

RESUMPTIVE AND BOUND VARIABLE PRONOUNS IN TONGAN

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This paper describes the distribution of bound variable pronouns in Tongan and two classes of resumptive pronouns that appear in the language (apparent and true resumptives). Bound variable pronouns and apparent resumptive pronouns are given a movement analysis, which is able to explain their common behavior with respect to weak crossover and reconstruction effects. It also allows a derivational explanation for why they do not interact with true resumptive pronouns.

1. INTRODUCTION

Pronouns are often viewed as shorthand expressions for their antecedents. This intuition stood behind the pronominalization transformations of the 1960s (cf. Stockwell et al. (1973)) in which a grammatical rule replaced the second occurrence of a DP with an appropriate pronoun. Subsequent work challenged this simple view of pronouns in two ways. Firstly, classes of structures were identified in which pronouns were not stylistic circumlocutions for a previously mentioned antecedent, and secondly, the hypothesized pronominalization transformation did not fit with well motivated constraints on movement transformations. Bound variable pronouns (pronouns that have quantified DPs as their antecedents) were taken to illustrate the first point (cf. Partee (1987)). The second point was illustrated by resumptive pronouns (pronouns that recapitulate an initial DP either in relative clauses or topicalized constructions), which are insensitive to island constraints that restricted *wh*-movement (e.g. Chomsky (1976)). In place of the transformational account, pronouns were taken to be lexical items inserted into syntactic structures like other lexical items. Restrictions on their distribution were hypothesized to be the product of generalizations about rules of interpretation for such expressions. More recent work on Irish (cf. McCloskey (1990)) and Lebanese Arabic (cf. Aoun et al. (2001)) question this general view by showing that a class of resumptive pronouns obey the standard island constraints typical of movement. These findings place on the research agenda the possibility that a synthesis of previous approaches to pronouns might be necessary empirically. While pronouns generally might be lexical items and not inserted by special transformations, some structures containing pronouns might indeed be partially derived. My goal in this paper is to describe bound variable pronouns in Tongan and how they interact with structures of resumption. I will argue that a movement account of such pronouns is integral to the correct understanding of these phenomena.

2. A MOVEMENT ACCOUNT OF BOUND VARIABLE PRONOUNS

2.1. Restrictions on Bound Variable Pronouns

Sentence 1 presents an example of a bound variable pronoun (*her*) from English. Notice that 1 means something like 2 and not 3. It is common cross-linguistically to find such pronouns marked in a special way. In formal English, bound variable pronouns are third person singular regardless of the semantic number of the antecedent.

- (1) Each woman loves her mother.
- (2) For each x : x a woman, x loves x 's mother
- (3) Each woman loves each woman's mother.

The sentence in 4 illustrates bound variable pronouns in Tongan. We observe that third person singular pronouns serve as bound variable pronouns in Tongan, just as they do in English. Sentence 5, a naturally occurring example, shows further that the bound variable pronoun remains third person singular even as we manipulate independent morphosyntactic properties of the possessive pronoun responsible for whether it surfaces as *hono* or *'ene*. It is worth noting that there is a contrast between 6 and 7. In 6 the possessive pronoun *hono* lacks a bound variable interpretation and denotes some individual, either Topou, Lili or someone else contextually salient. The presence of *taki taha* is sufficient to license a bound variable interpretation in 7.

- (4) *'Oku inu e he toko taha kotoa 'ene sota.*
 PRES drink ERG the people one all 3-SNG soda.
 'Everyone will drink his soda.'
- (5) *Ko e tangata mo e fefine kotoa pe na'e vahe hono fatongia ke*
 PRT the man with the woman all PRT PAST allot 3-SNG duty C
ne tauhi ki ai...
 3-SNG uphold to it.
 'Every adult male and female was given his/her duty to perform.'
- (6) *'E foki 'a Lili mo Topou ki hono kolo.*
 FUT go ABS Lili with Topou to 3-SNG village.
 'Lili and Topou will go to her/his village.'

- (7) 'E taki taha foki 'a Lili mo Topou ki hono kolo.
 FUT each one go ABS Lili with Topou to 3-SNG village.
 'Lili and Topou will go to their respective villages.'

Not only are bound variable pronouns third person singular regardless of the number of the antecedent, but they remain so independently of the person of the antecedent. Thus, in 8 the first person singular pronoun binds the third singular pronoun *hono*. Sentence 9 shows that this is so independently of the morphosyntactic form of the possessive (i.e. *hono* vs. *'ene*).¹ On this score Tongan appears somewhat different from English as a comparison with the glosses will suggest.

- (8) Na'a mau taki taha 'alu ki hono kolo.
 PAST we each one go to 3-SNG village.
 'We each went to our (respective) villages.'
- (9) Na'a mau taki taha inu 'ene sota.
 PAST we each one drink 3-SNG soda.
 'We each drank our (respective) soda.'

It has been widely recognized since Evans (1980) that bound variable pronouns are subject to a structural restriction. Specifically, bound variable pronouns must be c-commanded by their antecedent. It is this requirement that is responsible for why a bound variable interpretation is possible in 10 but is absent in 11. The potentially binder of the pronoun in 11 is hidden within the antecedent of the conditional where it cannot c-command the pronoun. As a result *he* refers to some other contextually salient individual.

- (10) Every senator said that he would vote for the bill.
- (11) [If every senator voted for the bill] he was re-elected.

Tongan bound variable pronouns in a subordinate clause can be bound by a quantified expression in the matrix clause, as shown by 12, much as in the English 10. Tongan bound variables are similarly sensitive to the c-command relation. Just as in English, when the quantified antecedent is hidden within the antecedent of a conditional, the resulting structure cannot be given a bound variable interpretation. Sentence 13 has such a bound variable interpretation because the quantified antecedent *mau taki taha* is within the same clause as the possessive pronoun *hono*. In the unacceptable 14 that quantified antecedent is hidden within the antecedent of the conditional, a position from which it fails to c-command the possessive pronoun.

¹For an overview of the factors controlling the morphosyntactic shape of the possessives, see Churchward (1953) and Bennardo (2000).

- (12) [*'Oku mau lolotonga lea taki taha kiate koe, [ke mau 'alu ki hono kolo]*].
 PRES we in-the-midst-of talk each one to you to we go to 3-SNG
kolo]].
 village.
 'We are each asking you to go to our (respective) villages.'
- (13) [*Kapau 'e 'ikai ke mau fe'ofa'ofani*], *te mau taki taha 'alu ki hono kolo*.
 If FUT NEG C we get-along FUT we each one go to 3-SNG
kolo.
 village.
 'If we don't get along we will each go to our village.'
- (14) **[Kapau 'e 'ikai ke mau taki taha fe'ofa'ofani]*, *te mau 'alu ki hono kolo*.
 If FUT NEG C we each one get-along, FUT we go to 3-SNG
kolo.
 village.
 'If we each don't get along we will go to our village.'

Tongan contains two sets of possessive pronouns. One is positioned between D and N, and the other is post-nominal. These possessive pronominals broadly parallel subject pronouns in the language. Subject pronouns are positioned between TENSE and V, and there exists a corresponding second post-verbal set which sometimes co-occur with their preverbal counterparts. Bound variable pronouns resist appearing as a post-nominal possessive pronoun; 15, though acceptable, lacks the bound variable interpretation available to the parallel 4.

- (15) **'Oku inu e he toko taha kotoa he sota 'ana*.
 PRES drink ERG the people one all the soda 3-SNG .
 'Everyone will drink his soda.'

There are some utterance in which post-nominal possessives function as bound variable pronouns. However, these appear to involve idiomatic expressions where the possessive is obligatorily controlled by the subject; it cannot be a proper noun or deictic possessive.

(16)

- (17) *'Oku taki taha tangi 'a Sione mo Kepu ke tu'u 'ana*.
 PRES each one cry ABS Sione with Kepu C stand 3-SNG.
 'Sione and Kepu each wants to get his own way.'

2.2. Restrictions on the Quantified Antecedent

Expressions of quantity in Tongan are typically given non-nominal expressions. They surface as predicates and as adverbs. Furthermore the distributive *taki* can precede numerals other than *taha*.

- (18) *Kuo [taki tolu] 'a e kau fefiné 'a e kato.*
 PERF each three ABS the CLASS women ABS the basket.
 'The women each have three baskets (Churchward (1953)).'
- (19) *Na'e [taki fute 'e hongofulu] honau mā'olungá.*
 PAST each measure the ten 3-PL-INDEF tall.
 'They were each ten feet tall (Churchward (1953)).'

The distributed *taki taha* can not license a bound variable pronoun when it serves as the main predicate of a sentence. This fact is demonstrated by the unacceptability of 20 and 21.

- (20) **Kuo [taki tolu] 'a e kau fefiné 'a hono kato].*
 PERF each three ABS the CL women ABS the-3-SNG basket.
 'The women each have three baskets.'
- (21) **Na'e [taki fute 'e hongofulu] hono mā'olungá.*
 PAST each measure PRT ten 3-SNG-INDEF tall.
 'They were each ten feet tall.'

However when *taki taha* appears in preverbal adverbial position it does license a bound pronoun as in 22. In this respect it differs from English *each*, which allows distributed first person plural pronouns to bind bound pronouns, unless the distributor is in a floated adverbial position, as a comparison of 23 and 26 shows.²

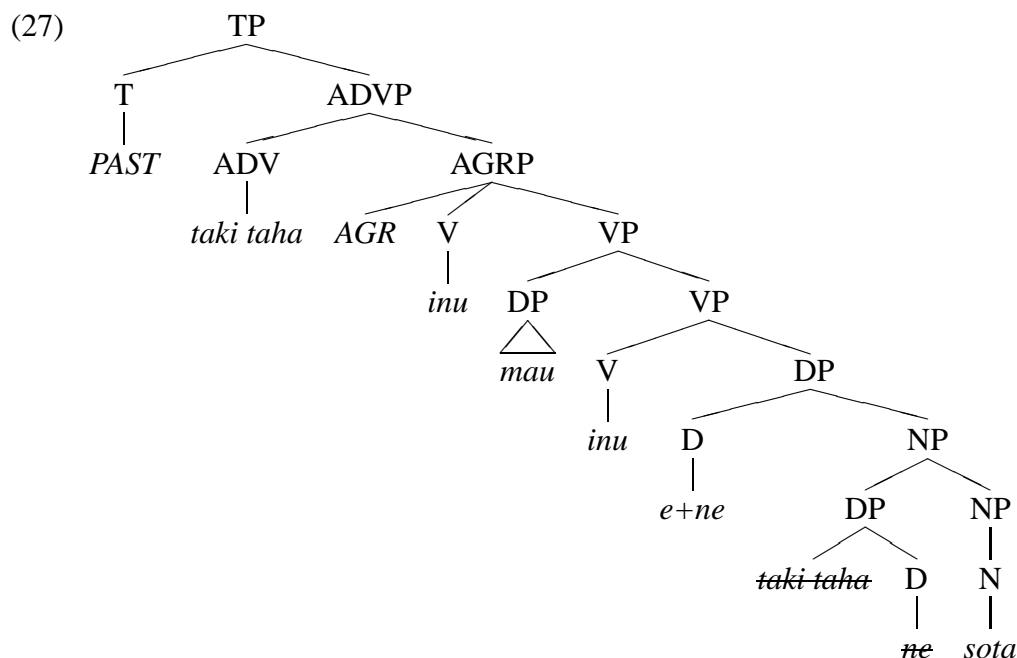
- (22) *'E taki taha foki 'a Lili mo Topou ki hono kolo.*
 FUT each one go ABS Lili with Topou to 3-SNG village.
 'Lili and Topou will go to their respective villages.'
- (23) Each of us has our duty to perform.

²A naturally occurring example corresponding to 24 is 'As members of the Congressional Black Caucus, each of us has his or her own opinions as to the war in Iraq.' Press Release Congressman Elijah Cummings, Chair, Congressional Black Caucus October 3, 2003

- (24) Each of us has his duty to perform.
 (25) We each have our duty to perform.
 (26) *We each have his duty to perform.

2.3. A Possible Movement Analysis

In this subsection I outline how a movement account could gather the descriptive generalizations contained in the preceding two subsections into an elegant package. Suppose that the Tongan distributed adverbial *taki taha* carries nominal agreement features and that it occurs as the specifier of the prenominal possessive marker. I adopt the common assumption that agreement relations are characteristic of \langle specifier,head \rangle relations. This assumption is sufficient to force feature agreement between the prenominal possessive and *taki taha*. More specifically, I assume that the distributed universal *taki taha* has third person singular nominal features in Tongan contributed by the formative *taha* 'one'. This captures the fact that the bound variable pronoun is uniformly third person singular. The specifier *taki tah* floats or raises to adjoin to VP while the possessive pronoun undergoes head raising to fuse with the definite determiner. I assume that these movements are triggered by the need to check a nominal morphological feature on $[_D \text{ he}]$ and a verbal feature of $[_D \text{ taki taha}]$. The structure in 27 provides a tree for sentence 9 where the original position of *taki taha* and *ne* are represented by a copy that is struck through.



The specifier position occupied by ~~taki-taha~~ is also the position for the strong, postnominal pronouns, explaining why they do not co-occur. If we stipulate that, unlike the head noun [sota], the postnominal pronoun lacks the morphological features need by [_D he] the head noun will raise to D giving the proper relative order. Because *taki taha* undergoes movement from its original position as specifier of the possessive pronoun the traditional assumption that movement is to a c-commanding position will explain why bound variable pronouns show this property. We also have a ready-made explanation for why adverbial expressions of quantity can bind a bound variable pronoun, but predicates cannot, since specifiers do not undergo head to head raising.

Why does the floated distributed adverb trigger the bound variable pronoun in Tongan but not English? The Tongan distributed adverbial is specified to carry nominal agreement features; the floated English distributed adverbial lacks those features. The English distributed each binds a bound variable pronoun just when it has nominal agreement features that control verb agreement, that is, in structures like 24 where it has not floated.

3. RESUMPTIVES AND BOUND VARIABLE PRONOUNS

Standardly the relation between a resumptive pronoun and its binder has been held to exhibit the following empirical properties.³

- The relation between the resumptive pronoun and its binder is insensitive to locality constraints on movement.
- The relation exhibits strong crossover effects.
- The relation fails to exhibit weak crossover effects.
- The relation obeys an anti-locality constraint (similar to Principle B) that disfavors resumptives in the closest subject position.

To this inventory, Aoun et al. (2001) add another dimension by distinguishing TRUE RESUMPTIVES from APPARENT RESUMPTIVES. Apparent resumptives have an overt pronoun, but otherwise exhibit properties of movement including sensitivity to locality constraints, weak crossover effects, and reconstruction effects (where the binder behaves as though it were actually in the position of the apparent resumptive). For this reason, they argue that apparent resumptives are the product of movement with a pronoun spelling out features of the copy after movement. What is more, apparent resumptives generally block out true resumptives where the former occur, much as movement typically does cross-linguistically.⁴ Aoun et al. (2001) attempt to make this generalization follow from principles of economy. In their analysis true resumptives involve more than

³McCloskey (2001) offers a useful summary of the literature behind these generalizations.

⁴This is not a necessary hallmark of such structures since it fails to hold in some languages, e.g. Irish (McCloskey (2001)).

simple movement; they devise a mechanism, DEMERGER, which replaces a merged DP with a corresponding pronoun and makes the DP available for merger once again. This derivational pattern of demerger and remerger makes true resumptives less economical than true resumptives, which are derived by merger alone. Lebanese Arabic, Swedish (cf. Zaenen et al. (1981), Engdahl (1985)) and Vata (cf. Koopman (1982)) have resumptives that are apparent resumptives in these terms.

3.1. Resumptives and weak crossover in Tongan

Topicalized phrases in Tongan introduced by the presentative particle *ko* generally do not show weak crossover effects.⁵ Thus the topicalized structure of 1 is acceptable on the weak crossover reading indicated. Topicalized structures can also be used to form wh-questions as in 2 and here too weak crossover interpretations are acceptable. However weak crossover effects are observed with wh-phrases *in-situ*. This fact is exemplified in 3. These facts can be explained on standard assumptions by analyzing topicalized structures as structures of resumption and attributing wh-phrases *in-situ* to an LF movement analysis.

- (1) *Ko Kepu_i na'á ke kole ki he'ene_i tamai ke tokoni'i [e]_i?*
 PRT Kepu PAST you ask to 3-SNG father C help.
 'Kepu, you asked his father to help him.'
- (2) *Ko hai_i na'á ke kole ki he'ene_i tamai ke tokoni'i [e]_i?*
 PRT who PAST you ask to 3-SNG father C help.
 'Who did you ask his father to help?'
- (3) *Na'a' ke kole ki he'ene_i tamai ke tokoni'i 'a hai_j/*i?*
 PAST you ask to 3-SNG father C help ABS who.
 'Who did you ask his father to help?'

3.2. Anti-locality effects are absent in Tongan resumptives

The notion that topicalized phrases are resumptive structures may be thought to be endangered by the fact that such structures do not show an anti-locality effect with their closest subject. That is, 4 and 5 are acceptable where the optional preverbal subject pronoun *ne* is coreferential to the topicalized phrase introduced by *ko*. However, Principle B effects are not generally present in the language, as shown in 6.

⁵Chung (1978) provides a description of other properties of topicalization in Tongan.

- (4) *Ko hai_i 'oku (ne_i) fie 'a'ahi kia Lili?*
 PRT who PRES 3-SNG want visit to Lili
 'Who wants to visit Lili?'
- (5) *Ko ia 'okú ne fai e tokoto.*
 PRT 3-SNG PRES 3-SNG do the lie-down.
 'He is lying down.'
- (6) *Na'á na_i falala ki kinaua_{i/j}.*
 PAST 3-DUAL trust to 3-DUAL
 'They trust themselves/them.'

3.3. Reconstruction effects and apparent resumptives

Reconstruction effects are found in topicalized structures with gaps in direct object position as in 7, but they are absent in topicalized structures with overt resumptive pronouns in prepositional phrases as in 8. This asymmetry can be accounted for by regarding 8 as a true resumptive that does not allow reconstruction. This explanation is natural by Aoun et al. (2001)'s hypothesis. Since prepositions cannot be stranded in Tongan, PPs can be regarded as islands for movement. As a result Aoun et al. (2001) will predict true resumptives within PPs.

- (7) *Ko 'ene_i sota 'oku inu e he toko taha kotoa_i.*
 PRT 3-SNG soda PRES drink ERG the people one all.
 'His soda, everyone will drink.'
- (8) *Ko hono_i kolo na'a mau taki taha_i 'alu ki ai.*
 PRT 3-SNG village PAST we each one go to it.
 'Our village, we each went to it.'

However, attributing the difference between 7 and 8 to the distinction between true and apparent resumptive pronouns by classing 7 as an apparent resumptive is at odds with our discussion in section 3.1 of topicalized structures in Tongan. There we noted that topicalized phrases such as 1 did not show the weak crossover effects characteristic of movement structures. Yet, both 7 and 1 are topicalized structures with a gap in direct object position. To resolve these seemingly contradictory findings, let us hold constant the implication that we have drawn from the correlation of reconstruction effects and apparent resumptives in 7 and 8. This requires us to explore weak crossover effects in more detail with an eye for why apparent resumptive structures such as 8 do not exhibit weak crossover effects characteristic of movement in parallel structures like 1.

3.4. Further observations on weak crossover effects

We observed in the preceding subsection that topicalized phrases with resumptive pronouns within PPs behaved like true resumptives because they did not exhibit reconstruction effects. In contrast topicalized direct objects yielded apparent resumptives because they showed reconstruction effects. However, their status as apparent resumptives made it puzzling why such topicalized objects did not present weak crossover effects in 1. In this regard it is worth considering 9 and 10. If a wh-operator originates as the specifier of the possessive pronoun 'ene and moves to a clause initial position in 9, it will be unable to be raised through the position of object of the preposition *ki* because of a lack of c-command. This is why 9 exhibits the weak crossover effect. Sentence 10 has a wh *in situ* that undergoes movement at LF, but because that wh-phrase cannot have occupied the position as specifier of 'ene it cannot bind 'ene as a bound variable pronoun.

- (9) *Ko hai_i na'e 'ave 'e Sela* [_{PP} *ki ai_j*] [_{DP} 'a 'ene_{i/*j} faeé]?
 PRT who PAST send ERG Sela to 3-SNG ABS 3-SNG maternal-aunt
 'Who did Sela send his aunt to ?'
- (10) *Na'e 'ave 'e Selai* [_{PP} *kia hai_j/Fotu_k*] [_{DP} 'a 'ene_{i/k/*j} faiako].
 PAST send ERG Sela to who/Fotu ABS 3-SNG teacher.
 'Sela sent his teacher to who/Fotu.'

This explanation depends on the assumption that the operator binding a bound variable originates as the specifier of the bound variable pronoun and raises through c-commanding positions to its LF or PF position as in 27. The pronoun *ai* cannot be a bound variable pronoun bound by the same operator that binds 'ene because there is no c-command relation between them. We can construct examples in which the possessive 'ene is c-commanded by an object pronoun to test the adequacy of this explanation. Since a c-command relation would exist, it should be possible to raise the wh-operator through the pronoun position, which would surface as an apparent resumptive pronoun. Each pronoun would function as a bound variable pronoun. The sentences in 11 performs this test, and we note that there is no crossover violation here. For similar reasons sentence 12 contrasts with 10. Although both sentences have a wh-phrase *in situ*, in 10 it could not have raised from the specifier of the embedded possessive pronoun 'ene because there is no c-command relation present. In 12 such a c-command relation makes it possible that the wh-phrase occupied at some point in the derivation of LF the specifier of the possessive pronoun 'ene and as a result the wh-phrase can treat that pronoun as a bound variable pronoun.

- (11) *ko hai_i na'e 'ave ia_i 'e Sela ki he'ene_i faiako fo'ou?*
 PRT who PAST send 3-SNG ERG Sela to 3-SNG teacher new.
 'Who did Sela send to his new teacher?'

- (12) *Na'e 'ave 'e Sela_i 'a hai_j/Fotu_k ki he'ene_{i/j/k} faiako fo'ou?*
 PAST send ERG Sela ABS who/Fotu to 3-SNG teacher new
 'Sela sent who/Fotu to his new teacher.'

Sentence 1 can be assimilated to the terms of this analysis. This example has two gaps in a non c-command relation: one in specifier of [_D 'ene] and one in the direct object position. It is thus possible to have instances of the topic in both positions and move them in an across the board fashion to produce two gaps. That option is not similarly available in 9 because we do not have two gaps or a gap and an apparent resumptive in a non c-command relation.

Sentences like 9 show the weak crossover effect because there is no way to perform movement through each of the pronoun positions to produce the relevant bound variable interpretation. Aoun et al. (2001)'s analysis of true and apparent resumptive pronouns derive them in different, competing fashions. True resumptive pronouns are derived syntactically through a relative costly mechanism of dermerger while apparent resumptives are derived by movement. Because true resumptives are not derived by movement, we expect that they will not show the weak crossover effect we observed in 9. Recall that in our analysis of Tongan bound variable pronouns, post-nominal possessives could not function as bound variable pronouns, a fact we attributed to the unavailability of movement in such structures. If this is correct, we expect that sentences like 9 with post-nominal possessives will not show the weak crossover effect. Sentence 13 performs this test and yields the crucial empirical observation that weak crossover violations disappear if post-nominal possessive pronouns are involved. This fact follows because, unlike 9, movement is not involved in structures like 13. The relevant generalization is that true resumptive structures like 13 do not show the weak crossover effects.

- (13) *Ko hai na'á ke kole ki he'ene tamai 'a'ana ke tokoni'i ia?*
 PRT who PAST you ask to 3-SNG father 3-SNG C help 3-SNG
 'Whose father did you asked to help him (*hai* can bind all 3-SNG pronouns)?

The Aoun et al. (2001) account of the distinction between apparent and true resumptives predicts that both reconstruction effects and weak crossover effects should appear in apparent resumptives (because they are the product of movements), but not in true resumptives. This is the basic difference between 13, which only has true resumptive pronouns, and 9 that has a mix of a true resumptive (within the prepositional island), and a prenominal possessive that allows operators in its specifier to escape. In essence we derive something like the parallelism requirement of Safir (1984) and Safir (1996) that prevents binding of non-similar traces and pronouns by the same operator. Because we have posited distinct, competing derivations of apparent and true resumptives, they cannot be mixed to allow an operator to bind both a true resumptive pronoun and a bound variable pronoun.

4. CONCLUSION

Tongan bound variable pronouns agree in person and number with the grammatical features of a distributed operator that binds them. These matching operators originate as the specifier of the (weak) pronoun, which is also the position for the strong pronoun. The operator is moved to a c-commanding adverbial position. Resumptive pronouns are sub-divided into two classes, apparent and true resumptives. Apparent resumptive pronouns are assimilated to the movement analysis of bound variable pronouns just sketched. The binder of the resumptive pronoun originates, like the distributed operator, as the specifier of the pronoun given a bound variable interpretation. True resumptives have resumptive pronouns and binders generated *in situ*. Apparent resumptive pronouns show reconstruction and weak crossover effects typical of movement structures, in contrast to true resumptives. Because apparent and true resumptives are related to their binder in competing derivational terms, there are no binding operators that mix them. Apparent resumptives (weak possessive pronouns) are unable to be combined with true resumptives in prepositional islands, although uniform resumptives (sequences of true resumptives such as a strong possessive and a pronominal prepositional object) are licit.

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