's system, a predicate is reflexive-marked if it is lexically reflexive or one of its arguments is a SELF-anaphor. Since there is no real upper bound on the class of elements that may yield a copy-reflexive construction in languages such as SLQZ, Lee's proposal leads to the unappealing conclusion that the class of reflexive markers (SELF-anaphors) in these languages should be open ended.

In fact, it is not even clear what it means to say that a predicate is reflexively-marked under Lee's approach. After all, sentences with two copies of a name need not be reflexively interpreted so long as the two names are taken to be referentially distinct. In addition to the reflexive reading, a sentence such as (69), for instance, can mean that Mike (Schwartz) likes Mike (Kowalski).

(69) *SLQZ* (Lee 2003)
R-yu'lààa'z Gye'eihlly Gye'eihlly.
*HAB-like Mike Mike*
'Mike likes himself'

Of course, one may distinguish reflexive marking in (69) depending on whether

the two instances of *Mike* are copies of the same element or two separate selections from the numeration. However, this is simply to adopt the copy theory of reflexivization, in which case reflexive-marking becomes dispensable.

One could ask if our analysis does not tacitly assume a version of Reinhart and Reuland's approach, to the extent that we postulate a null version of 'self' in SLQZ and Hmong reflexive constructions. It could be said, for instance, that what this null morpheme does is in fact reflexive-marking the predicate. There are two main reasons why we believe that this is not the case. First, recall that locally bound copies associated with a null 'self' may occupy the embedded subject position of a complement or (more problematically) an adjunct clause in copy-control constructions (see section 3). Thus, it is not at all clear how such copies should be able to reflexive-mark the subordinating predicate within Reinhart and Reuland's (1993) system. Second, if the null 'self' could reflexive-mark the predicate in copy-reflexive constructions, it could in principle merge with a bound pronoun and license a reflexive reading in sentences such as (67b) and (68b), contrary to fact. In other words, any reflexive-marking approach along these lines will have to further stipulate that the Identical Antecedent Requirement holds for the element associated with the null 'self'. After all, why is simple co-valuation insufficient? Why is phonological identity a requirement? Thus, our movement approach derives the effects of the Identical Antecedent Requirement and reflexive-marking from the internal features of the computation, namely, from the operation of movement.

There is a more general conclusion about the Binding Theory that one may reach. From a general minimalist perspective, the Binding Theory has one rather weird property. It is very morpheme-specific. It cares about the distribution of specific morphemes such *-self, him, her, etc*. What makes this odd is that the Binding Theory conceives of reflexives and pronouns as lexical items that live in the lexicon and so no different from *John* or *eat* or *man*. However, in contrast to these, UG dedicates a whole module of the grammar to account for their specific distribution and interpretation. Why is it that *these* types of lexical items are singled out for special treatment by the grammar? What makes them so special? Copy reflexivization facts suggest that the answer should be "nothing." Why so? Because copy reflexivization does not fit well with accounts of binding that concentrate on specific morphemes, as the boundaries between R-expressions and pronouns, on the one hand, and anaphors, on the other, get blurred when copies are at stake. This suggests that the morphemes themselves are not the real issue. However, they *are* the real issue for these morpheme-based accounts and that is the problem.

On the present account, there is no morphological competition between reflexives and any other morpheme. Reflexives are of *mere* morphological interest. What matters is movement versus lack of movement. It is compatible

with this story that there are several surface realizations of movement operations. In fact, this is what Hornstein (2001) proposes for obligatory control and local reflexivization. These both involve movement, albeit with different Case requirements that force either a phonologically overt residue or a phonetic gap. This story can extend to SLQZ and Hmong and it is compatible with having an overt reflexive morpheme in reflexives as well as a copy configuration. In the case at hand, for instance, the standard reflexive construction in (67a) and (68a) and their copy-reflexive counterparts, which are derived by movement, block the nonmovement alternatives in (67b) and (68b).

Copy-reflexive languages thus support the suspicion that what is wrong with the GB approach to binding is that it focused on the wrong objects. It is not reflexives and pronouns that are of interest, but the processes of reflexivization and pronominalization. However, these processes might exist without surface morphemes signaling their presence. Still, we would expect reflexivization to block bound pronominalization, reflexivization to be local and license sloppy identity under ellipsis, etc. A minimalist analysis of copy-reflexive and copy-control constructions should thus lead us to reconsider earlier approaches to binding stemming from the Standard Theory, where the grammar did not focus on reflexives and pronouns, but on the derivational processes that yielded these elements (see Hornstein 2001, 2007, for discussion and further exploration of this idea).

**Acknowledgments**

Different parts of this paper were presented at the Workshop "New Horizons in the Grammar of Raising and Control" (LSA Linguistic Institute 2005, Harvard University) and at the following Universities: Campinas, Connecticut, Lisboa, Maryland, Rutgers, São Paulo, Stony Brook, Tilburg, and Utrecht. We are thankful to these audiences. A preliminary version appeared in the working papers of the University of Maryland (Boeckx, Hornstein, and Nunes 2007). Special thanks to Željko Bošković, Felicia Lee, Audrey Li, David Mortensen, Pam Munro, Conor Quinn, Eric Reuland, Ken Safir, Juan Uriagereka, and an anonymous reviewer for their comments and suggestions. The third author would like to acknowledge the support he received from CNPq (grant 308176/2005-7) during the writing of this paper.

**References**

Black, C. 1994. *Quiegolani Zapotec Syntax*. Doctoral Dissertation, University of California, Santa Cruz.

Bobaljik, J. 2002. A-Chains at the PF-interface: Copies and 'covert' movement.

*Natural Language and Linguistic Theory* 20, pp. 197-267.
Boeckx, C. and N. Hornstein. 2003. Reply to *Control Is Not Movement*. *Linguistic Inquiry* 34, pp. 269-280.
Boeckx, C. and N. Hornstein. 2004. Movement under Control. *Linguistic Inquiry* 35, pp. 431-452.
Boeckx, C., N. Hornstein, and J. Nunes. 2007. "Overt Copies in Reflexive and Control Structures: A Movement Analysis". *University of Maryland Working Papers in Linguistics* 15, pp. 1-45 (http://www.ling.umd.edu/publications/volume15).
Bošković, Ž. 1994. D-structure, Theta Criterion, and Movement into Theta Positions. *Linguistic Analysis* 24, pp. 247-286.
Bošković, Ž. 2001. *On the Nature of the Syntax-Phonology Interface: Cliticization and Related Phenomena.* Amsterdam: Elsevier Science.
Bošković, Ž. 2002. On Multiple *Wh*-fronting. *Linguistic Inquiry* 33, pp.351-383.
Bošković, Ž. and J. Nunes. 2007. The Copy Theory of Movement: A view from PF. In N. Corver and J. Nunes (eds). *The Copy Theory on the PF Side.* Amsterdam/Philadelphia, John Benjamins, pp. 13-74.
Burzio, L. 1991. The Morphological Basis of Anaphora. *Journal of Linguistics* 27, pp. 81-105.
Chomsky, N. 1981. *Lectures on Government and Binding*. Dordrecht: Foris.
Chomsky, N. 1986a. *Knowledge of Language: Its Nature, Origin and Use*. New York: Praeger.
Chomsky, N. 1986b. *Barriers*. Cambridge, MA: MIT Press.
Chomsky, N. 1993. A Minimalist Program for Linguistic Theory. In K. Hale and S. J. Keyser, (eds.) *The View from Building 20: Essays in Honor of Sylvain Bromberger*. Cambridge, MA: MIT Press, pp. 1-29.
Chomsky, N. 1995. *The Minimalist Program*. Cambridge, MA: MIT Press.
Chomsky, N. and H. Lasnik. 1993. Principles and parameters theory. In J. Jacobs, A. von Stechow, W. Sternefeld and T. Vennemann, (eds.) *Syntax: An International Handbook of Contemporary Research*. Berlin: de Gruyter, pp. 506-569.
Chomsky, N. 2001. Derivation by Phase. In M. Kenstowicz, (ed.) *Ken Hale: A Life in Language.* Cambridge, MA: MIT Press, pp. 1-52.
Chomsky, N. 2004. Beyond Explanatory Adequacy. In A. Belletti, (ed.) *Structures and Beyond*. Oxford: Oxford University Press, pp. 104-131.
Corver, N. and J. Nunes (eds). 2007. *The Copy Theory on the PF Side.* Amsterdam/Philadelphia, John Benjamins.
Ferreira, M. 2000. *Argumentos Nulos em Português Brasileiro*. Master's Thesis, Universidade Estadual de Campinas.
Ferreira, M. 2004. Hyperraising and Null Subjects in Brazilian Portuguese. *MIT Working Papers in Linguistics 47: Collected Papers on Romance Syntax*,

pp. 57-85.
Franks, S. 1998. Clitics in Slavic. Paper presented at the Comparative Slavic Morphosyntax Workshop, Spencer Creek, Indiana.
Grohmann, K. K. 2003. *Prolific Peripheries*. Amsterdam: John Benjamins.
Haddad, Y. 2007. *Adjunct Control in Telugu and Assamese*. Doctoral dissertation, University of Florida.
Halle, M. and A. Marantz 1993. Distributed Morphology and the Pieces of Inflection. In K. Hale and S. J. Keyser, (eds.) *The View from Building 20: Essays in Honor of Sylvain Bromberger*. Cambridge, MA: MIT Press, pp. 111-176.
Hermon, G. 1984. *Syntactic Modularity*. Dordrecht: Foris.
Hornstein, N. 1999 Movement and Control. *Linguistic Inquiry* 30, pp. 69-96.
Hornstein, N. 2001. *Move! A minimalist Theory of Construal*. Oxford: Blackwell.
Hornstein, N. 2003. On Control. In R. Hendrick, (ed.) *Minimalist Syntax*. Oxford: Blackwell, pp. 6-81.
Hornstein, N. 2007. Pronouns in a Minimalist Setting. In N. Corver and J. Nunes (eds). *The Copy Theory on the PF Side.* Amsterdam/Philadelphia, John Benjamins, pp. 351-385.
Hornstein, N., J. Nunes, and K. K. Grohmann. 2005. *Understanding Minimalism.* Cambridge: Cambridge University Press.
Kayne, R. 1994. *The Antisymmetry of Syntax*. Cambridge, MA: MIT Press.
Kayne, R. 2002. Pronouns and Their Antecedents. In S. D. Epstein and T. D. Seely, (eds.) *Derivation and Explanation in the Minimalist Program*. Oxford: Blackwell, pp. 133-166.
Landau, I. 2000. *Elements of Control. Structure and Meaning in Infinitival Constructions*. Dordrecht: Kluwer.
Lasnik, H. 1989. *Essays on anaphora*. Dordrecht: Kluwer.
Lasnik, H. 1995. Last Resort and Attract F. In L. Gabriele, D. Hardison, and R. Westmoreland, (eds.) *Proceedings of the Sixth Annual Meeting of the Formal Linguistics Society of Mid-America.* Bloomington, IN: Indiana University Linguistics Club, pp. 62-81.
Lee, F. 2003. Anaphoric R-expressions as Bound Variables. *Syntax* 6, pp. 84-114.
Lidz, J., and W. Idsardi. 1997. Chains and Phono-logical Form. *UPenn Working Papers in Linguistics* 8, pp. 109-125.
Manzini, M. R. and A. Roussou. 2000. A Minimalist Theory of A-movement and Control. *Lingua* 110, pp. 409-447
Martin, R. 1996. *A Minimalist Theory of PRO and Control*. Doctoral Dissertation, University of Connecticut, Storrs.
Mortensen, D. 2003. Two Kinds of Variable Elements in Hmong Anaphora. Ms., UC Berkeley.
McDaniel, D. 1986. *Conditions on Wh-chains*. Doctoral Dissertation, CUNY.

Nunes, J. 1995. *The Copy Theory of Movement and Linearization of Chains in the Minimalist Program*. Doctoral Dissertation, University of Maryland, College Park.

Nunes, J. 1999. Linearization of Chains and Phonetic Realization of Chain Links. In S. D. Epstein and N. Hornstein, (eds.) *Working Minimalism*. Cambridge, MA: MIT Press, pp. 217-249.

Nunes, J. 2004. *Linearization of Chains and Sideward Movement*. Cambridge, MA: MIT Press.

Quinn, C. 2004. Field Notes on White Hmong Reflexives [April 8, 2004]. Ms., Harvard University, Cambridge, MA.

Reinhart, T. and E. Reuland. 1993. Reflexivity. *Linguistic Inquiry* 24, pp. 657-720.

Rodrigues, C. 2002. Morphology and Null Subjects in Brazilian Portuguese. In D. Lightfoot, (ed.) *Syntactic Effects of Morphological Change*. Oxford: Oxford University Press, pp. 160-178.

Rodrigues, C. 2004. *Impoverished Morphology and A-movement out of Case Domains*. Doctoral Dissertation, University of Maryland, College Park.

Ross, J. R. 1967. *Constraints on Variables in Syntax*. Doctoral Dissertation, MIT, Cambridge, MA.

Safir, K. 2004. *The Syntax of Anaphora*. Oxford: Oxford University Press.

Ximenes, C. and J. Nunes. 2004. Contraction and Duplication of Prepositions in Coordinated Structures in Brazilian Portuguese. In B. Schmeiser, V. Chand, A. Kelleher and A. Rodriguez, (eds.) *WCFFL 23: Proceedings of the 23rd West Coast Conference on Formal Linguistic*s. Somerville, MA: Cascadilla Press, pp. 815-828.

Zwart, C. J.-W. 2002. Issues Relating to a Derivational Theory of Binding. In S. D. Epstein and T.D. Seely, (eds.) *Derivation and Explanation in the Minimalist Program*. Oxford: Blackwell, pp. 269-304.

*Cedric Boeckx*
*Harvard University*
*Department of Linguistics*
*Boyston Hall, 3rd Floor*
*Cambridge, MA 02138*
*USA*
*cboeckx@fas.harvard.edu*

*Norbert Hornstein*
*Linguistics Department*
*University of Maryland*
*1401 Marie Mount Hall*
*College Park, MD 20742-7505*
*USA*
*nhornste@umd.edu*

*Jairo Nunes*
*Departamento de Lingüística*
*Universidade de São Paulo*
*Av. Prof. Luciano Gualberto, 403*
*São Paulo, SP 05508-900*
*Brazil*
*jmnunes@usp.br*