Title

Reconstruction and Resumptive Pronouns in Cairene Arabic

Permalink

https://escholarship.org/uc/item/4t92z16w

Author

Booth, Madeleine

Publication Date

2019

Peer reviewed|Thesis/dissertation

UNIVERSITY OF CALIFORNIA

Los Angeles

Reconstruction and Resumptive

Pronouns in Cairene Arabic

A thesis submitted in partial satisfaction

of the requirements for the degree Master of Arts

in Linguistics

by

Madeleine Letitia Booth

2019

ABSTRACT OF THE THESIS

Reconstruction and Resumptive

Pronouns in Cairene Arabic

by

Madeleine Letitia Booth

Master of Arts in Linguistics

University of California, Los Angeles, 2019

Professor Jessica Rett, Chair

Mandatory resumptive pronouns (RPs) have been argued not to have any effect on the reconstruction of a relative clause (RC) head (Sichel, 2014). I tested this hypothesis on Cairene Arabic RCs, which have a mandatory RP in the direct object (DO) position. RC heads involving idiom chunks and bound anaphors have been argued to require reconstruction, while heads involving bound variables may require either reconstruction or a functional trace/RP (Hulsey and Sauerland, 2006; Sharvit, 1999). I found that there was no reconstruction to the DO position for anaphor binding or idiom interpretation, but that a bound variable reading was possible. I argue that while mandatory RPs in Cairene Arabic either block reconstruction or there is no reconstruction at all, the mandatory RP can be functional, and this functional denotation allows for a bound variable reading. This supports the hypothesis that mandatory RPs have an effect on the interpretation of RCs.

The thesis of Madeleine Letitia Booth is approved.

Yael Sharvit

Dylan Bumford

Jessica Rett, Committee Chair

University of California, Los Angeles

2019

Contents

List of Tables

ACKNOWLEDGEMENTS

1 Introduction

1.1 Resumptive Pronouns

The bolded pronouns in (1) are unusual in that they occur where we would normally expect a trace, and the sentences that contain them (1) sound questionable but better than the version of the sentences that contain a trace (2). These types of pronouns are called *resumptive pronouns*.

(1)   a. These are *the guests* that I am not sure what I should serve to **them**
        b. There's *a student* in our class who we can't decide what grade to give **him**

(2)   a. ? These are *the guests* that I am not sure what I should serve to ___
        b. ? There's *a student* in our class who we can't decide what grade to give ___

There is a robust cross-linguistic generalization that resumptive pronouns are identical in lexical and morphological form to regular pronouns (McCloskey, 2017). This begs the question if there is anything distinctive about resumptive pronouns. One primary distinction between resumptive pronouns and regular pronouns is that resumptive pronouns are, unlike regular pronouns, obligatorily bound by an entity they are coreferential with (McCloskey, 2017). In (3), the resumptive pronoun in (3a) is obligatorily bound by the relative clause head *the guests*, whereas in (3b), the regular pronoun *them* is not obligatorily bound by *these guests*.

(3)   a. These are *the guests* that I am not sure what I should serve to **them**
        b. I invited *these guests* but I am not sure what to serve to **them**

Resumptive pronouns are typically bound by entities in A′-positions (e.g. the landing

1

sites of relative clauses, clefts, questions, etc.), but they can be bound by entities in A-positions, as in the landing sites of cyclic NP-movement (McCloskey, 2017). In various dialects of Arabic, resumptive pronouns are found in the extraction site in topicalization out of prepositional phrases (4a), quantifier float (4b), questions (4c), and relative clauses (4d). In this paper we will focus on resumptive pronouns in Cairene Arabic relative clauses.

(4)   a.   (Palestinian Arabic, Mohammad (2000))
       Zayd-un   takallamtu ma'a-**hu**
       Zayid-NOM, talked.1sg   with-**him**
       Zayid, I spoke with him

     b.   (Moroccan Arabic, Benmamoun (1999))
       ra'aytu ṫ-ṫullāb   kulla-**hum**
       saw.1sg the-students all-**them**
       I saw all the students

     c.   (Lebanese Arabic, Aoun and Choueiri (1999))
       'ayya mmasil shuft-**o**   b-l-mat'am
       which actor   saw.2s-**him** in-the-restaurant
       Which actor did you see in the restaurant?

     d.   (Palestinian Arabic, Mohammad (2000))
       l-bint   'illi šufti-**ha**
       the-girl that saw.3sg-**her**
       The girl that you saw

So, on the one hand, resumptive pronouns are morphologically and lexically identical to pronouns, but on the other hand, they appear in positions usually associated with traces of movement, and most commonly A′-movement. The next question, then, is if resumptive pronouns are ever different from gaps / traces that they alternate with.

An additional complication is that sometimes resumptive pronouns in a position (e.g. direct object, object of a preposition) are mandatory, and sometimes they are optional. This

leads to three questions relevant to this paper (5):

(5)   a. Are mandatory resumptive pronouns and optional resumptive pronouns different?
        b. If a resumptive pronoun is optional, does its presence have an effect on the structure that the gap does not?
        c. Do mandatory resumptive pronouns have an effect on movement / reconstruction?

Questions (5a) and (5b) and the behavior of optional resumptive pronouns have been a topic of some debate (Sichel, 2014; McCloskey, 2017). Previous work (Sharvit, 1999; Doron, 2011) has argued that optional resumptive pronouns have an effect on the interpretation of the structure containing them because of their denotation, while other work (Sichel, 2014) has argued that resumptive pronouns do not have a special denotation. In this analysis, what effect they seem to have is actually caused by external factors like what relative clause structure they are found in, and there is no difference between mandatory and optional resumptive pronouns, and both types of resumptive pronouns have no interpretive effect at all.

In this paper, I will explore Question 5c by looking at mandatory resumptive pronouns in Cairene Arabic relative clauses to see what, if any, effect they have on the relative clause, particularly in terms of reconstruction / low readings of relative clause heads. In §2 I will review the terminology and diagnostics I will use concerning low and high readings of relative clause heads, in §3 I will review work done on Modern Hebrew resumptive pronouns and the predictions this work makes for Cairene Arabic, and in §4 I will test these predictions in Cairene Arabic relative clauses. In §5 and §6 I will analyze and discuss my findings on Cairene Arabic resumptive pronouns.

1.2 Cairene Arabic

Cairene Arabic is a dialect of Arabic spoken in Cairo. I chose Cairene Arabic to test the predictions of previous work on resumptive pronouns in relative clauses because in Cairene Arabic, unlike in some other dialects of Arabic (e.g. Lebanese Arabic (Aoun and Choueiri, 1999)) and Modern Hebrew, resumptive pronouns, with the exception of the embedded subject position, are mandatory in all positions that they appear in. In particular, it is important that the direct object position must be occupied by a resumptive pronoun, since this is the principal position which varies between optional and mandatory cross-dialectally and cross-linguistically. Previous work (Sharvit, 1999; Sichel, 2014) has focused on comparing the interpretation of the optional resumptive pronoun in direct object position to the interpretation of the mandatory resumptive pronouns in other positions. Therefore, Cairene Arabic is a dialect in which I can test the predictions made for mandatory resumptive pronouns in this position.

2 Low and High Readings

Resumptive pronouns typically appear at the tail of what would traditionally be considered a movement chain, so their relationship with the 'moved' element that they refer to has been a crucial area of research. However, for the presentation of data, I will need to abstract away from movement- and reconstruction-based language, since this language is rooted in theoretical analyses and I wish to remain descriptive at first. In this section, I will go over two types of relative relationships which will be of importance in this paper, and I will introduce language which will allow me to abstract away from theoretical assumptions when

I present data.

Moved[1] elements can potentially be interpreted where they moved to (their surface site) or where they moved from (their associated gap)(Keine and Poole, 2018). The crucial difference between these two positions occurs when there is material between the surface site and the gap. For example, in (6), the modal *is likely* lies between the surface site and the gap of *a Dane*: the gap is under the scope of the modal, while the surface site is above the scope of the modal (example modified from Keine and Poole (2018) and Dominique Sportiche, p.c.).

(6) <u>A Dane</u> **is likely** _____ to win the race
     surface   gap
     Interpreted at surface site: There is a specific Dane who is likely to win the race
     Interpreted at gap site: Someone or other who is Danish is likely to win the race

Whether the DP *a Dane* is interpreted above the scope of the modal (which we will call the *high reading* of *a Dane* relative to the modal) or below the scope of the modal (the *low reading* of *a Dane* relative to the modal) has interpretive effects on the sentence. If *a Dane* is interpreted high, this leads to the interpretation that there is some specific Dane who is likely to win the race, since the existential *a Dane* outscopes the modal *is likely*. On the other hand, if *a Dane* interpreted low, then it is within the scope of *is likely*, and there is no specific Dane who is likely to win the race. It is important to note that *a Dane* can be interpreted both higher and lower than the modal in this example, as this is not always the case, but that the two options provide different interpretations of the sentence.

In syntactic terms, when a moved element is interpreted as if it were in its gap site (Keine and Poole, 2018), this is called reconstruction. Reconstruction can be analyzed a number

---

[1]The relationship is not necessarily one of movement in the case of relative clause heads, which I will discuss in §5.1

5

of different ways, and I will discuss these in §5.2. For the time being, I will remain neutral as to how reconstruction effects are achieved, and focus on empirical data first. I will call when a moved item is interpreted in its gap THE LOW READING of the item, and when it is interpreted in its surface site, THE HIGH READING of the item, and these are descriptive terms. This is crucial for this paper because this relative terminology allows us to abstract away from movement and reconstruction. This will be important because I will need to be able to discuss relative relationships between elements without assuming the theoretical nature of their relationship.

The second important type of relative relationship in this paper is illustrated in (7).

(7)   *Everyone* met *someone*
       High reading of *everyone* relative to *someone* ($\forall >> \exists$)
       = Every person saw someone or other
       Low reading of *everyone* relative to *someone* ($\exists >> \forall$)
       = There is a single person who was seen by everyone

In (8), there is no syntactic gap like we saw in (6),[2] , yet we still want to talk about the relative scope of the quantifiers *everyone* and *someone*. Using the terms HIGH READING and LOW READING, we can discuss their relative relationship without assuming the nature of this relationship.

I will use HIGH READING and LOW READING to describe both what are typically considered movement relationships and non-overt-syntactic-movement quantifier scope relationships. The reason for using terms which can be used to describe either of these relationships is because I will argue that a type of relationship in relative clauses which is typically taken

---
[2]I am excluding a discussion of A-movement traces

to be movement / reconstruction is in fact a matter of quantifier scope and does not involve reconstruction.

2.1   High and Low Readings in Relative Clauses

Relative clauses are unusual in terms of low and high readings in that in some cases, the relative clause head can only be interpreted high in its surface site, or only low in its gap. In other words, certain structures require and are diagnostic for either a high reading or a low reading of relative clause heads (Hulsey and Sauerland, 2006). Because these structures can be taken as requiring a low reading (and therefore are ungrammatical or receive the wrong interpretation if this is not allowed), these structures will allow us to determine the effect of resumptive pronouns on the position in which the head is interpreted. I will use three structures that require low readings and one structure that requires a high reading.

There are three main cases of structures which require low readings of the head: (1) when the relative clause head involves an idiom chunk, (2) when the head involves anaphors not bound in the matrix clause, and (3) when the relative clause head contains a variable bound by a quantifier within the relative clause (Hulsey and Sauerland, 2006).[3] That relative clause heads containing an idiom chunk, typically the complement of a verb, must be interpreted low rests on the assumption that the idiomatic reading of the idiom chunk is only available if it is interpreted within the constituent it was base-generated in, i.e. in the gap (Marantz, 1984). If a low reading is possible, then the relative clause head can get an idiomatic reading; if the head can only be interpreted in its surface site, then it can only have a literal meaning

---

[3]There are also other structures, like amount readings, but these are more controversial and perhaps do not involve low readings.

(Hulsey and Sauerland, 2006). We see an example of a relative clause head with an idiom chunk in (8), where the head *cat* must be interpreted in its gap as the complement of *let* in order to be interpreted idiomatically.[4]

(8) [The cat]$_i$ that Sam let ___ $_i$ out of the bag terrified the senator

      low reading: idiomatic reading, *cat* is interpreted as a secret
      high reading: non-idiomatic reading, *cat* is a literal cat

The second structure that requires a low reading is when the relative clause head contains an anaphor bound in its gap position, e.g. (9)(Hulsey and Sauerland, 2006).

(9) [The picture of himself$_i$]$_j$ that Salim$_i$ painted ___$_j$ was beautiful

      low reading: grammatical
      high reading: ungrammatical

In (9), the anaphor *himself* has no binder if *picture of himself* is not interpreted below below *Salim*. As such, relative clauses with heads containing anaphors bound within the relative clause require the low reading of the head, or else they will be ungrammatical.

The third structure that requires a low reading of the relative clause head is when the relative clause head contains a variable which is bound by a quantifier phrase within the relative clause (10)(Keine and Poole, 2018; Sichel, 2014; Hulsey and Sauerland, 2006).

_____

[4]Ethan Poole (p.c.) pointed out that not all idioms are able to do this: *Sam kicked the bucket* cannot be relativized into *the bucket that Sam kicked* to mean "the death that Sam died." It is beyond the scope of this paper to determine why this is, but it does raise the issue that not all idioms will work for this type of relative clause.

(10)   [The picture of himself$_i$]$_j$ that every child$_i$ painted ___$_j$ was beautiful

low reading: each child can paint his own picture
high reading: there can only be one picture

This is the case in which it is important that we abstract away from reconstruction/movement-based terminology. This is because in order for *the picture of his mother* to be able to change depending on the child painting it (allowing for multiple pictures, one per each child), *the picture of his mother* seems to need to be under the scope of the quantifier phrase *every child*. One analysis of how this low reading is acquired is that *picture of his mother* reconstructs to its gap, like in (6), which would place *picture of his mother* in a low position relative to *every child*. A more controversial extension of this is that not only does the head reconstruct, but the quantifier phrase *every child* also raises above *the picture of his mother*, like in (7)(Hulsey and Sauerland, 2006; Sichel, 2014).

The other analysis of how the low reading is acquired is that the head does not syntactically reconstruct but the gap (trace) has the denotation of a function, in (10) a function over the domain of *every child* which maps each entity x in the domain of children to some entity y such that y is the picture of the child x that x painted (Hulsey and Sauerland, 2006). I will go further into functional traces in §5.2, but for now, what is important is that the same type of multiple-picture-reading (called the *multiple-individual* reading in Sharvit (1999)) can be gotten through syntactic reconstruction or through a special denotation for the trace. Using the terms *low reading* and *high reading* will allow us to discuss structures like these without claiming that a low reading of the relative clause head in these structures is necessarily a case of reconstruction.

I will use the three types of relative clauses discussed in this section to test if resumptive pronouns in Cairene Arabic interfere with a low reading of the head. I will also test structures that require a high reading of the head with resumptive pronouns. These are relative clauses which would incur some violation if the relative clause head were to be only interpreted low in its gap, and so these relative clauses are argued to require the head to be interpreted high in the surface site / relative-clause-externally (Hulsey and Sauerland, 2006). The key relative clause structure which requires a high reading is when the head contains an R-expression, as in (11).

(11)   [The picture of John$_i$]$_j$ that he$_i$ likes ___$_j$

low reading: ungrammatical
high reading: grammatical

Since for an R-expression to be bound would violate Condition C, relative clauses whose head contains an R-expression should only be grammatical when they are interpreted high, since a low reading would lead to the R-expression being bound.

In this section I have described and motivated the three structures that require a low reading of the relative clause head, and one structure which requires a high reading. These types of relative clauses will be the ones I use to test the effect of resumptive pronouns on low and high readings of relative clause heads.

3 Resumptive Pronouns and Low/High Readings in Hebrew

Previous work (Doron, 2011; Sharvit, 1999; Sichel, 2014) on Modern Hebrew has focused on the effect of resumptive pronouns on low readings of the relative clause heads (typically cast as reconstruction). These works have tested the effect of optional and mandatory resumptive pronouns to explore (a) whether or not optional and mandatory resumptive pronouns differ and (b) whether or not either has an interpretive effect on the relative clause. Optional resumptive pronouns are found in the direct object of the verb position, while mandatory resumptive pronouns tend to be the objects of possessors (NPs) and the objects of prepositions (PPs), but in certain conditions can also be direct objects. I will review data on optional resumptive pronouns in §3.1 and on mandatory resumptive pronouns in §3.2 - §3.3. In §3.4 I will review what this Modern Hebrew data has indicated about resumptive pronouns and low/high readings, and in §3.5, I will state the predictions that this data makes about the behavior of resumptive pronouns.

3.1 Optional resumptive pronouns in Modern Hebrew

In terms of low readings, it has been shown that optional resumptive pronouns do not allow low readings for anaphor binding (12a) or idiom interpretation (12b) (Sichel, 2014).

(12) a. [ha-šmu'a al acmo$_2$]$_1$ [še- dani$_2$ hikxiš t$_1$ / ***ota**$_1$] hufca al-yedey
[the-rumor about himself$_2$]$_1$ [that dani$_2$ denied t$_1$ / ***it**$_1$] was.spread the-hand
Rani
Rani
The rumor about himself that Dani denied was spread by Rami

 b. biglal ha-xatul$_1$ še-hoci'u t$_1$ / #**oto**$_1$ me-ha-sak holxim legalot
because the-cat$_1$ that-took.3pl t$_1$ / #**it**$_1$ from-the-bag going to.discover

11

od   harbe
more much

Because of the cat that was let out of the bag, they are going to discover much
more.

They also do not allow bound variable readings (13) (Sichel, 2014)

(13) [ha-šmu'a al   acmo$_2$]$_1$ [še-kol   politikai$_2$ hikxiš t$_1$ / *__ota__$_1$] hufca
      [the-rumor about himself$_2$]$_1$ [that-every politician$_2$ denied t$_1$ / *__it__$_1$] was.spread
      al-yedey ha-yošef roš
      the-hand the-chair

      The rumor about himself that every politician denied was spread by the chair

Optional resumptive pronouns do allow a high reading of the relative clause head, as
shown by the acceptability of (14) (Sharvit, 1999)):

(14) zot [ha-tmuna šel dani$_1$]$_2$ še- hu$_1$ cilem   (__ota__$_2$) be-hodu
      this [the-picture of Dani$_1$]$_2$ that he$_1$ photographed (__it__$_2$)   in-India

      This is the picture of Dani that he photographed in India

So, optional resumptive pronouns do not allow bound anaphor readings or idiomatic
readings of the relative clause head, and they also do not allow for a bound variable reading,
but they do allow for high-reading structures in which the relative clause head contains an
R-expression.

3.2   Mandatory NP / PP resumptive pronouns in Modern Hebrew

On the other hand, mandatory NP/PP resumptive pronouns allow low readings for
anaphor binding (15a) and for idiom meaning (only PPs shown) (15b)(Sichel, 2014).

(15) a. [ha-šmu'a al acmo$_2$]$_1$ [še- dani$_2$ xašaš mimen-**a**$_1$] hufca al-yedey
[the-rumor about himself$_2$]$_1$ [that dani$_2$ feared from-**it**$_1$] was.spread the-hand
Rani
Rani
The rumor about himself that Dani feared was spread by Rami

b. ha-ec$_1$ še-hu tipes al**av**$_1$
the-tree that-he climbed on-**it**$_1$
The high position he took

They also allow for the relative clause head to be interpreted under the scope of a quantifier phrase in variable binding relative clauses (16) (Sichel, 2014; Sharvit, 1999):

(16) [ha-šmu'a al acmo$_2$]$_1$ [še-kol more xašaš mimen-**a**$_1$] hufca
[the-rumor about himself$_2$]$_1$ [that-every teacher feared of-**it**$_1$] was.spread
al-yedey ha-axot
the-hand the-nurse
The rumor about himself that every teacher feared was spread by the nurse

Mandatory resumptive pronouns also allow high readings of the relative clause head, as shown by the acceptability of (17) (Sichel, 2014)):

(17) zot [ha-yedida šel dani$_1$]$_2$ (še-rina amra) še- hu$_1$ higi'a it**a**$_2$
this [the-friend of Dani$_1$]$_2$ (that-Rina said) that he$_1$ arrived with-**her**$_2$
This is the friend of Dani that Rina said that he arrived with

So, mandatory resumptive pronouns allow low readings for anaphor binding, idiom interpretation, and variable binding, and also allow a high reading for relative clause heads containing R-expressions.

3.3 Mandatory Direct Object Resumptive Pronouns in Hebrew

Mandatory resumptive pronouns are typically found in possessive NPs and PPs, and NPs and PPs are also islands for extraction in Hebrew (Shlonsky, 1992). This begs the question of

whether the mandatory resumptive pronouns in NP and PP positions behave differently than the optional resumptive pronouns in direct object position because of the mandatory / obligatory difference or because of the positional difference. Sichel (2014) approaches this question by looking at mandatory direct object resumptive pronouns. If these behave like mandatory NP/PP resumptive pronouns, then the behavior depends on the mandatory/optional difference, while if they pattern with optional direct object resumptive pronouns, then this suggests the position dictates the effect of the resumptive pronoun on high/low readings.

Direct object resumptive pronouns in Hebrew are typically optional, but they are mandatory when the direct object is in a relative clause that violates weak cross over, when it is the experiencer object of a psych verb, and when it is the complement of a focus particle (Sichel, 2014). Sichel (2014) tests these in contexts which require a low reading of the relative clause head, to see if mandatory direct object resumptive pronouns behave like optional direct object resumptive pronouns or like mandatory resumptive pronouns. I give only the complement of a focus particle context with anaphor binding (18) as an example.

(18) [[ha-tmuna šel acma$_2$]$_1$ še-kol   yalda$_2$ baxra rak **ota**$_1$/*t_1] hudpesa be-šaxor
      [[the-picture of herself$_2$]$_1$ that-every girl$_2$ chose only **it**$_1$/*t_1]   printed in-black
      lavan.
      white.
      The picture of herself that every girl chose only it was printed in black and white

As (18) shows, mandatory direct object resumptive pronouns allow anaphor binding of the relative clause head, like mandatory NP/PP resumptive pronouns and unlike their optional direct object counterparts (cf. (12)).

3.4   Review of Modern Hebrew Data

Sichel (2014)'s data shows that in Modern Hebrew:

1. Mandatory and optional resumptive pronouns both allow a high reading of the relative clause head

2. Mandatory resumptive pronouns allow a low reading of the relative clause head

3. Optional resumptive pronouns allow a low reading of the relative clause head

4. The distinction between mandatory and optional resumptive pronouns is not based on the difference in their positions

This data also allows Sichel (2014) to rebut the potential argument that the difference between mandatory resumptive pronouns and optional resumptive pronouns stems from the fact that in Hebrew, mandatory resumptive pronouns, found in NPs and PPs, are always clitics, while optional resumptive pronouns are always non-clitic pronouns.

Mandatory resumptive pronouns found in NP/PPs are clitics, which have been argued to be structurally smaller than non-clitic pronouns (Sichel, 2014; Boeckx, 2003). The argument that clitic and non-clitic resumptive pronouns are different is that since clitics inhabit less space than non-clitics in the trace position, the trace position with a clitic (read: mandatory resumptive pronoun) is also able to host the low copy of the relative clause head (struck through in (19a), adapted from Sichel (2014)). This lower copy is what is interpreted, allowing for a low reading of the head. On the other hand, non-clitic pronouns (read: optional resumptive pronouns) are too structurally large for the trace position to host both the pronoun and a low copy of the relative clause head, so there is no lower copy of the head (19b). This is why a low reading is not available with non-clitic pronouns – there is no lower copy to interpret.

15

(19) a. [ha-iš$_1$ [še   [... [$_{DP}$ it-**o**$_1$ ~~ha-iš$_1$~~]]]]
         [the-man$_1$ [that [... [$_{DP}$ with-**him**$_1$ ~~the-man$_1$~~]]]]

     b. [ha-iš$_1$ [še   [... [$_{DP}$ **ota**$_1$]]]]
         [the-man$_1$ [that [... [$_{DP}$ **him**$_1$]]]]

This potential argument places the distinction between mandatory and resumptive pro-
nouns on the clitic / non-clitic difference. However, Sichel (2014) shows that mandatory
direct object resumptive pronouns (§3.3), which are both mandatory and non-clitics, behave
like mandatory clitic resumptive pronouns in that they allow low readings. This in turn
shows that it is not the difference between clitic and non-clitic resumptive pronouns which
drives the difference in low/high reading effects. I will be able to confirm Sichel (2014)'s
finding that mandatory clitic resumptive pronouns disallow low readings with the Cairene
Arabic data in §4.

Sichel (2014)'s conclusion from the data presented in this section is that the difference
in low/high readings of relative clause heads between mandatory and optional resumptive
pronouns is related to the mandatory/optional nature of the resumptive pronouns and is
not related to the direct object / non-direct-object position difference, nor on the non-clitic/
clitic difference. Mandatory resumptive pronouns, whether NP/PP or direct object, clitic or
non-clitic, allow a both a high and a low reading, while optional resumptive pronouns do not
allow a low reading. In §5.1, I will discuss Sichel (2014)'s theoretical analysis of this data.

3.5   Predictions Based on Modern Hebrew Data

From the data in §3, there are two predictions about the behavior of resumptive pronouns
which derive from Sichel (2014)'s work:

1. Mandatory resumptive pronouns allow low readings for idiom interpretation, anaphor binding, and variable binding, and allow high readings for heads with R-expressions

2. Optional resumptive pronouns do not allow low readings for idiom interpretation, anaphor binding, and variable binding, but do allow high readings for heads with R-expressions

This allows us to predict that mandatory resumptive pronouns in Cairene Arabic, such as the mandatory resumptive pronoun in direct object position, should allow low readings for idioms, anaphor binding, and variable binding. This means that the types of sentences in (15-16), which require a low reading of the head, should be grammatical or their interpretations should be accessible in Cairene Arabic. It also allows us to predict that the mandatory resumptive pronouns in Cairene Arabic will allow a high reading of the head as in (17). These predictions are summarized in Table 1.

Table 1: Predictions from Sichel (2014) about allowing low and high reading structures

Mandatory/Optional	low reading	high reading
Mandatory RP	allowed	allowed
Optional RP	not allowed	allowed

4   Resumptive Pronouns in Cairene Arabic Relative Clauses

I tested the predictions in §3.5 in Cairene Arabic. Consulting three college-age native speakers of Cairene Arabic, I found that resumptive pronouns in Cairene Arabic can be either banned (i.e. mandatory gap), optional, or mandatory depending on the syntactic position. This leads to a three-way distinction: (1) mandatory gap, (2) optional gap / optional resumptive pronoun, and (3), mandatory resumptive pronoun.

In Cairene Arabic, as in Hebrew (Sichel, 2014), when the extraction site is the highest subject, there is never a resumptive pronoun, which fits with a cross-linguistic tendency for resumptive pronouns in the highest subject position to be banned (the Highest Subject Restriction) (McCloskey, 2017) (20a). Also in both languages, when the extraction site is the subject of an embedded clause, the resumptive pronoun is optional (20b), and when the extraction site is the object of a preposition (20c), a resumptive pronoun is mandatory.

(20) a. Highest subject
el-kalb illi (*hoa) hoho
the-dog that it   barked.3s
The dog that barked

   b. Embedded subject
el-sit   illi Ahmed 'al illi (hiya) ishtaret   el-kitab
the-woman that Ahmed said that (she) bought.3s the-book
The woman that Ahmed said (that she) bought the book

   c. Object of a preposition
el-walad illi Maha idit   l-*(u) el-kitab
the-boy that Maha gave.3s to-him the-book
The boy that Maha gave the book to

However, in Cairene Arabic, when the extraction site is the direct object of a verb, the resumptive pronoun is mandatory (21a), whereas in Hebrew, it is optional (21b)(Sharvit, 1999).

(21) a. Object of a verb, Cairene Arabic
el-suwra   illi ishtarait-*(ha) Maha
the-picture that bought.3s-it   Maha
The picture that Maha bought

   b. Object of a verb, Hebrew

18

ha-isha   she rainu (**ota**) higia
the-woman that saw.1p **her**   arrived

The woman that we saw arrived

Table 2 gives a summary comparison of the distribution and optionality / mandatory

quality of resumptive pronouns in Cairene Arabic and Modern Hebrew.

Table 2: Resumptive pronoun (RP) distribution in Cairene Arabic and Modern Hebrew

	Cairene Arabic	Modern Hebrew
Highest Subject	mandatory gap	mandatory gap
Embedded Subject	optional RP	optional RP
Object of a Preposition	mandatory RP	mandatory RP
Object of a Verb	mandatory RP	optional RP

The mandatory direct object resumptive pronouns in Cairene Arabic will allow us to test

Sichel (2014)'s predictions concerning mandatory (direct object) resumptive pronouns.[5]

4.1   Low and High Readings in Cairene Arabic Relative Clauses

Sichel (2014)'s findings predict that based on Modern Hebrew data, (a) mandatory resump-

tive pronouns in Cairene Arabic should allow low readings of the head for idiomatic inter-

pretation, anaphor binding, and variable binding, and (b) also allow high readings for heads

with R-expressions.

Contrary to Sichel (2014)'s predictions, no consultant found sentences with anaphor

binding felicitous (22), cf. (15a)

---

[5]Although embedded subject resumptive pronouns were reported by my consultants to be optional, I did
not test this position because the sentences involving this type of resumptive pronoun would have been so
convoluted and unusual that my consultants' judgements would have been confounded.

(22) * Maha shafet [suwra   min nafsuh$_1$]$_2$ illi   rasam-**ha**$_2$ Salim$_1$
       Maha saw   [picture of   himself$_1$]$_2$ that painted-**it**$_2$ Salim$_1$
       Maha saw the picture of himself$_1$ that Salim$_1$ painted

My consultants also found that the idiomatic reading of a relative clause head was not available with a mandatory direct object resumptive pronoun, but rather only the literal reading was available, again not what was predicted (23), cf. (15b)[6]

(23) el-'aDlāt$_1$ illi Salim ista'araD-**ha**$_1$ gayyaret r'ai   Ahmed
       the-muscles$_1$ that Salim showed-**them**$_1$ changed opinion Ahmed
       lit. The muscles that Salim showed changed Ahmed's opinion
       # idiom. The strength (of character) that Salim showed changed Ahmed's opinion

On the other hand, as per prediction, all consultants were able to get the bound-variable reading in (24), in which there does not have to be one picture but the pictures can vary according to the professor. This indicates that the low reading of *pictures of his mother* under the scope of *every professor*, or else a functional denotation of the resumptive pronoun, is possible. I had to change the elicitation sentence from (16) since speakers did not accept heads with bound anaphors in relative clause heads.

(24) [as-suwra   min umm-o$_1$]$_2$ illi kol   ostaz$_1$ 'agabet-**ha**$_2$
       [the-picture of   mother-his$_1$]$_2$ that every professor$_1$ likes-**it**$_2$
       the picture of his mother that every professor likes

All consultants found heads with R-expressions to be felicitous (25), cf. (17)

---

[6]My consultants differed as to whether they could get an idiomatic interpretation of a relative clause head. Two consultants said it had to be literal, while the other said that it could be metaphorical, but when given a different idiom (*the cold iron that they struck*, approximately meaning 'the unsolvable issue that they tried to resolve'), found that that had to be literal. I took this to indicate that the idiomatic reading was not available.

(25)   Maha shafet [suwret Ahmed$_1$]$_2$ illi   hoa$_1$ agabet-**o**$_2$
       Maha saw   [picture Ahmed$_1$]$_2$ that he$_1$ liked-**it**$_2$
       Maha saw the picture of Ahmed$_1$ that he$_1$ liked

To summarize, the judgements I collected indicate that for mandatory resumptive pronouns in Cairene Arabic:

1. **Mandatory resumptive pronouns allow high readings of the head for:**

   - Relative clause heads with R-expressions are acceptable (25), indicating that these heads can be interpreted high (cf. Modern Hebrew (17), where mandatory resumptive pronouns also allow high readings of the head)

2. **Mandatory resumptive pronouns do not allow low readings of the head for:**

   - Relative clause heads with bound anaphors are not acceptable (22), indicating that there is no low reading for Condition A effects (cf. Hebrew (15a), where they are acceptable)
   - Relative clause heads which contain parts of an idiom do not yield the idiomatic meaning of the head (23), indicating that there is no low reading for idiom interpretation (cf. Hebrew (15b), where the idiomatic reading is available)

3. **Mandatory resumptive pronouns allow low readings of the head for:**

   - Relative clause heads with bound variables are acceptable (24), indicating that these heads can be interpreted low (cf. Hebrew (16), where the bound variable reading is available)

This does not completely accord with what was predicted in Sichel (2014). According to Sichel (2014), mandatory resumptive pronouns ought to allow both low readings (grammatical relative clauses with heads containing bound anaphors and idiom chunks) and high readings (grammatical relative clauses with heads containing R-expressions). I found that in Cairene Arabic, resumptive pronouns are not compatible with low readings except in the case of variable binding, while they are compatible with high readings. I will discuss my analysis of these findings in §5.

Interestingly, my data also support Sichel (2014)'s argument that being a non-clitic is not the reason why direct object resumptive pronouns disallow low readings. Recall from §3.4 that a potential explanation for why mandatory resumptive pronouns allow low readings of the head and optional resumptive pronouns do not was that mandatory resumptive pronouns are clitics and optional resumptive pronouns are non-clitics. Sichel (2014) showed that there are mandatory non-clitic resumptive pronouns (§3.3) and that they behave like mandatory clitic resumptive pronouns in allowing low readings, and so concluded that the clitic/non-clitic distinction does not drive low/high reading effects.

Direct object resumptive pronouns in Cairene Arabic are clitics (see Mohammad (2000) for arguments that resumptive pronouns are clitics and not agreement markers in Arabic dialects). If clitic resumptive pronouns allow low readings because they take up less structural space than non-clitic pronouns, then we would expect clitic direct object resumptive pronouns in Cairene Arabic to allow low readings. As we have seen, the clitic direct object resumptive pronouns do not allow low readings in several canonical reconstructive structures, giving further evidence that the clitic / nonclitic difference is not the reason some resumptive pronouns allow low readings and others do not.

5   Analysis of Findings in Cairene Arabic

In §3.5, I discussed how, based on Sichel (2014)'s work, we would predict that relative clauses in Cairene Arabic featuring mandatory direct object resumptive pronouns would (1) allow heads containing anaphors to be bound relative-clause-internally, (2) allow heads with idiom chunks to be interpreted idiomatically, (3) allow heads with variables bound by a quantifier

phrase contained in the relative clause to be interpreted with the variable within the scope of the quantifier phrase, and (3) allow relative clause heads involving an R-expression bound relative-clause-internally to be grammatical. In short, the three types of relative clauses which require a low reading of the head and the one type which requires a high reading of the head should all be acceptable in Cairene Arabic.

Instead, my consultants considered relative clauses with anaphor binding and idiom chunks unacceptable/uninterpretable. On the other hand, they were able to get a bound variable reading of a relative clause head, and they also found relative clause heads containing R-epxressions coreferent with an element relative-clause-internally grammatical. Broadly, this indicates that Cairene Arabic mandatory resumptive pronouns are not compatible with two cases of required a low reading (anaphor binding and idiom interpretation), but are compatible with another case, variable binding, and relative clause heads with R-expressions, which require a high reading of the head. These results are summarized in Table 3.

Table 3: Predicted vs Found Acceptability of Relative Clauses with Mandatory Resumptive Pronouns

Type of Relative Clause Head	Low/High Reading	Predicted (based on Modern Hebrew)	Found in Cairene Arabic
Bound Anaphor	low reading	acceptable	unacceptable
Idiom Chunk	low reading	acceptable	unacceptable
Bound Variable	low reading	acceptable	acceptable
R-Expression	high reading	acceptable	acceptable

I will now discuss theoretical analyses of why some relative clauses require low readings and why some require high readings, and what the Cairene Arabic data tells us. In §5.1, I will review the theoretical syntactic basis for low and high readings of relative clause heads and Sichel (2014)'s analysis of Modern Hebrew resumptive pronouns, in §5.2 I will discuss

the case of relative clauses with heads containing bound variables, and in §5.3 I will present

my analysis of Cairene Arabic resumptive pronouns and discuss further work needed.

5.1 Syntactic Basis for Low Readings / High Readings

In §2.1, I mentioned that 'moved' elements can be interpreted in their surface or gap sites,

and when a 'moved' element is interpreted as if it were in its gap, this is called *reconstruction*.

The reason why 'moved' is in quotes is because in relative clauses, it is not necessarily the

case that the relationship between the relative clause head and its trace/resumptive pronoun

position is one of movement. There is a vein of argument (Hulsey and Sauerland (2006),

inter alia) that relative clauses are ambiguous between two syntactic structures; a raising

structure, in which the head is base-generated internally and then raised (moved) to its

surface site (26), and a matching structure, where there is both an external head and an

internal head (27), the latter of which may not be identical to the external head and is elided

(Hulsey and Sauerland, 2006). [7]

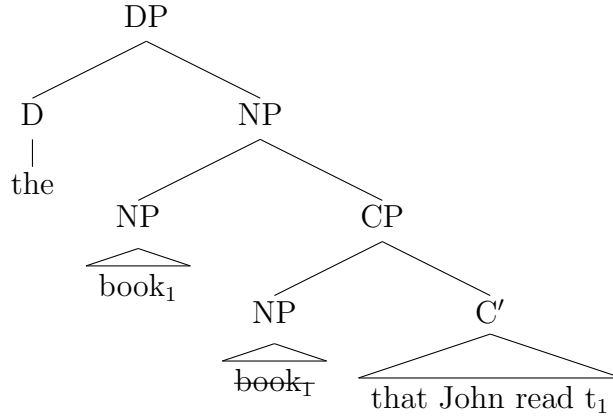(26) Raising Structure (head-internal) and LF
    a.
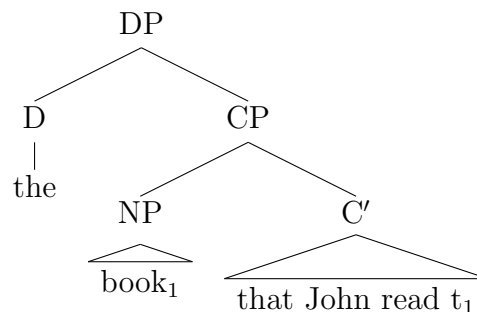
    b. the λx. that John read the λy.(x=y and book(y))

---

[7]Another analysis is that there is no elided internal head, but that there is only an external head.

(27) Matching Structure (head-external) and LF

a.

```
                    DP
                 /      \
                D        NP
                |      /     \
               the   NP       CP
                     /\      /    \
                  book₁    NP      C′
                          /\      /    \
                       book₁  that John read t₁
```

b. the book λx. John read the λy.(x=y and book(y))

These two structures are motivated by the conclusion that some relative clause heads must be interpreted in their gap positions (e.g. relative clause heads containing anaphors bound within the relative clause or idiom chunks, what I have been calling low-reading structures) while some heads must be interpreted in their surface site (e.g. relative clause heads with an R-expression which if interpreted low would be bound, which I have been calling high-reading structures) (see §2.1 for more discussion).

In a raising structure relative clause (26), the head is interpreted in its gap position, and this is called reconstruction in its theoretical sense (Hulsey and Sauerland, 2006).[8] In a matching structure relative clause, the head is interpreted in surface site, and I will call this non-reconstruction. In the matching structure, the internal head is moved and then elided (the struck-out *book* in (27)), and the elided head is not an exact copy of the external head but becomes a type of pronominal entity coreferent with the external head via a *vehicle change* operation (Sauerland, 2004). This allows the external head and the internal head

---

[8]Properly, this is *syntactic* reconstruction in the theoretical sense, in which the lower copy of a moved head is interpreted while the higher copy is not. This is also called the *higher copy neglection* analysis of reconstruction: Keine and Poole (2018) argue for both this type of reconstruction and another semantic type involving higher type traces.

to share an index but not violate Condition C (Hulsey and Sauerland, 2006). That the head is not related to its lower copy by movement is another reason to abstract away from movement-based language when discussing relative clauses.

Sichel (2014) assumes the raising/matching structure analysis of relative clauses. Since Sichel (2014) finds that optional resumptive pronouns 'block' reconstruction (i.e. allow only the high reading), the paper concludes that optional resumptive pronouns must only be found in matching structures, which require a high reading of the head. Since mandatory resumptive pronouns are found in both low-reading structures (raising) and high-reading structures (matching), they must be licensed in both raising and matching structures. This accounts for why optional resumptive pronouns appear to block reconstruction, while gaps and mandatory resumptive pronouns allow reconstruction and non-reconstruction.

Sichel (2014)'s analysis of why mandatory resumptive pronouns allow a low reading of the head while optional resumptive pronouns do not depends on the assumption of these two structures. Sichel (2014)'s analysis is that the raising structure, but not the matching structure, is subject to an "Economy Principle" which requires the tail of a movement chain (and the location of a resumptive pronoun) to be realized as a gap if possible. For this reason, optional pronouns lose out to gaps in raising structures because a gap is possible. So, optional pronouns are only found in matching structures. Because the Economy Principle does not extend to matching structures, gaps and mandatory resumptive pronouns (which beat gaps because they are mandatory) can inhabit both matching and raising structures. Because mandatory resumptive pronouns can occur in both raising and matching structures, they can have either a high-reading interpretation or a low-reading interpretation. This predicts neatly that optional pronouns will not be associated with low readings of the head (since

matching structures are nonreconstructive), while mandatory resumptive pronouns and gaps will allow either low readings (reconstruction) or high readings (non-reconstruction).

If we accepted Sichel (2014)'s analysis that optional resumptive pronouns are found only in raising structures but mandatory resumptive pronouns are found in both raising and matching structures, then we would be forced to conclude that because Cairene Arabic mandatory resumptive pronouns do not allow a low reading (except for variable binding, which I will discuss in §5.2), Cairene Arabic has no raising relative clauses, only matching relative clauses. This would explain why relative clauses which require reconstruction are ungrammatical with mandatory resumptive pronouns when mandatory resumptive pronouns are supposed to be licensed in raising relative clauses, but the relative clauses which require a high reading of the head are grammatical with mandatory resumptive pronouns.

5.2   Variable Binding

Of the three relative clause structures that require a low reading (see §2.1), the only type to show low readings of the relative clause head in Cairene Arabic were the relative clause heads containing a variable bound by a quantifier phrase inside the relative clause. The other two types, contrary to prediction, did not allow low readings. In §2.1, I mentioned that relative clause heads containing bound variables may be cases of reconstruction, where the head is interpreted in its gap below the quantifier phrase (or more controversially, they may also be cases of quantifier raising, where the quantifier phrase also raises above the head to bind it (Hulsey and Sauerland, 2006; Sichel, 2014)), but they also might be analyzed as the result of a functional trace. In this section, I will discuss the two approaches to

analyzing bound variable relative clauses, and why the fact that this case alone is where Cairene Arabic mandatory resumptive pronouns deviate from the rest of the reconstruction data is significant.

Take for example the sentence in (28) (Hulsey and Sauerland, 2006):

(28)   The picture of himself that everybody sent in annoyed the teacher

The relative clause head *picture of himself* contains an anaphor which cannot be bound in the matrix clause, and so must reconstruct in order to be bound. That (28) is grammatical indicates that this reconstruction is successful, and (28) should have the logical form in (29)(Hulsey and Sauerland, 2006).

(29)   [the λx. everybody λy. y send in the$_x$ picture of y] annoyed the teacher

However, given this logical form, the predicate (λx. everybody λy. y send in the$_x$ picture of y) should only give the interpretation that there is a single picture which is a picture of everybody. Hulsey and Sauerland (2006) argue that this meaning is not necessarily entailed by (28), but that there is another more salient reading in which each student has their own picture. This leaves us with an issue: if the relative clause head must reconstruct, then how does *picture of himself* take scope in two different positions?

Hulsey and Sauerland (2006) argue that the reason we can get both reconstruction of the head and also the multiple-picture reading is because it is possible for *every boy* to quantifier raise (QR) out of the relative clause, and that in general, raising (reconstructing) relative clauses are not islands for the QR of binders of individual variables. They propose the logical form in (30), in which the quantifier phrase *everybody* has QRed into the matrix clause.

28

(30) everybody λy. [the λx. y send in the$_x$ picture of y] annoyed the teacher

This involves QR out of a relative clause, which has traditionally been taken to be an island for extraction. Hulsey and Sauerland (2006) argues that relative clauses are not islands for the QR of a quantifier phrase that binds an individual variable, and Sichel (2014) shows that extraction out of raising relative clauses is possible in Modern Hebrew. Sichel (2014) uses this to suggest that the variable binding seen in relative clauses could be QR or reconstruction or both (as Hulsey and Sauerland (2006) would have it), but remains agnostic.

On the other hand, another analysis of variable binding in relative clauses involves neither QR nor syntactic reconstruction. Sharvit (1999) argues that relative clauses can contain a functional trace or resumptive pronoun, which is a trace or resumptive pronoun which denotes not an entity but a function. In the case of (28), the trace is a function (type <e,e>) over the domain of people that *everybody* quantifies over, and it is a function from each entity x in this domain to another entity y such that y is the picture x that x sent in (Hulsey and Sauerland, 2006). That the trace is not individual-denoting but denotes a function (i.e. the function from everybody to the picture of themselves that they sent in) allows the relative clause to have the desired "multiple pictures" reading where each student can send in one picture of themself, rather than the students having to send in one picture with all of them in it. Crucially, this analysis does not require the head to reconstruct.

5.3 Analysis

I have shown in §4.1 that Cairene Arabic relative clause heads do not have low readings for anaphor binding or idiomatic interpretation, but that they can have a low reading for

variable binding, and that they can have a high reading for heads containing R-expressions. We are left with two main questions about the behavior of mandatory resumptive pronouns in Cairene Arabic:

(31)   1.   Do mandatory resumptive pronouns block reconstruction, in which case they have intrinsic properties, or are there simply no raising relative clauses in Cairene Arabic, and their effect on low/high readings is entirely externally determined (as Sichel (2014) argues)?
       2.   If mandatory resumptive pronouns block reconstruction / there are no raising relatives, then how do we get bound variable readings?

These questions are related. Hulsey and Sauerland (2006) have argued that the desired bound variable reading in relative clauses can be obtained through a combination of reconstruction and QR, while Sharvit (1999) has argued that this bound variable reading is obtainable if the trace or resumptive pronoun is functional. So, if Cairene Arabic has only matching relative clauses, a possible analysis I motivated in §5.1, then we would not be able to use Hulsey and Sauerland (2006)'s reconstruction/QR analysis to explain the low reading of heads containing bound variables.

If we argue that the lack of low readings for anaphor binding and idiomatic interpretation is not because Cairene Arabic does not have raising structures but rather because mandatory resumptive pronouns block reconstruction, we can argue that there are raising relative clauses in Cairene Arabic, and that mandatory resumptive pronouns block reconstruction. The arguments have the same effect; either way, if reconstruction is not possible (because raising structures do not exist, or because resumptive pronouns block reconstruction), then this explains the lack of anaphor and idiom reconstruction but means that there is some mechanism other than reconstruction/QR to get the appropriate reading of bound variable

30

relative clauses. I propose that Cairene Arabic resumptive pronouns can have functional denotations, yielding the salient bound variable reading in relative clauses like "the picture of his mother that every student painted." This accounts for the lack of syntactic reconstruction in the case of anaphors and idioms, but the availability of bound variable readings.[9]

6   Conclusion

In this paper, I have worked to determine whether or not mandatory resumptive pronouns in Cairene Arabic possess the properties that they are predicted to have based on work on Modern Hebrew, and what they can tell us about reconstruction and low readings in relative clauses. I found that, contrary to Sichel (2014)'s predictions, relative clauses featuring a mandatory resumptive pronoun in the direct object position do not allow low readings of the head for anaphor binding or idiomatic interpretation of the head, but do appear to allow a low reading for variable binding. These relative clauses also allow a high reading of the head, such as when the head contains an R-expression.

Table 4: Predictions and Outcomes of Low Readings in Cairene Arabic

Low reading?	Predicted	Cairene Arabic
Anaphor binding	Yes	No
Idiom interpretation	Yes	No
Variable binding	Yes	Yes

On the face of it, this data is consistent with the interpretation that mandatory resumptive pronouns in Cairene Arabic do not allow for the head to be evaluated where the

---

[9]That a functional resumptive pronoun denotation would also allow for bound anaphor readings assumes that anaphors and pronouns are identical. If *himself* and *him* are not identical, then this accounts for why a functional reading does not necessarily extend for the anaphor case

resumptive pronoun is located, but only allow for the head to be interpreted in its surface site, so long as there is another mechanism to explain variable binding. I concluded from the data that mandatory direct object resumptive pronouns in Cairene Arabic block reconstruction of the relative clause head, or else there is no syntactic reconstruction / no raising structures, but that the resumptive pronouns can have a functional denotation, allowing for bound variable readings. This also indicates that, *contra* Sichel (2014), resumptive pronouns do have an effect on the interpretation of the relative clause, and their interpretation is not merely due to the type of relative clause they occur in but also on their denotation.

I also confirmed Sichel (2014)'s argument that being a non-clitic is not the reason why optional direct object resumptive pronouns in Modern Hebrew do not block low readings. Mandatory direct object resumptive pronouns in Cairene Arabic are clitics, as are mandatory resumptive pronouns found in PPs and possessed NPs (Mohammad, 2000). If the theory that clitic resumptive pronouns allow reconstruction because they take up less structural space than non-clitic pronouns were true, then we would expect clitic resumptive pronouns in Cairene Arabic to allow reconstruction. As we have shown, the clitic direct object resumptive pronouns do not allow reconstruction in several canonical reconstructive structures, giving independent evidence that the clitic / nonclitic difference is not the reason some resumptive pronouns allow reconstruction and others do not.

In future work, I would like to test Cairene Arabic relative clauses for extraction to see if QR is feasible, and to test further if there is (syntactic) reconstruction at all in Cairene Arabic relative clauses. This would involve testing resumptive pronouns in the embedded subject position, which is a marginal position but in which my speakers tentatively reported that resumptive pronouns are optional.

References

Aoun, J. and Choueiri, L. (1999). Modes of interrogation. *Perspectives on Arabic Linguistics XII*, 190:7–25.

Benmamoun, E. (1999). The syntax of quantifiers and quantifier float. *Linguistic Inquiry*, 30:621–642.

Boeckx, C. (2003). *Islands and chains: resumption as stranding.* John Benjamins.

Doron, E. (2011). On the syntax and semantics of resumptive pronouns. In Rouveret, A., editor, *Resumptive pronouns at the interfaces*, pages 287–328. John Benjamins Publishing Company.

Hulsey, S. and Sauerland, U. (2006). Sorting out relative clauses. *Natural Language Semantics*, 14(2):111–137.

Keine, S. and Poole, E. (2018). Not all reconstruction effects are syntactic. Ms.

Marantz, A. (1984). *On the nature of grammatical relations.* MIT Press.

McCloskey, J. (2017). Resumption. In Martin Everaert, H. v. R., editor, *The Wiley Blackwell Companion to Syntax.* John Wiley & Sons.

Mohammad, M. (2000). *Word order, agreement, and pronominalization in Standard and Palestinian Arabic*, volume 181 of *Current Issues in Linguistic Theory.* John Benjamins Publishing Company.

Sauerland, U. (2004). The interpretation of traces. *Natural Language Semantics*, 12:63–127.

Sharvit, Y. (1999). Resumptive pronouns in relative clauses. *Natural Language & Linguistic Theory*, 17(3):587–612.

Shlonsky, U. (1992). Resumptive pronouns as a last resort. *Linguistic Inquiry*, 23(3):443–468.

Sichel, I. (2014). Resumptive pronouns and competition. *Linguistic Inquiry*, 45:655–693.