

# Rapid #: -9729376

CROSS REF ID: **1249582**

LENDER: **GZM :: Memorial Library**

BORROWER: **AUM :: Main Library**

TYPE: Article CC:CCL

JOURNAL TITLE: Proceedings of NELS

USER JOURNAL TITLE: Proceedings of NELS

ARTICLE TITLE: Anaphoric R-expressions: "Bound" names as bound variables

ARTICLE AUTHOR: Felicia Lee

VOLUME:

ISSUE:

MONTH:

YEAR: 2002

PAGES:

ISSN: 0883-5500

OCLC #:

Processed by RapidX: 10/2/2015 11:30:47 AM

---

This material may be protected by copyright law (Title 17 U.S. Code)

---

UW-Madison ILL Lending (GZM)  
728 State Street / Madison, WI 53706  
Email: gzmil@library.wisc.edu



GZM TN: 2724008

**Borrower:** RAPID:AUM

**Lending String:**

**Patron:**

**Journal Title:** Proceedings of NELS

**Volume: Issue:**

**Month/Year: 2002 Pages:**

**Article Author:** Felicia Lee

**Article Title:** Anaphoric R-expressions:  
"Bound" names as bound variables

**OCLC Number:** 11124471

**RAPID Number:** -9729376



**Location:** mem

**Call #:** P21 N67

**Request Date:** 10/2/2015 8:21:59 AM

**Odyssey:** 128.119.168.111

**Ariel:** ARIEL.LIBRARY.UMASS.EDU



**Borrowing Notes:**

**RAPID**

**ODYSSEY**

F8

## Anaphoric R-Expressions: "Bound" Names as Bound Variables

Felicia Lee

University of British Columbia

### 1. Introduction

San Lucas Quiaviní Zapotec (SLQZ), an Otomanguean language spoken in Southern Mexico, regularly allows apparent Principle B and C violations. Pronouns may locally bind identical pronouns, and R-expressions identical R-expressions:<sup>1,2</sup>

- (1) R-yu'lààa'z Gye'eihlly Gye'eihlly  
       hab-like Mike Mike  
       "Mike likes himself"
- (2) R-yu'lààa'z-ëng la'anng  
       hab-like-3s.prox 3s.prox  
       "He/she likes himself/herself"
- (3) R-cààa'z bxuuhahz ch-iià bxuuhahz  
       Hab-want priest irr-go priest  
       "The priest wants to go."
- (4) A w-nalààa'z bxuuhahz g-uhcnèe Lia Paamm bxuuhahz  
       Already perf-remember priest perf-help fem.Pam priest  
       "The priest<sub>i</sub> remembered that Pam helped him<sub>i</sub>,"

<sup>1</sup> I am grateful to Rodrigo Garcia and Sugunya Ruangjaroon for providing the SLQ Zapotec and Thai data and judgments in this paper. I am also grateful to Irene Heim, Jim Huang, Pamela Munro, Tim Stowell, and participants in the UBC Linguistics Department's research seminar (especially Henry Davis and Lisa Matthewson), and the audience at NELS 32 for their suggestions and questions about various stages of this project. Any remaining errors are my own.

<sup>2</sup> This pattern was described in detail in Munro 1994. Some of the grammaticality judgments reported in this earlier work differ from those found here.

This pattern holds in a number of other Zapotec languages as well.

This paper will propose that 'bound' pronouns and R-expressions do not instantiate violations of Principles B and C. Rather, the bound elements are bound variables spelled out as copies of their antecedents. This is consistent with the view that reflexive predicates represent functions mapping a single argument to both argument positions (Reinhart and Reuland 1993):

- (5)  $\lambda x (P \dots x \dots x \dots)$

This paper will be organized as follows. Section 2 will outline evidence that Principles B and C do hold in SLQZ. Section 3 will show that bound copies are interpreted as bound variables. Section 4 will show that binding facts in Thai, another language claimed not to be subject to Principle C, can be accounted for in the same way. Section 5 will show that non-locally bound copies are long-distance reflexives. Section 6 will show evidence that binding relations in SLQZ are mediated by overt A'-movement.

## 2. Evidence for Principle C in SLQZ

### 2.1. The 'Identical Antecedent' Requirement

There is strong evidence that Principles B and C do in fact hold in SLQZ. For one, R-expressions and pronouns can only be bound by identical elements in SLQZ: I will call this constraint the Identical Antecedent Requirement. Pronouns cannot be locally bound by R-expressions (7), nor by pronouns differing in person, number, or other features<sup>3</sup> (8). Likewise, R-expressions may not be bound by pronouns (9), nor by different R-expressions (10):

- (7) R-yu'lààa'z Gye'eihlly la'anng  
 hab-like Mike 3s.prox  
 "Mike likes him/\*himself"
- (8) R-yu'lààa'z -ih la'anng  
 Hab-like-3s.prox 3s.dist.  
 "He/she<sub>i</sub> likes him/her<sub>j/nei</sub>"
- (9) B-gwi'ih-ëng lohoh Gye'eihlly  
 perf-look-3s.prox at Mike  
 "He<sub>i</sub> looked at Mike<sub>j/nei</sub>"
- (10) R-yu'lààa'z Gye'eihlly me's  
 hab-like Mike teacher  
 "Mike<sub>i</sub> likes the teacher<sub>j/nei</sub>"

<sup>3</sup> SLQZ pronouns are also marked for proximity (3<sup>rd</sup> person pronouns may be marked as either proximate or distal) or level of formality (there are five levels of address used for 2<sup>nd</sup> and 3<sup>rd</sup> person pronouns: animal, informal, respectful, formal, and reverential). SLQZ pronouns are not marked for gender.

These data show that R-expressions and pronouns cannot be freely bound in SLQZ, which suggests that Principles B and C do indeed hold in the language.

## 2.2. Crossover Effects

SLQZ shows both strong and weak crossover effects, which supports the idea that Principle C is obeyed. (11) shows an example of strong crossover effects. WH-movement is obligatory in SLQZ, and targets the immediate preverbal position. In (11), the wh-word *tu* 'who' must refer to a set of possible people other than 'he' or 'Felipe'.

- (11) Q: *Tu r-ralloh la'anng r-yu'làaa'z (t) Li'eb (t)*  
 Who hab-think 3s.prox. hab-like Felipe  
 "Who does he think Felipe likes?"  
 "Who does he think likes Felipe?"

A: *Lia Paamm-zhi'*  
 Ms. Pam-maybe  
 "Maybe Pam"

Weak crossover effects surface in wh-questions containing the reflexive-possessive marker *-ni'*. *-Ni'* requires a locally c-commanding lexical (or quantificational) antecedent. Because overt wh-movement is obligatory in SLQZ, and because no subject agreement morphology appears on verbs with lexical subjects, argument wh-questions are often ambiguous between subject and object readings, as seen in (11). In (12), however, the possessed nominal *x:nàaanni'*, 'his/her mother', can only be interpreted as the object of the sentence:

- (12) *Tu r-yu'làaa'z t x:nàaanni-ni' \*t*  
 who hab-like gen-mother-refl.poss  
 "Who like his/her own mother/\*Who does his/her own mother like?"

This is consistent with the requirement that *-ni'* have a local binder, and with the fact that wh-traces are subject to Principle C.

## 3. The Interpretation of Bound Copies

Further evidence that bound copies of R-expressions and pronouns do not represent Principle B or C violations comes from the fact that they do not behave as independently referential (or deictic) arguments. Rather, they behave semantically as bound variables. In VP-deletion contexts, locally bound copies only allow sloppy readings:

- (13) *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"  
 (Felipe looked at himself/\*Felipe looked at Mike")

- (14) R-yu'laàa'z -ëng la'anng chiru' zë'cy cahgza' Gye'eihlly  
 hab-like-3s.prox 3s.prox also likewise Mike  
 "He/she likes himself/herself, and Mike does too"  
 (Mike likes himself/\*him/\*her)

This shows that the bound copies here have no independent referential force, consistent with their anaphoric status.

### 6.3. Quantified Arguments in Reflexive Constructions

The bound variable status of bound copies is also reflected in the behavior of quantified arguments in reflexive constructions. Unlike referential or pronominal subjects, quantified subjects cannot be copied in reflexive constructions:

- (15) \*B-guhty cho'nn ra bxuuhahz cho'nn ra bxuuhahz  
 perf-kill three pl. priest three pl. priest  
 "Three priests killed themselves"

This constraint also holds in the related, but mutually unintelligible language Quiegolani Zapotec (QZ). QZ also allows apparent Principle C violations, which also seem to involve exact copies of an antecedent, but disallows bound copies of quantified expressions (Black 1994):

- (16) W-ey Benit mëlbyuuu ne y-ged Benit lo x-mig  
 Comp-take Benito fish that p-give Benito face poss-friend  
 Benit Jasint  
 Benito Jacinto  
 "Benito took a fish, which he gave to his friend Jacinto"  
 (Black 1994, p. 97)
- (17) R-a txup tson wnaa r-ka men gyus  
 Hab-go two three woman hab-buy 3p pot  
 "A few women went to buy a pot" (Black 1994, p. 103)
- (18) ??R-a txup tson wnaa r-ka txup tson wnaa gyus  
 Hab-go two three woman hab-buy two three woman pot  
 "A few women went to buy a pot" (Black 1994, p. 103)

SLQZ uses a different pattern to express reflexive relations involving QPs: the quantified subject appears as a preverbal topic, and the actual subjects of the reflexive predicate are realized as distal pronouns.<sup>4</sup> The reflexive object is realized as a bound copy of the pronoun subject:

<sup>4</sup> See Munro (1996) for the uses of proximate and distal forms in narrative.

- (19) Cho'nn ra bxuuhahz b-guhty-rih la'arih  
 Three pl priest perf-kill-3p.dist 3p. dist  
 "Three priests killed themselves"
- (20) Yra'ta' ra bxuuhahz b-guhty-rih la'arih  
 Every pl priest perf-kill-3p.dist 3p. dist  
 "Every priest killed himself"

In this reflexive construction, the distal pronouns act as variables bound by the topicalized QP. This is consistent with the semantics of these expressions: (19), for example, can be schematized informally as follows:

- (21) Three  $x$ , [(priest) $x$  and (killed)( $x$ )( $x$ )]

Bound copies of QPs cannot appear—at least not with a reflexive reading—because they would cause a semantic type clash. Recall from (5) that reflexive predicates are assumed to be functions mapping a single argument to both argument positions:

- (22)  $\lambda x (P..x...x..)$

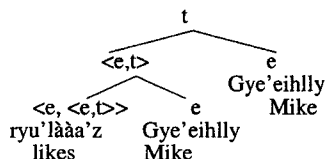
Thus,, a reflexive predicate such as "kill oneself" would have the following semantic representation:

- (23) [[kill oneself]]:  $=[\lambda x \in D. \lambda x \in D. x \text{ kill } x]$

According to this representation, then, bound copies must be of type  $e$ . Thus, a simple reflexive expression such as (1), repeated below, gets the representation in (25):

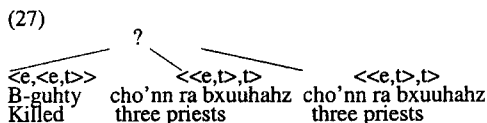
- (24) R-yu'làaa'z Gye'eihlly Gye'eihlly  
 hab-like Mike Mike  
 "Mike likes himself"

- (25) [[Mike likes himself]]:  $=[\lambda x \in D. \lambda x \in D. x \text{ likes } x] (\text{Mike}) = 1$

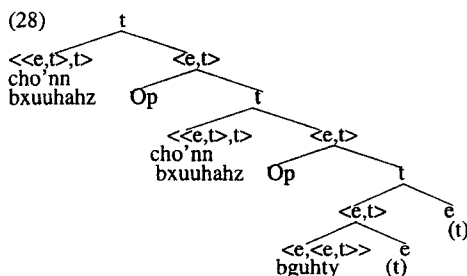


If the reflexive argument is a QP, however, a type clash occurs. Consider the ungrammatical example (15), repeated below:

- (26) \*B-guhty cho'nn ra bxuuhahz cho'nn ra bxuuhahz  
 perf-kill three pl. priest three pl. priest  
 "Three priests killed themselves"



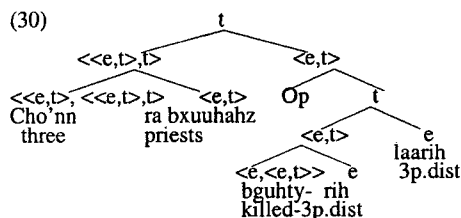
One possible means of making this structure licit is to type-shift one or both copies. Assuming both copies raise at LF, the following structure will result:



This LF structure does not denote the intended reflexive reading: it can only be interpreted to mean that three priests killed three other priests.

In the licit reflexive structure, on the other hand, the reflexive arguments are overtly realized as pronominal variables (thus, elements of type *e*), with the QP topic base-generated in an A' (operator-like) position:

- (29) Cho'nn ra bxuuhahz b-guhty-rih la'arih  
 Three pl priest perf-kill-3p.dist 3p. dist  
 "Three priests killed themselves"



Here, a single QP takes scope over both pronominal variables in the reflexive predicate, giving the desired reading.



The inability of quantified arguments to appear as bound copies is consistent with the bound variable status of anaphoric copies in SLQZ: variables are elements of type *e*, and only elements of type *e* may appear as bound copies.<sup>5</sup>

#### 4. Crosslinguistic Evidence: Bound Copies in Thai

Another language that has been claimed to be exempt from Principle C effects is Thai (Lasnik 1986). The apparent Principle C violations in Thai, however, can be accounted for in the same way as those of SLQZ: the apparent 'bound' R-expressions are bound variables spelled out as copies of their antecedents.

Like SLQZ, Thai apparently allows R-expressions to be bound both locally and non-locally:

- (31) John konnuad John  
 John shaved John  
 "John shaved himself"

- (32) Aajarn kid waa puak rua choop aajarn  
 teacher think that all we like teacher  
 "The teacher<sub>i</sub> thinks we like him<sub>i</sub>,"

In Thai, as in SLQZ, R-expressions may not be bound by pronouns:

- (33) \*Khaw choop John  
 he likes John  
 "He<sub>i</sub> likes John<sub>i</sub>," [Lasnik 1986, p.154]

Lasnik attributes this constraint to a referential binding hierarchy: less referential elements may not bind more referential ones. Thai, however, also obeys the Identical Antecedent requirement: an R-expression may not be bound by a different, equally referential R-expression:

- (34) \*John konnuad aajarn  
 John shave teacher  
 "John<sub>i</sub> shaved the teacher<sub>i</sub>,"

Like their SLQZ counterparts, Thai bound copies also get sloppy (bound variable) readings in VP-deletion contexts:

- (35) John konnuad khong John læ Peter ko muankan  
 John shave of John and Peter the same  
 "John shaved himself, and Peter did too" (Peter also shaved himself)

<sup>5</sup> Bare nouns in SLQZ may be interpreted as singular or plural, definite or indefinite, depending on context. I will assume that bare nouns are DPs with silent heads, and these DPs are treated as entities.

Moreover, Thai, like SLQZ, also disallows bound copies of quantificational arguments:

- (36) \*Thuk khon konnuad thuk khon  
 every one shave every one  
 "Everyone shaved himself"

Furthermore, like SLQZ, Thai shows crossover effects:

- (37) Mæ khong kao chɔɔb krai  
 Mother his<sub>i</sub> like who<sub>j</sub>"  
 "Who<sub>j</sub> does his<sub>i</sub> mother like?"

Thus, Thai, like SLQZ, also obeys Principle C. Putative binding violations are simply results of anaphors being spelled out as copies of their antecedents.

## 5. Non-Locally Bound Copies as Long-Distance Anaphors

Bound copies appear in a number of contexts in SLQZ where standard anaphors are typically disallowed. These contexts show that long-distance reflexive relations hold in SLQZ.

### 5.1. Bound Copies as Nominative Anaphors

Bound copies can appear as subjects of embedded finite clauses. In these contexts, they are also be interpreted as bound variables:

- (38) R-càaa'z Gye'eihlly g-ahcnèe Gye'eihlly Lia Paamm  
 Hab-want Mike irr-help Mike fem. Pam  
 "Mike wants to help Pam,  
 zë'cy cahgza' Li'eb  
 likewise Felipe  
 and so does Felipe" (Felipe also wants to help Pam/\*also wants Mike to help Pam"

Subject bound copies in embedded clauses obey the Identical Antecedent requirement:

- (39) R-càaa'z Gye'eihlly g-ahcnèe-ng Lia Paamm  
 Hab-want Mike irr-help-3s.prox fem. Pam  
 "Mike<sub>i</sub> wants him/her<sub>i,prox</sub> to help Pam"

This suggests that non-locally bound copies are subject to the same dependencies with their antecedents as locally bound ones. Their bound variable readings, and their adherence to the Identical Antecedent Requirement show the absence of independent referential force, consistent with their anaphoric status.

## 5.2. Embedded Object Copies

Bound copies can also appear as objects of embedded clauses. Unlike bound copies in subject position, however, they are not subject to the Identical Antecedent requirement: a coreferenced pronoun may appear in the embedded object position. (My consultant, however, often prefers to interpret pronoun objects in embedded clauses as disjoint from the matrix subject):

- (40) R-ralloh Gye'eihlly r-yu'lààa'z Lia Paamm Gye'eihlly  
 Hab-think Mike hab-like fem. Pam Mike  
 "Mike<sub>i</sub> thinks Pam likes him<sub>i</sub>"
- (41) R-ralloh Gye'eihlly r-yu'lààa'z Lia Paamm la'anng  
 Hab-think Mike hab-like fem. Pam 3s.prox  
 "Mike<sub>i</sub> thinks Pam likes him<sub>jmi</sub>"

Object bound copies in embedded clauses also differ from subject copies in that they do not always get bound variable readings; in some cases, a referential reading is also possible:

- (42) R-ralloh Gye'eihlly r-yu'l ààa'z-ënn Gye'eihlly  
 Hab-think Mike hab-like-1p Mike  
 "Mike<sub>i</sub> thinks we likes him<sub>i</sub>,  
 chiru' zë'cy cahgza' Li'eb  
 also likewise Felipe  
 and so does Felipe"  
 (Felipe thinks we like Mike/ Felipe thinks we like him)

This, however, is not necessarily evidence against the anaphoric status of the bound copy. Thráinsson (1993) notes that in Icelandic, the long-distance anaphor *sig* allows both strict and sloppy readings in VP-deletion contexts when its antecedent binds it across a clause, but allows only a sloppy reading when bound locally:

- (43) Jón rakaði sig og Pétur gerði Dað líka  
 John shaved self and Peter did so too (= Peter shaved John)
- (44) Jón sagði [að Dú hefðir svikið sig] og Pétur gerði Dað líka  
 John<sub>i</sub> said that you had betrayed self<sub>i</sub> and Peter did so too  
 (Peter<sub>i</sub> said that you betrayed him<sub>i</sub> / Peter said that you betrayed John)

This shows that SLQZ bound copies show the same interpretive behavior as local and long-distance anaphors crosslinguistically. I will leave for future investigation the question of why non-local anaphors allow this extra reading.

The possibility of strict interpretation of the bound copy in (44) does not necessarily force the conclusion that the copy is truly referential. Koopman and

Sportiche 1989, citing Sells 1987, note that even pronouns with obvious bound variable readings may get non-sloppy readings in VP deletion contexts:

- (45) With each new Hollywood hit, the lead actress thinks she is the new Monroe, and the director does, too. (Sells 1987)

Here, it is possible to interpret the sentence to mean that the director thinks the lead actress is the new Monroe, even though the pronoun *she* is a bound variable under the scope of *each*.<sup>6</sup> From this, Koopman and Sportiche conclude that the mere possibility of sloppy readings, not the necessity for them, is an adequate diagnostic for bound variable status.

### 5.3. Bound Copies in Adjunct Clauses

Bound copies also get bound variable readings in adjunct clauses:

- (46) Zi'cygàa' nih cay-uhny Gye'eihlly zèèiny b-ii'lly-ga' Gye'eihlly  
While that prog-do Mike work perf-sing-also Mike  
"While Mike was working, he sang."

These too are long-distance anaphors: as noted by Huang and Tang (1993), the Chinese long-distance anaphor *ziji* may appear in an adjunct clause with an antecedent in the main clause:

- (47) Ta zhidao [[suiran Lisi piping-le ziji]  
He know though Lisi criticise-ASP self  
"He<sub>i</sub> knows that although Lisi<sub>j</sub> criticized self<sub>j</sub>

dajia haishi hen xihuan ta  
all still very like him  
we still like him."

SLQZ bound copies in adjunct clauses get bound variable readings and are subject to the Identical Antecedent requirement:

- (48) Zi'cygàa' nih cay-uhny Gye'eihlly zèèiny b-ii'lly-ga' Gye'eihlly  
While that prog-do Mike work perf-sing-also Mike  
"While Mike was working, he sang

zè'cy cahgza' Li'eb  
likewise Felipe  
and so did Felipe" (Felipe also sang while he worked)

<sup>6</sup> Irene Heim (p.c.) notes that the apparent strict reading of the bound pronoun in Sells' example can be accounted for without sacrificing its bound variable status if the pronoun is treated as an E-type pronoun. It remains to be seen whether such an analysis can be extended to long-distance anaphora and non-locally bound object copies in SLQZ.

- (49) Zi'cygàa' nih cay-uhny Gye'eihlly zèèiny b-ii'lly-ga'-ng  
 While that prog-do Mike work perf-sing-also-3s.prox  
 "While Mike was working, he/she (someone else) sang."

This suggests that these copies are also long-distance anaphora: they show anaphoric semantic properties, despite their non-local relation with their antecedents.

The bound variable behavior of the copy in (48) is surprising given that no c-command relation appears to hold between the copy and its antecedent. Indeed, there are other contexts in SLQZ in which an R-expression may be coreferenced with, but not c-commanded by, a preceding R-expression. One such case appears in (50). In these cases, no bound variable reading occurs (only a strict reading is possible under VP-ellipsis, as seen in (51)) and the Identical Antecedent Requirement does not hold (as seen in (52)):

- (50) R-yu'làaa'z me's nih r-umbèe' Lia Paamm Lia Paamm  
 Hab-like teacher REL hab-know fem. Pam fem. Pam  
 "The teacher who knows Pam<sub>i</sub> likes her<sub>i</sub>."

- (51) R-yu'làaa'z me's nih r-umbèe' Lia Paamm Lia Paamm  
 Hab-like teacher REL hab-know fem. Pam fem. Pam  
 "The teacher who knows Pam likes her,"

zè'cy cahgza' me's nih r-umbèe' Li'eb  
 likewise teacher REL hab-know Felipe  
 and so does the teacher who knows Felipe"

- (52) R-yu'làaa'z me's nih r-umbèe' Lia Paamm la'ang  
 Hab-like teacher REL hab-know fem. Pam 3s.prox.  
 "The teacher who knows Pam<sub>i</sub> likes her<sub>i</sub>."

In these examples, the second argument is interpreted as independently referential. Thus, it is not a bound copy, but merely a repeated, non-bound, argument.

The contrast between the obligatory bound variable reading of the non-c-commanded copy in (46) and the referential reading of the non-c-commanded repeated argument in (50) raises two questions. First, why does (46) require a bound variable reading, while (50) disallows it? Second, what accounts for the bound variable reading in (46)? There are two possible solutions for the second question: either adjunct clauses are a context in which sideward movement is possible (Nunes 2001, Hornstein 2001), or the bound copy is interpreted as an E-type pronoun. I will set aside the evaluation of these possibilities—and the issue of why they can't be invoked in structures such as (50)—for further investigation.

## 6. The Syntax of Bound Copies in SLQZ

In the previous sections, I showed that bound copies in SLQZ can be either local or long-distance anaphors. In this section, I will outline a preliminary proposal for the syntactic derivation of bound copy constructions.

The proposal is as follows: Locally bound copies are base-generated as empty variables, while non-locally bound copies are related to their antecedents by overt movement. In contrast to Hornstein (2001), however, I will argue that this movement is A'-movement, rather than A-movement.

Evidence for the movement proposal comes from the distribution of zero anaphora: they can only appear in positions from which long-distance A'-movement is independently possible, which suggests that they are traces of overt A'-movement. This proposal will be outlined in Section 6.1. Overt bound copies, on the other hand, appear in contexts in which long-distance A'-movement is not allowed. I will thus argue that bound copies are resumptive residues of illicit movement.

### 6.1. Zero anaphora as a diagnostic for overt movement

SLQZ allows zero anaphora in a few contexts. The following sections will show that they are traces left by overt movement of a silent bound variable. Their distribution also sheds light on how overt bound copies are generated.

#### 6.1.1. Zero anaphora in clauses with subjunctive mood

One of the contexts in which SLQZ allows optional zero anaphora is as subjects of embedded clauses marked with subjunctive mood:

- (53) R-càaa'z Lia Paamm g-ahcnèe (Lia Paamm) Gye'eihlly  
 Hab-want fem. Pam irr-help (fem. Pam) Mike  
 "Pam wants to help Mike"
- (54) B-yennlàaa'z bxuuhahz ny-ahcnèe (bxuuhahz) Gye'eihlly  
 Perf-forget priest subj-help priest Mike  
 "The priest forgot to help Mike"

The embedded clause subject receives a bound variable reading whether or not it is overtly realized:

- (55) R-càaa'z bxuuhahz g-ahcnèe (bxuuhahz) chiru'  
 Hab-want priest irr-help (priest) also  
 "The priest wants to help,  
 zi'cy cahgza' Lia Paamm  
 likewise fem. Pam  
 and so does Pam" (Pam also wants to help/\*Pam also wants the priest to help)

Zero anaphora are only allowed in complements of verbs that select Irrealis or Subjunctive verbal aspect markers in their complements. Verbs that require their complements to have Irrealis or Subjunctive aspect marking on their verbs (among them 'want', 'forget', 'persuade') correspond roughly to verbs requiring subjunctive complements in Romance languages. I will thus refer to complements of these verbs in SLQZ as subjunctive complements.

The Irrealis and Subjunctive aspect markers in SLQZ also appear in contexts other than subjunctive complements. In matrix clauses (and in complements of verbs that don't select subjunctive complements) Irrealis-marked verbs typically express simple future readings:

- (56) Y-to'oh Gye'eihlly ca'rr  
 Irr-sell Mike car  
 "Mike will sell the car"
- (57) Zi'cy nnah Gye'eihlly yzh:ii y-nniinèe Gye'eihlly Li'eb  
 Thus neut-say Mike tomorrow irr-talk.with Mike Felipe  
 "Mike says he will talk to Felipe tomorrow"

Zero anaphora may appear in neither embedded clauses lacking Subjunctive or Irrealis marking, nor in embedded Subjunctive or Irrealis clauses not subcategorized by the matrix verb:

- (58) Nàannag bxuuhahz g-uhcnèe bxuuhahz Lia Paamm  
 Neut-know priest perf-help priest fem. Pam  
 "The priest knew he helped Pam"
- (59) Nàannag bxuuhahz g-uhcnèe Ø Lia Paamm  
 Neut-know priest perf-help Ø fem. Pam  
 \* "The priest knew he helped Pam"  
 "The priest knew Pam helped"
- (60) \* Zi'cy nnah Gye'eihlly yzh:ii y-nnii'nèe Ø Li'eb  
 Thus neut.say Mike tomorrow irr-talk.with Ø Felipe  
 "Mike says he will talk to Felipe tomorrow"

Thus, modality plays a role in the licensing of zero anaphora: as (60) shows, the mere presence of Irrealis aspect marking is not enough to license null anaphora; subjunctive mood is necessary as well.

### 6.1.2. Evidence for overt movement: Focus movement and subjunctive and indicative clauses

This section will show that zero anaphora can only be accounted for as traces of overt A' movement. Evidence for this comes from that fact that subjunctive and indicative clauses differ in the type of A' extraction they allow.

In SLQZ, contrastive focus is realized by overt movement of the focused constituent to the immediate preverbal position:

- (61) B-to'oh Li'eb ca'rr  
 Perf-sell Felipe car  
 "Felipe sold the car"

- (62) Li'eb b-to'oh t ca'rrr  
 Felipe perf-sell car  
 "FELIPE sold the car (not someone else)"

Focus-fronting may also occur in embedded clauses with indicative mood:

- (63) A      nàann      Gye'eihlly [ b-eeiny behts Gye'eihlly gaan]  
 Already neut-know Mike      perf-do brother Mike win  
 "Mike knows his brother won"
- (64) A      nàann Gye'eihlly [behts Gye'eihlly b-eeiny t gaan]  
 Already neut-know Mike brother Mike      perf-do win  
 "Mike knows HIS BROTHER won"

Focus-fronting, unlike wh-movement, is not cyclic: a focused argument of an indicative embedded clause may not raise to the front of the matrix clause:

- (65) \*Behts Gye'eihlly a nàann Gye'eihlly      [t b-èèiny t gaan]  
 brother Mike      already neut-know Mike perf-do win  
 "Mike knows HIS BROTHER won"

Subjunctive embedded clauses—that is, those that allow zero anaphora—show a different focus-fronting pattern: they allow long-distance focus-fronting, but not clause-internal focus fronting:

- (66) Ca-bèez Gye'eihlly [g-ùuny behts Gye'eihlly gaan]  
 Prog-expect Mike      irr-do brother Mike win  
 "Mike expects his brother to win"
- (67) Behts Gye'eihlly ca-bèez Gye'eihlly [g-ùuny t gaan]  
 Brother Mike      prog-expect Mike irr-do win  
 "Mike expects HIS BROTHER to win"
- (68) \*Ca- bèez Gye'eihlly [behts Gye'eihlly g-ùuny t gaan]  
 prog.-expect Mike brother Mike      irr-do win  
 "Mike expects HIS BROTHER to win"

This is consistent with the suggestion made by Koopman and Sportiche 1989 (citing Kempchinsky 1986) that subjunctive clauses lack complementizer positions, and by extension, the CP projection.

Thus, subjunctive clauses are transparent for some types of long-distance A' movement. The fact that zero anaphora can only appear in contexts from which long-distance A' movement is possible—and are disallowed from contexts in which such movement is not possible—suggests that they are traces of overt A' movement. The idea that coreference relations between arguments can be mediated by A' movement has been



independently proposed for Chinese (Huang and Liu 2001) and for English pronouns by Enç 1989.

I will assume (following Enç 1989) that operators can be associated with any maximal projection. Hence, subject-oriented null anaphoric elements in SLQZ raise to an operator position bound by AgrSP.

### 6.1.3. Evidence for the Zero Anaphors as Traces

The possibility that zero anaphora are traces is supported by the fact that they can't be any other type of empty category. Zero anaphors cannot be PRO; SLQZ lacks infinitival clauses, and verbs with Irrealis and Subjunctive aspect markers encode tense as well as mood (Lee 1999). They cannot be *pro* either. If they were, overt pronouns should be able to appear freely as the subjects of subjunctive clauses and receive bound variable readings. However, this proves not to be the case:

- (69) R-cààa'z Lia Paamm g-ahcnèe (Lia Paamm) Gye'eihlly  
 Hab-want fem. Pam irr-help (fem. Pam) Mike  
 "Pam wants to help Mike"
- (70) R-cààa'z Lia Paamm g-ahcnèe -ng Gye'eihlly  
 Hab-want fem. Pam irr-help-3s.prox. Mike  
 "Pam<sub>i</sub> wants him/her<sub>j</sub><sub>i</sub> to help Mike/\*Pam wants to help Mike"
- (71) R-cààa'z-ëng g-ahcnèe -ng Gye'eihlly  
 Hab-want-3s.prox irr-help-3s.prox Mike  
 "He/she wants to help Mike"

Thus, the only empty category that both appears in a subject position of a finite clause and is obligatorily coreferenced with a c-commanding argument is an A' trace.

To sum up, zero anaphors are traces of silent variables that undergo A'-movement. This movement has to target an operator position in the matrix clause, since CP is unavailable in embedded subjunctive clauses.

## 6.2. Movement of Overt Bound Copies

A question raised by the previous section is how the behavior of zero anaphora relates to the syntax of overt bound copies. In this section, I will argue that overt non-locally bound copies are also residues of overt movement.

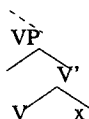
The contexts in which overt non-locally-bound copies obligatorily appear are precisely those in which zero anaphora are not possible. Since zero anaphora only appear in structures from which long-distance A'-movement is possible, overt bound copies appear in positions from which such movement is not allowed. Thus, non-locally bound copies are resumptive elements left by subjacency-inducing A'-movement: they allow these structures to be licit by filling otherwise improperly governed positions.

Locally bound copies, on the other hand, are base-generated. Motivation for this proposal will be presented in Section 6.2.2.

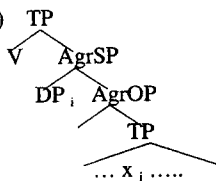
### 6.2.1. Why Can't Bound Copies Represent LF Movement?

To motivate the proposal that bound copies with non-local antecedents are generated by overt movement, it is necessary to show why LF movement is not possible. If bound copies are variables with no inherent referential force, they would have to be base-generated with no inherent morphological/phonological form in SLQZ. (In the previous section, I assumed that zero anaphora are generated this way.) Under this assumption, the null variables would be merged with V (as seen in (72)) and their antecedents would be merged later on, higher in the tree (as seen in (73)):

(72)



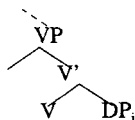
(73)

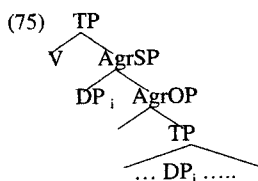


The empty variables, however, need to get their phonological form by PF, since they are spelled out as bound copies by PF. Since the phonological form of anaphors in SLQZ is also their interpretive form, this means the anaphoric variable would be able to spell out its logical representation before LF. Under Minimalist assumptions that feature checking occurs via movement, such movement would have to take place by PF. Otherwise, SLQZ anaphors have to realize their interpretive features at PF, before checking them at LF.

Another alternative is that, bound copies are merged into the derivation with all their morphological features intact; if an appropriate antecedent is available at LF, the derivation converges; if not, it crashes:

(74)





While consistent with Chomsky's (1992, 1995) Minimalist view of feature-checking, this would force the unorthodox assumption that bound copies—and hence, bound variables—appear at the beginning of the derivation bearing fully specified lexical features.

While it has been proposed that there are contexts in which referential expressions may serve as bound variables (Fox 2000), positing derivations such as that shown in (74-75) suggests that bound copy constructions are generated in a sharply different way from zero anaphor constructions: zero anaphora enter the derivation as null variables, while bound copies are generated as overt DPs. In the interest of economy—and in the absence of definitive empirical evidence to the contrary—I will assume that both types of anaphora are generated the same way: as null pronouns.

### 6.2.1. Non-Local Bound Copies and 'Non-Optimal' Overt Movement

This section will outline the proposal that non-local bound copies are 'resumptive' copies left after overt movement. These copies serve the same function as resumptive pronouns: they fill positions vacated by less-than-optimal movement. Typically, this movement involves subadjacency violations. Consider a typical context in which they occur:

- (76) R-ralloh Gye'eihlly r-yu'làaa'z Lia Paamm Gye'eihlly  
 Hab-think Mike hab-like fem. Pam Mike  
 "Mike<sub>i</sub> thinks Pam likes him<sub>i</sub>"

As previously shown for zero anaphora, the dependency between non-local anaphora and their antecedents in SLQZ is mediated by movement. Zero anaphora are permitted only in contexts in which long-distance (non-cyclic) A' movement is possible, but are blocked in contexts in which such movement is not possible. In (76), for instance, the copy of *Gye'eihlly* 'Mike' in the embedded clause cannot be focus-fronted out of the embedded indicative clause.<sup>7</sup>

<sup>7</sup> Wh-movement is possible, however, out of embedded indicative clauses:

Tu r-ralloh Gye'eihlly t r-yu'làaa'z (t) Lia Paamm (t)  
 Who hab-think Mike hab-like fem. Pam  
 "Who does Mike think Pam likes? / Who does Mike think likes Pam?"

The fact that long-distance focus movement is not possible shows that the two kinds of movement are not identical; for whatever reason, focus movement cannot be cyclic in SLQZ.

While movement is not licit, the syntactic and semantic dependency between the bound copy and its antecedent still needs to be licensed. Thus, conflicting requirements ensue: On one hand, movement is essential for the structure to converge. On the other, movement is blocked. Insertion of a resumptive copy resolves this conflict.

Thus, the derivation of the bound copy in (76) is as follows: the bound copy enters the derivation as a phonologically null variable. It must raise directly to its licensing position in the matrix clause (that is, it must raise directly into an operator position bound by its antecedent). In doing so, however, the null argument that will appear as the bound copy ( $x$  in the derivation below) violates Subjacency by crossing a potential A' landing position (CP):

- (77)  $[_{TP} \text{ R-ralloh Gye'eihlly } [_{OpP} \text{ } x \text{ } [_{CP} [_{TP} \text{ r-yu'lààa'z Lia Paamm } t_x ]]]$
- 

Hence, a resumptive element must appear in the object position as a repair strategy to correct the subjacency violation. The trace of the fronted variable is realized as a copy of its antecedent.

Overt bound copies, then, serve the same function as resumptive pronouns: they surface to fill positions that aren't properly governed by movement:

- (78) ?This is the guy<sub>i</sub> that you couldn't remember which girl went out with him<sub>i</sub>.

Further evidence that bound copies represent resumptive pronouns comes from their bound variable status in adjunct clauses:

- (79) B-dii'b Gye'eihlly tra'ast chih w-luahazh b-èèi'ny Gye'eihlly  
 Perf-wash Mike dishes when perf-finish perf-do Mike  
 "Mike washed the dishes after eating

x:chi'ih zi'cy caahgza' Li'eb  
 dinner likewise Felipe  
 dinner and so did Felipe" (Felipe washed the dishes after he (Felipe) ate dinner)

Here, the copy is in a position from which A' movement into the matrix clause is usually disallowed. Wh-movement cannot occur between the two clauses in this construction, for instance:

- (80) \*Tu b-dii'b Gye'eihlly tra'ast chih  
 who perf-wash Mike dishes when  
 "Who did Mike wash the dishes

w-luahazh g-uhcnèe' Gye'eihlly t ?  
 perf-finish perf-help Mike?  
 after helping?"

The bound copy in the adjunct clause is syntactically and semantically dependent on its antecedent (it must be c-commanded by the antecedent and interpreted as a bound

variable), yet it is in a position from which A' movement is blocked. Thus, bound copies surface obligatorily in positions from which long-distance A' movement is disallowed: in indicative clausal complements, and in adjunct clauses.

### 6.2.2. Local Copies Are Base Generated

Now I return briefly to the derivation of locally bound copies. The preceding sections showed that non-locally bound copies are resumptive copies left by illicit long-distance movement. Local bound copies, however, appear in contexts in which their identity relation with their antecedents can be mediated by local (clause-internal) A' movement. Since such movement is generally licit, one would expect zero anaphors (traces of null pronoun movement) to be able to appear in these contexts as well. However, zero anaphora do not occur as reflexive objects.

This suggests that local bound copies need to be accounted for in a different way than non-locally bound ones. This is consistent with assumptions by Reinhart and Reuland (1993), among others, that local and long-distance reflexives are fundamentally different.

Reinhart and Reuland propose that local reflexivity is a feature of predicates, rather than arguments, and reflexive predicates are functions mapping a single argument to both argument positions. Reflexivity is only allowed in reflexive-marked predicates. Predicates can be reflexive-marked in one of two ways: by either the lexical specifications of a predicate (81), or by a SELF anaphor (82):

(81) John shaved. (lexically reflexive predicate)

(82) John cut himself (reflexivity marked by the SELF anaphor *himself*)

Non-local reflexive relations, on the other hand, do not involve reflexive marking of the predicate.

How can this be applied to SLQZ? SLQZ lacks SELF anaphors, so it spells out local anaphors as copies of their antecedents to reflexive-mark the predicate. Thus, the reflexive relation denoted by the sentence is transparent at PF.

## 7. Conclusion

To sum up, this paper has shown that, contrary to superficial appearances, Principles A, B, and C hold in SLQZ. Apparent 'bound' R-expressions and locally bound pronouns are variables spelled out as copies of their antecedents. Locally bound copies are base-generated, and non-local reflexive relations are mediated by overt A'-movement.

## References

- Black, C. 1994. *Quiévolani Zapotec Syntax*. Doctoral dissertation, UC-Santa Cruz.  
 Enç M. 1989. Pronouns, Licensing, and Binding. *Natural Language and Linguistic Theory* 7: 55-92.

- Huang, C.T. J. 1982. *Logical Relations in Chinese and the Theory of Grammar*. Doctoral dissertation, MIT.
- Huang, C.T. J, and C.-S. L. Liu. 2001. Logophoricity, Attitudes, and Ziji at the Interface. In *Long-Distance Reflexives*, ed. P. Cole, G. Hermon, and C.-T. J. Huang. Syntax and Semantics 33. San Diego: Academic Press.
- Huang, C.T. J, and C.-C. Jane Tang. 1993. The Local Nature of Long-Distance Anaphora in Chinese. In *Long Distance Anaphora*, ed. J. Koster and E. Reuland pp. 263-282. Cambridge: Cambridge University Press.
- Hornstein, N. 2001. *Move! A Minimalist Theory of Construal*. Oxford: Blackwell.
- Koopman, H., and D. Sportiche. 1989. Pronouns, Logical Variables, and Logophoricity in Abe. *Linguistic Inquiry* 20.4, pp. 555-888.
- Lasnik H. 1991. On the Necessity of Binding Conditions. In *Principles and Parameters in Comparative Grammar*, ed. R. Frieden, 7-28. Cambridge: MIT Press.
- Lee, F. 1998. Evidence for Tense in a 'Tenseless' Language. *Proceedings of NELS* 29.
- Lee, F. 1999. *Antisymmetry and the Syntax of San Lucas Quiaviní Zapotec*. Doctoral dissertation, UCLA.
- Munro, P. 1994. Coreference Phenomena in San Lucas Quiaviní Zapotec. Ms., UCLA.
- Munro, P. 1996. Pronominal Reference in San Lucas Quiaviní Zapotec. Ms., UCLA.
- Munro, P. and F.H. Lopez (with R. Garcia and O. V.Méndez). 1999. *Dicynaary X'te:e'n Di:i'zh Sah Sann Luu'c: San Lucas Quiaviní Zapotec Dictionary. Diccionario Zapoteco de San Lucas Quiaviní*. Los Angeles: UCLA Chicano Studies Research Center Publications.
- Nunes, J. 2001. Sideward Movement. *Linguistic Inquiry* 32:2, pp 303-344.
- Reinhart, T. and E. Reuland. 1993. Anaphors and Logophors: An Argument Structure Perspective. In *Long Distance Anaphora*, ed. J. Koster and E. Reuland, 283-321. Cambridge: Cambridge University Press.
- Sells, P. 1987. Aspects of Logophoricity. *Linguistic Inquiry* 18.3, pp. 445-479.
- Thráinsson, H. 1993. Long-Distance Reflexives and the Typology of NPs. In *Long Distance Anaphora*, ed. J. Koster and E. Reuland, 49-75. Cambridge: Cambridge University Press

Department of Linguistics  
University of British Columbia  
E270-1866 Main Mall  
Vancouver, B.C. V6T 1Z1  
Canada

leefa@interchange.ubc.ca