

Resumptive Pronouns and Competition*

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Abstract

A Minimalist hypothesis about resumptive pronouns is that they should be no different from ordinary pronouns (McCloskey 2006). The paper substantiates this hypothesis with respect to a particular view of pronouns: pronouns are ‘elsewhere’ elements. Just as the interpretation of ordinary pronouns, on this view, is determined by competition with anaphors, the interpretation of resumptive pronouns is determined by competition with gaps. Based on new facts in Hebrew and systematic differences between optional and obligatory pronouns, I argue that the tail of a relative clause movement chain is realized as the least specified form available. Since their interpretive properties are fully determined by external factors, resumptive pronouns must be part of the syntactic derivation, not items merged from the (traditional) lexicon.

Keywords: resumptive pronouns, reconstruction, extraction from relative clauses, structural ambiguity of relative clauses, competition, economy.

What exactly are resumptive pronouns? Cross-linguistically, resumptive pronouns look exactly like ordinary pronouns. A Minimalist hypothesis, formulated in McCloskey 2006, is that the two kinds of pronouns should have just the same properties. This paper substantiates McCloskey's hypothesis with respect to a particular view of ordinary pronouns: pronouns are 'elsewhere' elements (Pica 1984, Burzio 1989, Hornstein 2001, Safir 2004, Grolla 2005, Rooryck & Wyngaerd 2011, Reuland 2011). Just as the interpretation of ordinary pronouns, on this view, is determined by competition with anaphors, here I argue that the interpretation of resumptive pronouns depends on competition with gaps. It is shown that the properties exhibited by resumptive pronouns are fully determined by external factors. Two factors are involved. One factor is the structure in which the pronoun occurs, and this determines whether reconstruction is possible. The other factor is whether the pronoun alternates with a gap, and this determines which structure the pronoun may occupy. If resumptive pronouns have no inherent properties of their own, they arguably are not lexical items merged from the lexicon. It also implies that the term *resumptive pronoun* probably does not denote a grammatical primitive.

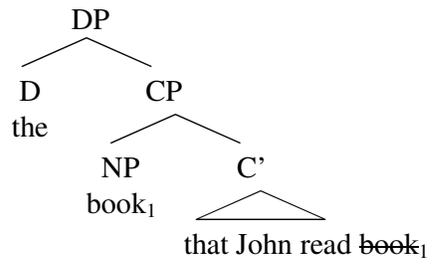
Much of the research on resumption in the last decade has focused on the possibility for reconstruction, and on the relationship between reconstruction and a movement derivation. The copy theory of movement (Chomsky 1993) implies that when there is movement, reconstruction effects will also be observed. Throughout the eighties, and due to the focus on locality and island-repair (Borer 1984, McCloskey 1990), resumptives were taken to occur in relative clauses (henceforth, RCs) which do not involve movement. By now it is clear that this is incorrect, and that even within a

single language the class of resumptive pronouns is not necessarily uniform (Aoun, Choueiri, and Hornstein 2001). Some resumptives exhibit reconstruction effects and are compatible with a movement derivation, while others do not. This classification, however, does not exhaust the possibilities. There are resumptive pronouns which do not repair island violations, as in Welsh (Rouveret 1994), resumptive pronouns in island-contexts which do allow reconstruction, but do not involve movement, in French and Jordanian Arabic (Guilliot and Malkawi 2006, 2007), and resumptives which exhibit reconstruction effects only partially, at the tail of the chain (Rouveret 2002, 2007).

The heterogeneity of resumptive pronouns presents an additional challenge for McCloskey's hypothesis, that resumptive pronouns should be just like ordinary pronouns. Are all resumptives just like ordinary pronouns? How many kinds of resumptive pronouns are there? Are there general principles which determine which type of resumptive is found where? The present study focuses on two types of resumptives in non-island contexts in Hebrew. Resumptive pronouns within PPs and NPs (henceforth pronouns in PP/NP) are obligatory and behave almost exactly like gaps, whereas direct object pronouns are typically optional and do not behave like gaps. This creates an opportunity for studying, within a single language, and in non-island contexts, the mechanisms which underlie at least some of the variation in the resumptive pronoun typology. The central question addressed is whether there is a general principle which determines how a pronoun will behave. I argue that there is, and that the generalization concerns whether the pronoun is obligatory or optional. Strikingly, in structures in which direct object pronouns are obligatory, they behave just like obligatory pronouns and gaps.

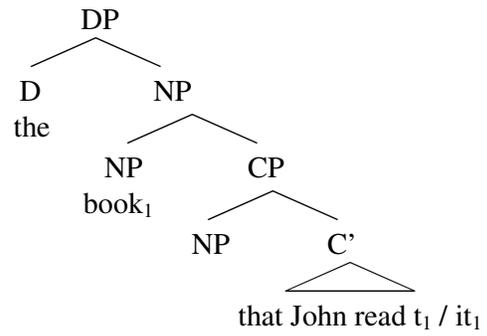
In the spirit of earlier Last Resort approaches to the distribution of resumptive pronouns (Shlonsky 1992, Pesetsky 1998, McDaniel and Cowart 1999), I argue for an Economy principle which states a preference for gap realization whenever possible. The proposed principle differs, however, from earlier Last Resort treatments in three ways. First, the principle applies selectively, to one type of RC. Following Grosu & Landman 1998, Sauerland 1998, 2004, Bhatt 2002, Bianchi 2004, Hulsey & Sauerland 2006, among others (see also Schachter 1973, Vergnaud 1974, Carlson 1977, Kayne 1994 for earlier head-raising analyses), relative clauses are in principle ambiguous between two distinct structures, and I argue that resumptive pronouns may inhabit two RC structures. The Raising structure, in (1a), resembles the structure of a question: the head of the RC has moved to specCP from a position within IP. The RC head is only interpreted within the RC and reconstruction is obligatory. The head-external structure, in (1b), has the RC head generated externally, and the RC head is interpreted in this position only. This is a non-movement RC, in which the RC head is related to the pronoun via binding (Safir 1984, 1986, McCloskey 1990, Aoun, Choueiri, Hornstein 2001, among others).

(1) a. Raising:



the λx . John read the_x book

b. Head-external structure:



the book λx . John read it_x

I argue that the Economy principle is restricted to the movement derivation (1a), and requires the tail of the movement chain in the Raising structure to be realized as a gap whenever possible. This accounts for optionality in resumptive pronoun realization, usually a challenge for classic Last Resort approaches. Gaps and obligatory pronouns may realize (1a), but optional pronouns are confined to (1b). Since only (1a) allows reconstruction, it follows that gaps and obligatory pronouns allow reconstruction, but optional ones do not. Optional pronouns are possible, on this account, because the head external structure (1b) is not subject to Economy.

Second, the focus of the study is different from earlier studies of resumption which focused on distribution, and on what makes a given resumptive pronoun possible, necessary, or impossible. This study takes the distribution as a given, and examines the consequences for the syntax and semantics of resumptive pronouns. Obligatory pronouns may inhabit the Raising structure, but since pronouns lose to gaps in this structure, optional pronouns are confined to the head external structure and block reconstruction. I will remain neutral regarding the mechanisms which make a resumptive pronoun obligatory or optional and will be offering little in the way of a derivational account. Third, rather than applying to a binary alternation and stating an absolute preference for gaps, the proposed principle is scalar and states a preference for the least specified form available.

By incorporating the structural ambiguity of RCs and having the Economy principle apply selectively, to the Raising structure, the paper also provides evidence of an entirely new sort for the movement approach to reconstruction in relative clauses. The idea that reconstruction effects with resumptive pronouns are derived by movement is supported by Bianchi (2004), who shows that obligatory pronouns in

non-island contexts allow reconstruction whereas optional ones do not, and proposes that optional and obligatory resumptives inhabit different RC structures. In this I follow Bianchi's lead. A number of more recent studies argue for other, non-movement, analyses of reconstruction effects with resumption (Adger & Ramchand 2005, Rouveret 2002, 2008, Guillot 2006, Guillot & Malkawi 2006, 2011). A second goal of the paper is to provide new evidence for a movement analysis and for the structural ambiguity of relative clauses. The present proposal builds on the typology in Bianchi 2004 and further supports it. Extending earlier work in Doron 1982, I show that the possibility for reconstruction correlates with the possibility for extraction from a relative clause. To the extent that extraction is purely syntactic, it follows that reconstruction (or some reconstruction) is also syntactic, derived by movement. This does not exclude the possibility that some pronouns may exhibit reconstruction which is not derived by movement.

The paper is organized as follows. Section 2 presents a series of reconstruction asymmetries and shows that obligatory pronouns, like gaps, allow reconstruction but optional ones do not. Section 3 develops the head-external analysis for resumptives based on anti-reconstruction and Principle C. Section 4 addresses the scope of the Economy principle and the nature of competition in RCs, and section 5 presents new evidence from extraction asymmetries for the structural ambiguity of RCs. Obligatory pronouns and gaps permit extraction of another constituent from the containing RC, but optional pronouns do not, and it is suggested that Raising RCs are not islands for extraction. Section 6 concludes the paper.

2 Interpretive Asymmetries

In non-island contexts, Hebrew has both optional and obligatory resumptive pronouns. When a direct object or embedded subject is relativized, the pronoun is optional, and when the relativized position is within PP or NP the pronoun is obligatory. This section establishes the generalization in (2) (see also Bianchi 2004).

- (2) Optional direct object resumptives block reconstruction, obligatory resumptive pronouns in PP/NP allow reconstruction.

The evidence for (2) comes from asymmetries between optional and obligatory resumptive pronouns in a variety of contexts. Section 2.1 introduces an asymmetry between direct object pronouns, which are optional in these contexts, and pronouns in PP/NP, which are always obligatory. Subject resumptives are optional like direct object resumptives, and section 2.2 shows that they block reconstruction. Section 2.3 shows that the division has some cross-linguistic support, and section 2.4 returns to Hebrew, to contexts in which direct object resumptives are obligatory. In these contexts, direct object resumptives pattern with obligatory pronouns and allow reconstruction.

2.1 Direct Object Pronouns and Pronouns in NP/PP

Doron (1982) discovered an interpretive difference between a gap in direct object position and a pronoun in this position. The gap version allows both De Dicto and De Re readings, but in the presence of a resumptive pronoun the RC head is restricted to the De Re reading. In (3b) there must be a particular woman who Dani is looking for.

- (3)a. dani yimca et [ha-iSa₁ Se-hu mexapes t₁] DE RE / DE DICTO
dani will.find ACC the-woman that-he searches
- b. dani yimca et [ha-iSa₁ Se-hu mexapes **ota**₁] DE RE

dani will.find ACC the-woman that-he searches her

'Dani will find the woman he is looking for.'

The difference in the availability of De Dicto readings is related to reconstruction. Assuming that the difference between the readings reflects relative scope, the De Dicto reading would require the low copy to be interpreted, and this appears to be blocked in the presence of the pronoun. A variety of other reconstruction effects are similarly missing in the presence of the pronoun: anaphor binding, embedded idiomatic interpretation and amount readings. The resumptive pronoun in direct object position blocks reconstruction for anaphor binding, in (4). When idiomatic interpretation of the RC head is associated with the embedded predicate, the idiomatic reading is blocked in the presence of a resumptive pronoun, in (5). RCs with direct object resumptives only have the literal meaning, in (6).¹

(4) [ha-Smu'a al acmo₂]₁ [Se-dani₂ hikxiS t₁ /*ota₁] hufca al yedey rani.
the-rumor₁ about himself that-dani denied t₁/*it was.spread by rani
'The rumor about himself that Dani denied was spread by Rani.'

(5) a. ha-tik₁ Se-tafru t₁/#oto₁ la-sar haya kaSur le-nadlan.
the-case₁ that-they.sewed t₁/#it₁ for.the-minister was related to-real estate
'The case that they pinned on the minister was related to real estate.'

b. tahalix ka-ze rak yagdil et ha-uga₁ Se-yexalku t₁ / #ota₁ ben
process that only enlarge ACC the-cake₁ that-will.divide t₁ / #it₁ among
ha-sarim ba-kneset.
the-ministers in.the-parliament
'That sort of process will only enlarge the cake they divide among the
ministers in the parliament.'

c. biglal ha-xatul₁ Se-hoci'u t₁ / #oto₁ me-ha-sak holxim legalot
 because the-cat₁ that-they.took t₁ / it₁ from-the-bag going to.discover
 od harbe.
 more much
 'Because of the cat that was pulled out of the bag they are going to discover
 much more.'

(6) a. ha-tik₁ Se-tafru t₁ / oto₁ la-sar haya yarok.
 the-case₁ that-they.sewed t₁ / it₁ for.the-minister was green
 'The case they sewed for the minister was green.'

b. ha-uga₁ Se-xilku t₁ / ota₁ ben ha-sarim hayta te'ima.
 the-cake₁ that-they.divided t₁ / it₁ between the-ministers was tasty
 'The cake that they divided between the ministers was tasty.'

c. ha-xatul₁ Se-hocenu t₁ / oto₁ me-ha-sak yilel.
 the-cat₁ that-we.took.out t₁ / it₁ of-the-bag meowed
 'The cat we took out of the bag was meowing.'

A further contrast is attested in the context of variable binding. When the RC head contains a variable, and the quantificational binder is within the RC, bound variable anaphora is blocked in the presence of the resumptive pronoun.

(7) [ha-Smu'a al acmo]₁ [Se-kol politikai hikxiS t₁ / #ota₁] hufca
 the-rumor about himself that-every politician denied t₁ / it₁ was.spread
 al yedey ha-yoSev roS.
 by the-chair.
 'The rumor about himself that every politician denied was spread by the chair.'

It is possible, however, that this contrast is not derived (exclusively) by reconstructing the RC head into the base position, in the scope of ‘every politician’. In the structure given for a Raising relative in (1a) the definite article in the RC head is generated external to the RC (Kayne 1994). This implies that reconstruction of ‘rumor about himself’ would not yield the intended reading in which there could be multiple rumors, each one associated with a distinct politician (see Hulsey & Sauerland 2006). The idea that RC-internal quantifiers which take scope outside of the RC must involve QR of the binder was first expressed in Doron (1982) and more recently in Hulsey & Sauerland (2006) and Heim (2012). The challenge for this view has always been a syntactic challenge, since RCs are commonly assumed to be islands for all kinds of extraction, overt and covert. We will see in Section 5 that some RCs do allow overt extraction, and this makes a QR analysis in examples such as (7) more feasible. Here I remain neutral regarding the ultimate analysis of these cases (reconstruction, QR, or perhaps both), and simply note that variable binding patterns with other reconstruction effects and is blocked by a direct object resumptive.

The interpretive effect does not hold equally of all resumptive pronouns. When relativization is from a position within PP or NP, the resumptive pronoun is obligatory. Just like the gap configuration in (3a), these pronouns do allow the De Dicto reading for the head of the RC in (8a) and (8b). Reconstruction for anaphor binding is possible, in (9), and so is embedded idiomatic interpretation, in (10). The idiomatic interpretation is salient in (10), in sharp contrast to the situation with direct object resumptives in (5).

- (8) a. dani yimca et [ha-iSa₁ Se-hu xolem aleya₁]
 dani will.find ACC the-woman that-he dreams of-**her**

‘Dani will find the woman he is dreaming of.’

b. lo hekarnu et [ha-iSa₁ Se- ha-itona'im mexapsim et ha-bayit Sela₁]

neg we.know ACC the-woman that-the-reporters searching ACC the-house.**her**

‘We didn’t know the woman who the reporters are looking for her house.’

(9) [ha-Smu'a al acmo₂]₁ [Se-dani₂ xaSaS **mimena**]₁ hufca al yedey rani.

the-rumor about himself that-dani feared from.it was.spread by rani

‘The rumor about himself that Dani feared was spread by Rani.’

(10)a. ha-ec₁ Se-hu tipes alav₁

the-tree that-he climbed on-it

'the high position he took'

b. ha-ec₁ Se-hu yarad mimeno₁

the-tree that-he came.down from-it

'the high position he came down from'

The pattern is the same when we turn to variable binding. Variable binding into the RC head by an RC-internal quantifier is possible when the resumptive pronoun is part of a PP. Recall that variable binding was blocked in the presence of a direct object pronoun (7).

(11)[ha-Smu'a al acmo]₁ [Se-kol more xaSaS **mimena**]₁ hufca al yedey

the-rumor about himself that-every teacher feared of.it was.spread by

ha-axot

the-nurse

‘The rumor about himself that every teacher feared was spread by the nurse.’

The difference between the direct object pronoun, on the one hand, and the pronoun within PP/NP, on the other hand, shows that the interpretation of a

resumptive pronoun is not uniform, and that the absence of reconstruction in (3-5) (and possibly (7)) cannot be a general property of resumptive pronouns. Given the heterogeneous behavior of resumptive pronouns cross-linguistically, this makes perfect sense. Resumptive pronouns which allow reconstruction are also found in Lebanese Arabic, Jordanian Arabic, Scots Gaelic, Welsh, Spanish, among other languages (Aoun, Choueiri and Hornstein 2001, Guillot and Malkawi 2006, Adger and Ramchand 2005, Rouveret 2002, 2007, Suñer, 1998, respectively). Other languages, such as Irish and Brazilian Portuguese, exhibit a mixed pattern, like Hebrew, and the distribution of interpretations is the same: direct object pronouns are optional, and pronouns in PP/NP are obligatory. Here too, obligatory pronouns in PP/NP allow reconstruction and optional direct object pronouns block it (Bianchi 2004). This is demonstrated below for amount relatives. In the amount relative in (12), the RC refers to the amount of wine that was spilled. Following Carlson (1977), Heim (1987), Grosu & Landman (1998), Bhatt (2002), Grosu (2002), and Bianchi (2004) (among others), I assume that amount relatives involve obligatory reconstruction.

(12) It would take us all year to drink the wine that you spilled at the party.

Bianchi (2004) shows that cross-linguistically (in Colloquial Italian, Spanish, Hebrew, Brazilian Portuguese, Irish and Swiss German), amount relatives cannot be resumed by an optional direct object resumptive (13), and can only be resumed by an obligatory resumptive in PP (14). This is expected if amount readings require the low copy and reconstruction is blocked by the former and allowed by the latter.²

(13) a. hu rac axSav et ha-merxak Se-ani racti (*oto) lifney Sana. Hebrew

he runs now ACC the-distance that-I ran it before year

‘He now runs the distance that I ran a year ago.’

- b. Eu acho mau todo tempo que eu desperdico (?*ele) BP

I regret all the time that I waste it

‘I regret the time that I wasted.’

- c. Tá óth liom an méid ama a chuir mé amú (*é). Irish

is regret with.me the quantity time-gen a put I out (it)

‘I regret the time that I wasted.’

- (14) a. hu rac axSav et ha-merxak Se-higati *(elav) lifney Sana Hebrew

he runs now ACC the-distance that-reached.I to.it before year

‘He now runs the distance that I reached a year ago.’

- b. ?Você não imagina as meninas que ele namorou com elas! BP

you not imagine the girls that he flirted with them

‘You cannot imagine the number of girls he flirted with.’

- c. An buaireamh uilig aN ndeachaigh sé fríd Irish

the trouble all that went he through-it

‘the amount of trouble that he went through’

Finally, free relatives have been argued to require the Raising structure or a related structure which forces interpretation of the low copy (Grosu & Landman 1998, Bianchi 2004). We expect direct object resumptives to be degraded and obligatory pronouns in PP to be fine. That is what we find (Borer 1984).

- (15) a. mi Se-at pogeSet (??oto) be-hodu niSar xaver le-kol ha-xayim.

who that-you meet him in-india remains friend to-all the-life

‘People you meet in India remain your friend for the rest of your life.’

- b. mi Se-at ozeret *(lo) be-hodu niSar xaver le-kol ha-xayim.

who that-you help to.him in-india remains friend to-all the-life

‘People you help in India remain your friend for the rest of your life.’

The differences between the two classes of pronouns are summarized in the table below.³

Table 1

Optional direct object pronouns vs. obligatory pronouns in PP/NP

	Optional direct object	Obligatory pronoun in PP/NP
De Dicto readings	-	+
Principle A	-	+
Embedded idiomatic readings	-	+
Variable binding	-	+
Amount readings	-	+
Free Relatives	-	+

It is possible that the similarity across Hebrew, Brazilian Portuguese and Irish is accidental, and that a pronoun's behavior is determined on the basis of that individual pronoun. The following sections establish that there is a generalization, and that it has to do with competition, and whether the pronoun is optional or obligatory.

(16) Optional resumptive pronouns block reconstruction, obligatory pronouns allow reconstruction.

The structural ambiguity of RCs naturally explains why it is this particular property which distinguishes between classes of resumptive pronouns, since this is the property which distinguishes Raising and head-external RCs. Therefore, the descriptive generalization in (16) can be understood in terms of a competition among forms to realize the tail of a wh-movement chain.

(17) The tail of the chain in the Raising structure is realized as a null copy whenever possible; a pronoun is possible only if a null copy is impossible.

The remainder of this section is devoted to establishing the generalization in (16), and sections 3 through 5 further motivate the implementation in (17). Below, three more sets of data are provided in support of (16). Section 2.2 shows that the behavior of direct object pronouns extends to subject resumptives, which are similarly optional. In a language in which direct object resumptives are obligatory, such as Lebanese Arabic, reconstruction becomes possible with a direct object pronoun, in 2.3. When the Hebrew direct object resumptive occurs in a context in which it is obligatory, such as the object of a psych predicate, it becomes compatible with readings which require the low copy, in 2.4. The evidence in section 2.4 is decisive, since it is one and the same pronoun which alternates depending on its distribution.

2.2 Subject Resumptives

The discussion in this section is based on the behavior of embedded subject resumptives, since in the highest subject position subject resumptives are excluded (Doron 1983, Borer 1984, McCloskey 1990).⁴ The prediction based on (16) is clear: subject resumptives should block reconstruction, on a par with object resumptives. This appears to be true, though the picture is not as complete. Subject idiom chunks are difficult to find, but the remaining diagnostics are consistent with (16). An embedded subject resumptive blocks De Dicto readings, in (18). In (18a), with a gap in subject position, the patient may have requested a nurse, any nurse, but in (18b), with a pronoun, the request refers to a particular person.

(18) a. anaxnu lo yexolim le-Salem avur ha-axot₁ Se-ha-pacient doreS Se-t₁
 we neg can.pl to-pay for the-nurse that-the-patient demands that
 tevaker eclo ba-bayit.

will.visit at.his in.the-house

‘We cannot pay for the nurse that/who the patient requests should visit him.’

DE DICTO and DE RE

b. anaxnu lo yexolim le-Salem avur ha-axot₁ Se-ha-pacient doreS
 we neg can.pl to-pay for the-nurse that-the-patient demands
 Se-**hi**₁ tevaker eclo ba-bayit.

that-she will.visit at.his in.the-house

‘We cannot pay for the nurse who the patient requests that she visit him.’

only DE RE

The presence of the pronoun also appears to block reconstruction for Principle A and amount readings:

- (19) a. [ha-Smu'ot al acmo₁]₂ Se-xaSavti Se-t₂ / ??hen₂ yexolot leha'aliv et
 the-rumors about himself that-heard.I that they could to.offend ACC
 Dani₁ hufcu al yedey rani.
 Dani were.spread by rani
 'The rumors about himself that I thought could offend Dani were spread by
 Rani.'
- b. samti ba-arnak et ha-kesef₁ Se-xaSavti Se-t₁/*hu₁ yaxol lehikanes.
 put.I in.the-purse acc the-money that-thought.I that-t₁ / *it can go.in
 'I put in my purse the money that I thought could fit.'

Optional subject resumptives block reconstruction just like optional object resumptives. That is what (16) leads us to expect.

2.3 Lebanese Arabic

The hypothesis that distribution and the availability of a gap alternative determine the interpretation of a pronoun should also be testable in other languages. There are languages in which the direct object pronoun is obligatory, and in these languages reconstruction should be compatible with the direct object pronoun. This is what we find in Lebanese Arabic, which, like other Arabic dialects, has obligatory direct object resumptives (Aoun & Choueiri 1996). Bound variable anaphora is possible with a direct object pronoun in a non-island context (20).⁵ When the dependency spans an island, reconstruction is impossible, since movement is ruled out, in (21) (from Aoun & Choueiri 1996).

- (20) Seft [SSuura taba? ?əbn-a₁]₂ yalli [kəll mwazzafe]₁ badda t'allə?-a₂
 saw.1s the-picture of son-her that every employee.f want.3sf hang.3sf-it
 bi-maktab-a.

in-office-her

‘I saw the picture of her₁ son that every employee₁ wants to hang in her office.’

(21) *Seft [SSuura taba? ?əbn-a₁]₂ yalli Striito l-kadr yalli [kəll
saw.I the-picture of son-her that you.saw the-frame that every
mwazzafe]₁ haTTət-a₂ fi-i.
employee put.3rd in-it

The relationship between Lebanese Arabic and languages in which the direct object pronoun is optional illustrates that questions about distribution are independent of questions about RC-structure and interpretation. Direct object pronouns in RCs may be optional in some languages and obligatory in others, yet the mapping from pronoun to RC structure is the same: the Raising structure hosts pronouns only if they do not compete with gaps. It seems justified, therefore, to keep these things apart.

2.4 Direct Objects in Obligatory Contexts

The facts we have considered up until now do not decisively point to the conclusion that the factor responsible for the behavior of pronouns is its external distribution, whether it is optional or obligatory. It is possible that there is another property shared by optional pronouns which causes reconstruction to be blocked in their presence, or a property shared by obligatory pronouns that makes movement and reconstruction possible in their presence. For example, Hebrew subject resumptives, along with direct object resumptives in Hebrew, Irish, and Brazilian Portuguese, may be taking up more structural space than pronouns that are obligatory, perhaps because obligatory pronouns happen to be clitics. On this analysis, clitic pronouns will be compatible with a copy of the RC head, in the spirit of the stranding analysis developed in Boeckx 2003. Pronouns that are optional would be ‘too big’ for the

containing category to host a full copy in addition to the pronoun. As a result, they would be confined to an RC structure which does not involve a movement chain.⁶

- (22) a. [the man₁ [that [... [DP him₁]]]
b. [the man₁ [that [... [PP about him₁ ~~the man~~]]]]

On this analysis, the inherent structural properties of the pronoun determine whether the pronoun is compatible with a Raising analysis or not. In contrast, on the analysis that I will pursue, the factor which determines the mapping of pronoun to RC structure is related to the presence of a gap alternative (repeated from (17) above).

- (23) The tail of the chain in the Raising structure is realized as a null copy when possible; a pronoun is possible only if a null copy is impossible.

Direct object pronouns, which in many contexts alternate with gaps, will not be realized in the Raising structure and therefore do not give rise to reconstruction effects, in contrast to pronouns in PP/NP which may appear in Raising RCs, like gaps.

The principle in (23) makes a very clear prediction. If we find a syntactic context in which a direct object pronoun becomes obligatory, then in this context it should be able to occur in the Raising structure and to allow reconstruction. On the other hand, this behavior would be entirely unexpected on an account which attributes reconstruction effects and occurrence in the Raising structure to the inherent properties of the pronoun itself. Since the phenomenon to consider is reconstruction, and movement and reconstruction are typically blocked by islands (Longobardi 1983, Cinque 1990, and in the context of resumptive pronouns see Aoun & Benmamoun 1998, Aoun, Hornstein & Choueiri 2001; but see also Shlonsky 2004, Guilliot 2006, Guilliot & Malkawi 2006, 2011 for reconstruction into islands in the presence of resumptive pronouns), the following discussion is restricted to direct objects in non-

island contexts. Three non-island contexts in which direct object pronouns are obligatory are examined. In each of these, the gap version is ungrammatical: the object in a weak-crossover violating structure, the experiencer object of a psych verb (Landau 2009), and the complement of a focus particle such as *only*.⁷

(24) a. ze [ha-yeled]₁ Se-ima Selo₁ ohevet oto₁ / *t₁.

this the-boy₁ that-mother his loves him₁ / *t₁

‘This is the boy who his mother loves him.’

b. ele ha-anaSim₁ Se-margiz otam₁ / *t₁ Se-ha-harca’a be-anglit.

these the-people₁ that-annoys them₁ / *t₁ that-the-lecture in-english

‘These are the people who it annoys that the lecture is in English.’

c. zot ha-xavera₁ Se-zihiti rak ota₁ / *t₁ ba-tmuna

this the-friend₁ that-identified.I only her₁ / *t₁ in.the-picture

‘This is the friend who I identified only her in the picture.’

In these cases the direct object pronoun does not alternate with a gap, so it should be able to occur in a Raising structure and produce reconstruction effects. If it does, the internal makeup of pronouns, or any other inherent property, for that matter, would be irrelevant, since one and the same pronoun sometimes occurs in the Raising structure and sometimes in the head-external structure.

I assume, in what follows, that direct object pronouns repair WCO violations, and that in this capacity they continue to function as resumptive pronouns. There has been some debate about this in the literature, since it is possible that in structures such as (24a), the first pronoun is the resumptive pronoun and the second pronoun is co-referential, but not a variable itself. It is crucial, in what follows, that the direct object is a resumptive, since if it isn’t, we wouldn’t be comparing an optional resumptive

pronoun and an obligatory one. This objection is addressed briefly in the following paragraphs.

To control for the possibility that the direct object pronoun is not really a variable, McCloskey (1990) presents cases of strong crossover (SCO henceforth) and weak crossover (WCO henceforth) in Irish where an epithet replaces the first pronoun. This makes it impossible to interpret the first occurrence as a bound variable, and the bound variable pronoun is necessarily the second occurrence. In Irish this produces a SCO violation, and similarly in Hebrew (Shlonsky 1992). McCloskey however notes that in WCO contexts there is no similar degradation in Irish, when compared to the structure with a pronoun as the first occurrence (McCloskey 1990 ex. 35). Some of the literature on Hebrew, however, has suggested that the corresponding WCO configuration with an epithet is degraded (see Demirdache 1991, Shlonsky 1992, Fox 1994).

(25) ze ha-baxur₁ Se-yidati et ha-horim Sel ha-idiot₁ Se-ha-mora
 this the-guy₁ that-informed.I ACC the-parents of the-idiot₁ that-the-teacher
 taxSil *t₁ / *oto₁.
 will.fail t₁ / him

The ungrammaticality of the pronoun version of (25) would imply that pronouns do not repair WCO, and that the improvement in (24a) is due to the use of a co-referential pronoun which is not a variable. If this is true, we cannot use this configuration to test what happens when an optional resumptive pronoun becomes an obligatory resumptive pronoun, because when it is obligatory it would be neither a variable nor a resumptive pronoun. It might be significant, therefore, that the judgment in (25) is not shared by all speakers. More importantly, when the content is

enriched and the sentence is slightly modified to control for register (epithets are low-register) and information structure (epithets are very presupposed or non-focal), WCO configurations with an epithet and a pronoun become acceptable.

- (26) ze ha-baxur₁ Se-basof hayiti crixax le-calcel la-horim Sel
 this the-guy₁ that-in.the.end was.I need to-phone to.the-parents of
 ha-idiot₁ ve-lesaper lahem Se-ha-mora betax taxSil oto₁ / *t₁.
 the-idiot₁ and-to.tell them that-the-teacher definitely will.fail him₁ / t₁
 ‘This is the guy who in the end I had to phone the idiot’s parents to tell them
 that the teacher will probably fail him.’

I will assume, in what follows, that a pronoun does repair the WCO violation encountered by a gap, just as it does in Irish, and that in this capacity it is still a variable and a resumptive pronoun.⁸

We now return to the study of obligatory direct object pronouns in the three contexts introduced above: in WCO, as an object-experiencer, and in the complement of a focus particle. In these contexts the pronoun appears to be available in the Raising structure and reconstruction seems to be possible. This is demonstrated by three diagnostics.

- (27) a. Free Relatives: A direct object pronoun, typically excluded in a free relative, becomes grammatical in a WCO configuration, as an obj-experiencer, and in the complement of *only*.
- b. Bound variable anaphora: A direct object pronoun, typically excluded in contexts of bound variable anaphora, is compatible with bound variable anaphora in a WCO configuration, as an object experiencer, and in the complement of *only*.⁹

- c. Embedded idioms: A direct object pronoun, typically excluded in the presence of an embedded idiom, is compatible with reconstruction in the context of WCO.¹⁰

The examples below examine these three diagnostics across the three obligatory contexts, one diagnostic at a time: direct objects in Free Relatives, variable binding and idiomatic interpretation.¹¹ Examples (28-31) compare ordinary free relatives, and free relatives with obligatory pronouns in the three contexts. They show that the direct object resumptive is much more acceptable in the free relative when it is obligatory. In (29) there is a WCO violation, repaired by the pronoun even when the first pronoun is replaced by an epithet (as in the discussion surrounding (25-26)). This is shown again in (30-31) for an object experiencer and the complement of *only*. The acceptability of each of these cases should be compared with the marginality of the pronoun in the simple context (28a).

I. Free Relatives

The simple context:

(28) a. mi Se-at pogeSet (??oto) be-hodu niSar xaver le-kol ha-xayim.

who that-you meet him in-India remains friend to-all the-life

‘People you meet in India remain your friend for the rest of your life.’

b. mi Se-at ozeret *(lo) be-hodu niSar xaver le-kol ha-xayim.

who that-you help to.him in-India remains friend to-all the-life

‘People you help in India remain your friend for the rest of your life.’

The WCO context:

(29) ze mi₁ Se-ba-sof hayiti crixá lehitkaSer la-horim Selo₁ / Sel

this who₁ that-in.the-end was needed to.phone to.the-parents of-him₁ / of

ha-misken₁ ve-lesaper lahem Se-ha-mora taxSil **oto**₁ / * t₁

the-poor₁ and-tell them that-the-teacher would.fail him₁ / t₁

‘This is who in the end I had to phone his / the poor guy’s parents and tell them that the teacher would fail him.’

Experiencer object:

(30) mi₂ Se-[margiz **oto**₂ / * t₂ [Se-[ha-harca’a be-anglit]]] Se-yece

who₂ that-annoys him₂ / t₂ that-the-lecture in-english that-should.leave

‘Whoever it annoys that the lecture is in English should leave.’

Complement of *only*:

(31) zot mi₁ Se-zihiti rak ota₁ / *t₁ ba-tmuna

this who₁ that-identified.I only her₁ / t₁ in.the-picture

‘This is who I identified only her in the picture.’

Given that free relatives necessarily inhabit the Raising structure, the acceptability of these examples suggests that when the direct object is made obligatory it can inhabit the Raising structure like any other obligatory pronoun.

The following examples turn to bound variable anaphora in these three contexts which exhibit obligatory direct object resumptives. Examples (32-35) compare variable binding in ordinary contexts, where it is blocked by an optional direct object pronoun, with variable binding in the three contexts in which the pronoun is obligatory, and show that variable binding is possible when the pronoun is obligatory. Examples (36-37) turn to reconstruction for idiomatic interpretation, and show that it is more acceptable in the WCO context, where the pronoun is obligatory.

The obligatory pronouns in the WCO paradigm in (33), with variable binding, and in (37), with reconstruction for idiomatic interpretation, contain a new kind

example which requires some clarification. The (a) example (= (33a) and (37a)) is provided as background for the WCO violations and their repair, presented in the (b) and (c) examples respectively. (33a) and (37a) introduce an RC which contains an additional co-varying gap within an RC which is embedded within the subject, and the result is grammatical. The example is constructed to require what seems to be reconstruction of the RC head into the two gap positions. These structures are, in effect, parasitic gap structures, since there is a parasitic gap within the subject RC. In these examples the parasitic gap precedes the real gap, in anticipation of the WCO violations in (33b) and (37b), where the first gap is realized as a pronoun. The WCO violation encountered in (33b)/(37b) is repaired by a matrix pronoun in the (c) examples, (33c)/(37c), hence the pronoun here is obligatory. These are therefore the crucial examples, featuring an obligatory direct object pronoun in a WCO context. In these examples the presence of the second pronoun restores grammaticality and reconstruction becomes available, in contrast to the simple cases (32) and (36), where reconstruction is blocked in the presence of the pronoun.¹² Example (33c) shows reconstruction for variable binding with an obligatory object experiencer pronoun, in contrast, again, to the simple case in (31). Example (34) shows this for an obligatory direct object pronoun in the complement of *only*.

II. Bound variable anaphora

The simple context:

(32)[ha-tmuna Sel acmo₂]₁ Se-[kol yeled₂ kibel t₁ /*ota₁] hudpesa be-Saxor lavan.

the-picture of himself that-every child got it printed in-black white

‘The picture of himself which every child got was printed in black and white.’

The WCO context:

- (33) a. [[ha-tmuna Sel acmo₂]₁ Se-[[kol yeled₂ Se-t₂ baxar t₁] kibel t₁] hudpesa
 the-picture of himself that-every child that chose t₁ got t₁ printed
 be-Saxor lavan.
 in-black white
 ‘The picture of himself which every kid who chose got was printed in B&W.’
- b.*[[ha-tmuna Sel acmo₂]₁ Se-[[kol yeled₂ Se-t₂ baxar **ota**₁] kibel t₁] hudpesa
 the-picture of himself that-every child that chose it₁ got t₁ printed
 be-Saxor lavan.
 in-black white
- c. [[ha-tmuna Sel acmo₂]₁ Se-[[kol yeled₂ Se-t₂ baxar **ota**₁] kibel **ota**₁]
 the-picture of himself that-every child that chose it got it
 hudpesa be-Saxor lavan.
 printed in-black white
 ‘The picture of himself that every child who chose it got it, was printed in
 B&W.’

Experiencer object:

- (34) [xaver ha-yaldut Selo₁]₂ Se-kol politikai₁ xaSad Se-ha-seret
 friend the-childhood of-his that-every politician suspected that-the-film
 yargiz **oto**₂ / *t₁ katav mixtav la-orex.
 will.annoy him / t₁ wrote letter to.the-editor
 ‘The childhood friend of his who every politician suspected that the film would
 annoy wrote a letter to the editor.’

Complement of *only*:

- (35) [[ha-tmuna Sel acma₂]₁ Se-kol yalda₂ baxra rak **ota**₁ / *t₁] hudpesa

the-picture of herself that-every girl chose only it₁ / t₁ printed
 be-Saxor lavan.
 in-black white

‘The picture of herself that every girl picked only it was printed in B&W.’

III. Reconstruction for idiomatic interpretation

The simple context:

(36) ha-tik₁ Se-tafru t₁/#oto₁ la-sar ha-baxir haya kaSur le- nadlan.
 the-case₁ that-sewed t₁/# it for.the-minister the-senior was related to-real estate
 ‘The case that they pinned on the senior minister was related to real estate issues.’

The WCO context:

(37) a. [ha-tik₁ Se-[ha-xokrim Se-tafru t₁ la-sar]] hexlitu
 the-case₁ that-the-investigators that-sewed t₁ for.the-minister decided
 litfor t₁ gam le-iSto hitbarer ke-kaSur le-nadlan.
 to.sew t₁ also for-his.wife turned.out as-related to-real estate
 ‘The case that the investigators who pinned on the minister decided to pin
 also on his wife turned out to be related to real estate.’

b. *[ha-tik₁ Se-[ha-xokrim Se-tafru oto₁ la-sar]] hexlitu
 the-case₁ that-the-investigators that-sewed it₁ for.the-minister decided
 litfor t₁ gam le-iSto hitbarer ke-kaSur le-nadlan.
 to.sew t₁ also for-his.wife turned.out as-related to-real.estate

c. [ha-tik₁ Se-[ha-xokrim Se-tafru oto₁ la-sar]] hexlitu
 the-case that-the-investigators that-sewed it for.the-minister decided
 litfor oto₁ gam le-iSto hibarer ke-kaSur le-nadlan.
 to.sew it also for-wife.his turned out as-related to-real estate

‘The case that the investigators who pinned it on the minister decided to pin it also on his wife turned out to be related to real estate.’

The examples in (28-37) demonstrate the shift that the direct object pronoun undergoes in seven different ways, for three diagnostics, across three obligatory contexts. These results are summarized in the table below, where + indicates an observed shift from blocking interpretation of the lower copy to allowing it.

Table 2

Reconstruction effects observed for obligatory direct object pronouns

	Free relatives	Bound variable anaphora	Idiomatic readings
Weak crossover	+	+	+
Experiencer object	+	+	-
Complement of <i>only</i>	+	+	-

The consistent shift which the object pronoun undergoes in obligatory contexts suggests that competition with gaps plays a major role in determining the interpretation of the pronoun. In this respect, resumptive pronouns turn out to be surprisingly similar to ordinary pronouns. Whereas an ordinary pronoun may be treated as an anaphor in the absence of the corresponding anaphoric form (Pica 1984, Burzio 1989, Hornstein 2001, Safir 2004, Grolla 2005, Rooryck & Wyngaerd 2011, Reuland 2011), a resumptive pronoun may be interpreted like a gap when a gap would be ungrammatical. This is close to previous analyses of resumptive pronouns as ‘elsewhere’ elements ((Shlonsky 1992, Pesetsky 1998, McDaniel and Cowart 1999). It also has a strong affinity with approaches which acknowledge the shared ‘elsewhere’ status of ordinary and resumptive pronouns and seek a unified treatment, such as Hornstein (2001) and Grolla (2005). All these approaches share the intuition that resumptives are used when gaps are impossible, but they focus on distribution and do not pay any particular attention to interpretation. The present study shows that the ‘elsewhere’ status of pronouns has systematic consequences for interpretation, and these interpretive effects bring the alternation further into the fold of known pronominal alternations, such as the pronoun/anaphor alternation, or the overt subject / null subject alternation (Montalbetti 1984, Larson and Lujan 1999). The similarity to ordinary pronouns also suggests that resumptive pronouns are not a grammatical primitive.

There are two things about competition and the principle in (23) which deserve further discussion. Following Chomsky (1993), the reference set, the set of derivations which qualify for competition, should include derivations with identical numerations, so if pronouns were lexical items, a competition between distinct

derivations should not be possible. We have seen that the properties of the pronoun are completely determined by external factors, the existence of a gap alternative and the structure in which the pronoun occurs. This implies not only that there is no need for a lexicon to pair meaning and sound, but, more strongly, that having a lexicon do anything beyond storing the morpho-phonological form of pronouns would be empirically wrong. If resumptive pronouns spell out pieces of structure, possibly because they are akin to agreement morphemes, the potential problem for trans-derivational competition and reference set computation becomes irrelevant: the resumptive competition is between distinct realizations of a single derivation and a single numeration.¹³

Once it is accepted that resumptive pronouns are not lexical items merged from a lexicon another issue resolves itself. The preference for a gap, the less specified form, doesn't square with other known blocking effects, where the more specific item typically blocks the less specific one (Embick & Marantz 2008). If competition in (23) is not among distinct lexical items there is no *a priori* reason to expect it to conform to other blocking effects.¹⁴

3 Principle C and Head-external RCs

The contexts examined up until now focus on the low copy and motivate the Raising structure. In other contexts, such as potential Principle C violations, a high head-external copy must be interpreted, and these configurations motivate a head-external structure (Sauerland 1998, Bhatt 2002, Sauerland 2004, Hulsey & Sauerland 2006). These two RC structures account for the behavior of the two classes of resumptive pronouns introduced in section 2. While obligatory pronouns, by hypothesis, may

inhabit the Raising structure, optional pronouns are confined to the head-external structure. The structural ambiguity hypothesis explains why it is that resumptive pronouns should differ in precisely this way, and in this respect, the typology of pronouns provides new support for the structural ambiguity of relative clauses.

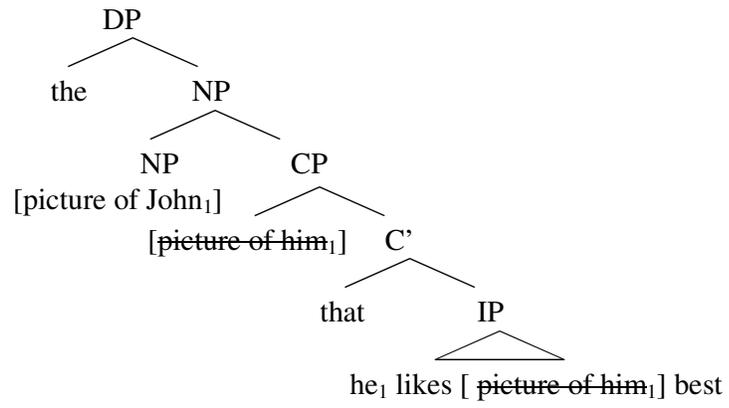
As is well known, RCs differ from questions when it comes to potential Principle C violations. Whereas wh-questions with a name in the wh-phrase violate Principle C and imply reconstruction, RCs with a name in a similar configuration can escape a Principle C violation.

(38) a. *[Which picture of John₁]₂ does he₁ like t₂ best?

b. Which is [[the picture of John₁]₂ that he₁ likes t₂ best]?

Contexts such as these suggest that alongside low copy interpretation, RCs must also have the option of interpreting a high head-external copy. Interpreted in this position, the name in (38b) isn't bound and no violation accrues.¹⁵ Sauerland (1998, 2004) argues that all RCs have a low copy. Why doesn't the low copy in the head-external RC induce a Principle C violation? Following Safir (1999), Sauerland argues that when the external head includes a name, another mechanism can come into play to prevent the violation. The 'vehicle change' operation originally proposed by Fiengo & May (1994) refers to a permitted discrepancy between an elided phrase and its antecedent. Where the antecedent contains an R-expression, the elided phrase may contain a pronominal bearing the same index, and this will circumvent a potential Principle C violation. Sauerland proposes that vehicle change is possible in a head-external RC because the copy within the RC is not a copy of the RC head, and for this reason semantic identity is sufficient. This is the Matching structure, with movement within the RC and ellipsis of both RC-internal copies.

(39) a. Matching Structure



The evidence that vehicle change, not absence of a low copy, is behind the circumvention of the violation, and that the low copy is present, comes from quantifiers, as in the Secondary Strong-Crossover contexts discovered in Postal 1993. Within adjuncts, quantifiers can escape the violation by being late-merged directly into the RC head (Safir 1999), but for a quantifier within a complement there is no escape: vehicle change is impossible, and late-merger is not an option. This shows us that in addition to the head-external copy, the low copy must also be available for interpretation, as in the Matching structure in (39).

- (40)a. *[pictures of anyone₁] which he₁ displays prominently are likely to be attractive.
 b. [pictures on anyone₁'s shelf] which he₁ displays prominently are likely to be attractive.

The basic Hebrew facts are no different from English. A violation is observed when a name in the wh-phrase of a question is contained in a complement, but not in the corresponding RC structure.

- (41) a. *[eyze tmuna Sel dani₁]₂ hu₁ cilem t₂?
 which picture of dani he photographed
 b. zot [[ha-tmuna Sel dani₁]₂ (Se-rina amra) Se-hu₁ cilem t₂ be-hodu.
 this the-picture of dani that-rina said that-he photographed in-India
 'This is the picture of Dani₁ that Rina said he₁ photographed in India.'

The grammaticality of (41b) implies a head-external RC structure. Optional and obligatory resumptive pronouns are similar to gaps in this respect.

- (42) zot [ha-tmuna Sel dani₁]₂ (Se-rina amra) Se-hu₁ cilem **ota**₂ be-hodu.
 this the-picture of dani that-rina said that-he photographed it in-india
 'This is the picture of Dani₁ that he₁ took in India.'

(43) zot [ha-yedida Sel dani₁]₂ (Se-rina amra) Se-hu₁ higi'a **ita**₂.

this the-friend of dani that-rina said that-he arrived with-her

'This is the friend of Dani₁ that he₁ arrived with.'

The similarity of gaps and optional pronouns in this context contrasts with the difference between them in contexts which require reconstruction, where a gap was possible and an optional pronoun was impossible. The pattern can be made sense of if relative clauses are structurally ambiguous along the lines suggested above: the Raising structure may host gaps and obligatory pronouns, and the head-external structure may host gaps, obligatory pronouns, and optional pronouns.

Table 3

The distribution of pronouns and gaps across RC structures I

	Raising RC	Head-external RC
Gaps	+	+
Obligatory pronouns	+	+
Optional pronouns	-	+

While (41-43) provide evidence for a head-external RC in Hebrew, they cannot discriminate between different versions of the head-external structure. Similarly, the behavior of the optional pronoun does not discriminate between the different versions. There are three versions to consider. First, the classic head-external structure, in which relativization is derived by operator movement (Chomsky 1977). In this structure there is no low copy of the RC head, so pronouns in this structure would be incompatible with reconstruction, as desired. Second, there is the Matching structure (39), proposed to replace the classic structure. Even though the structure contains a low copy, a pronoun in this structure would be incompatible with reconstruction because the high, head-external copy, is necessarily interpreted. This implies that constructions which require interpretation of the low copy (anaphor binding with a low antecedent, embedded idiomatic interpretation, and amount readings) could not be hosted by this structure. Third, there is a simple ‘no frills’ head-external structure to consider. In this structure there is no movement and the pronoun is related to the RC-head via binding (McCloskey 1990, Aoun, Choueiri & Hornstein 2001 among others; I will refer to this as the non-movement RC). This structure too would correctly exclude reconstruction, and pronouns confined to this structure would be incompatible with the constructions just mentioned. Table 3 summarizes the characterization of head-external structures.

(44) Head-external non-movement RC

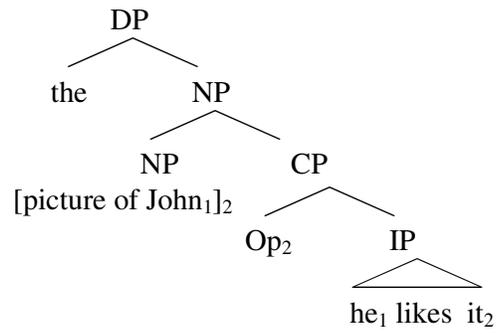


Table 3

The typology of head-external structures

	Operator-movement RC	Matching RC	No-movement RC
Reconstruction for Principle A, idiom interpretation, amount readings	-	-	-
Locality effects	+	+	-

The behavior of pronouns provides no special reason to adopt the classic Op-movement structure, and I assume, following Sauerland (1998, 2004), and Bhatt (2002), that when gaps inhabit a head-external structure, it is the Matching structure (39). Since movement is involved, the Matching structure is consistent with gap RCs obeying locality effects. Pronouns, on the other hand, may repair island violations (Borer 1984). Assuming the standard (non-PF) approach to island violations, pronouns must be allowed to occur in a non-movement RC.¹⁶ I will assume therefore that all pronouns, obligatory and optional, may occupy the non-movement RC. We have the following division for gaps and pronouns across RC structures:¹⁷

Table 4

The distribution of pronouns and gaps across RC structures II

	Head Internal	Head External	
	Raising	Matching	No-Movement
Gaps	+	+	-
Obligatory Pronouns	+	?	+
Optional Pronouns	-	?	+

The table leaves open the compatibility of pronouns with the Matching structure. As discussed above, having pronouns inhabit the Matching structure would be consistent with their reconstruction properties. However, a pronoun in this structure would incorrectly be associated with locality effects. This is not really a problem as long as the non-movement RC is also available to host pronouns, since any violation incurred in the first structure would be repaired in the second structure. Given the facts considered so far we simply cannot tell whether pronouns are compatible with this structure or not.¹⁸ For simplicity, I will assume that they are not, and that an optional pronoun is confined to a non-movement head-external RC. With this in place we turn to discuss the nature of competition in relative clauses.

4 Competition in Relative Clauses

We have seen so far that Raising structures exclude optional pronouns but head-external RCs do not. This raises an obvious question regarding the scope of competition in RCs: Why should the Raising structure be subject to competition, but the head-external structure is not? Another question has to do with the property for which gaps and pronouns are competing: what is this property and why do gaps win?

If optional pronouns are only possible in a non-movement head external structure, then competition must be limited to RCs created by movement. It is \bar{A} -movement chains, specifically, which are subject to the principle which prefers gaps over pronouns whenever possible.¹⁹ If the other structure is not derived by movement, then there will be no null copy to prefer over a pronoun, since the null counterpart, when it exists, could only be a null pronominal (see footnote 16). This way of

restricting the scope of the competition principle delivers a simple and natural account of the absence of reconstruction effects in the presence of optional pronouns.²⁰

We now turn to the second question, regarding the property that gaps and pronouns compete for. Recall the principle in (23) above, repeated in (45).

(45) The tail of the chain in the Raising structure is realized as a null copy when possible; a pronoun is possible only if a null copy is impossible.

The rationale for (45) can be understood in structural terms. I assume that the null copy and the pronoun are part of a richer typology which may also include weak and strong pronominals in languages which have this distinction. These forms are arranged on a scale:²¹

(46) gap > clitic / weak pronoun > strong pronouns

The preference for the weakest form recalls Minimize Structure (Cardinaletti & Starke 1999). Cardinaletti & Starke (1999) propose this principle to regulate the choice of pronominal form in a given sentence. Clitics, weak pronouns, and strong pronouns are characterized structurally and incrementally, such that the structure of a clitic (an IP-like projection) is included in the structure of a weak pronoun (a SigmaP-like projection), which is included in the structure of a strong pronoun (a CP-like projection).²²

(47) Strong Pronoun:	[CP ... [SigmaP ... [IP ...
Weak Pronoun:	[SigmaP ... [IP ...
Clitic:	[IP ...

Cardinaletti & Starke (1999) propose Minimize Structure to block strong pronouns in contexts in which weak pronouns are possible, similar to the way in which pronouns are excluded in the Raising structure when gaps are possible. If this kind of approach

is correct, it implies that gaps are preferred not because of the accompanying silence, but because a null copy of movement would be even smaller than a clitic, possibly just an NP/nP projection. This is consistent with the claim in Kayne 1994 and later work about the reduced size of the raising constituent in relative clauses, less than a full DP, and more generally, with the idea that reconstruction in \bar{A} -chains is partial reconstruction, excluding the higher projections which bear determiners and quantifiers (Sauerland 1998, Fox 1999).²³ We now turn to a new and independent argument for the structural ambiguity of RCs.

5 Extraction Asymmetries

Under certain conditions, extraction is possible from a Raising RC, and this is reflected in the distribution of pronouns. In addition to the interpretive asymmetry discussed in section 2, Doron 1982 introduces an asymmetry between gaps and direct object pronouns with respect to overt extraction from an RC: an RC realized with a gap allows extraction and an RC resumed by a direct object pronoun blocks extraction. The phenomenon refers to extraction of a constituent, in addition to the relativized constituent, and resumption refers to the chain which forms the RC, not to the chain formed by extracting from the RC. In other words, a resumed RC is an island for extraction, where the corresponding non-resumed RC is not, as schematized below.

- (48) a. $XP_2 \dots [_{RC} NP_1 \dots t_1 \dots t_2]$
 b. $*XP_2 \dots [_{RC} NP_1 \dots pronoun_1 \dots t_2]$

I show that in this respect as well, obligatory pronouns pattern with gaps, and I will argue that under certain conditions, Raising RCs allow extraction. This is signaled by

the distribution of pronouns. The reconstruction pattern and the extraction pattern reveal a striking correlation: pronouns which block reconstruction also block extraction, and pronouns which allow reconstruction also allow extraction. This suggests a common source for reconstruction and extraction. Since extraction is purely syntactic, the correlation supports the syntactic analysis of reconstruction and the structural ambiguity of relative clauses.²⁴ Conversely, if reconstruction is syntactic, it requires the Raising structure, and this implies that extraction, when possible, is launched from a Raising RC.

Under certain conditions Hebrew relative clauses allow extraction. In the following examples the direct object is relativized, and a PP argument of the embedded predicate is topicalized ((49c) is adapted from Cinque 2010). This is schematized in (49d), abstracting away from the particulars of the RC structure.

- (49) a. me-ha-sifria hazot₂, od lo macati [sefer₁] Se-kedai PRO le-haS'il t₁ t₂.
 from-the-library this yet not found book that-worth to-borrow
 'From this library, I haven't yet found a single book that's worth borrowing.'
- b. ba-mis'ada hazot₂, Samati rak al [kinuax exad]₁ Se-keday le-hazmin t₁ t₂.
 in.the-restaurant this, heard.I only on desert one that-good to-order
 'In this restaurant, I heard only about one desert that's good to order.'
- c. al lexem Saxor₂, ani makira rak [gvina levana axat]₁ Se-efSar limroax t₁ t₂.
 on bread black I know only cheese white one that-possible to-spread
 'On black bread I know only one white cheese that it is possible to spread.'
- d. PP₂ V [DP ... NP₁ [... V t₁ t₂]]

The extractions in (49) are somewhat surprising since relative clauses are supposed to be islands for extraction (Ross 1967, Chomsky 1986). Hebrew, however, is not alone

in this respect; extraction from relative clauses in the Scandinavian languages has been discussed extensively (Erteschik 1973, 1982, Engdahl 1980, Taraldsen 1982, Erteschik-Shir 1997, Engdahl 1998), and has recently been observed in Romance languages as well (Cinque 2010)).²⁵ In contrast to a gap, a direct object resumptive blocks overt extraction from the RC which it resumes (Doron 1982).²⁶

- (50) a. *me-ha-sifria hazot₂, od lo macati [sefer₁] Se-kedai le-haS'il **oto**₁ t₂.
 from-the-library this yet not found book that-worth to-borrow it
- b. *ba-mis'ada hazot₂, Samati rak al [kinuax exad]₁Se-keday le-hazmin **oto**₁ t₂.
 in.the-restaurant this, heard.I only on desert one that-good to-order it
- c. *al lexem Saxor₂, ani makira rak [gvina axat]₁Se-keday limroax **ota**₁ t₂.
 on bread black I know only cheese one that-worth to.spread it
- d. *PP₂ V [DP ... NP₁ [... V it₁ t₂]]

These examples show that the pronoun which blocks reconstruction also blocks extraction of another constituent from the relative clause whose head it resumes.²⁷ If reconstruction and extraction are truly related, we expect resumptives in PP/NP to behave like gaps, and not like other pronouns. Extraction should be possible, and it is. In the following examples, the DP within one PP is relativized, producing an obligatory pronoun within PP, boldfaced in (51a-b). The other PP is extracted.²⁸

- (51) a. im ha-balSan haze₂ od lo macati [be'aya₁ [**PRO** le-daber t₂ aleya₁]].
 with the-linguist this, yet not found problem to-talk about-it
 'With this linguist, I haven't yet found a problem to talk about.'
- b. ?al ha-be'aya hazot₂ od lo macati [taxbiran₁ **PRO** le-daber ito₁ t₂].
 about the-problem this, yet not found syntactician to-talk with-him
 'About this problem, I haven't yet found a syntactician to talk to.'

The behavior of obligatory pronouns within PPs shows that there is a full correlation between reconstruction and extraction. Optional pronouns block reconstruction and block extraction, and now we see that obligatory pronouns allow reconstruction and allow extraction. This strongly suggests that the possibility of reconstructing the RC head and the possibility of extracting another constituent are related, as suggested originally in Doron 1982 (see Aoun & Benmamoun 1998 for a related correlation). With a few more details in place, it may also imply that reconstruction in relatives is syntactic, as in the Raising analysis of RCs. In Section 5.1 it is argued that the fronted PP in (49) and (51) is the result of actual movement, and in Section 5.2 independent evidence is presented for the claim that the structural source for extraction is a Raising RC.

5.1 The Nature of the Fronting Operation

There are two alternatives to the movement analysis to consider. The PP may be base-generated in initial position, from where it \bar{A} -binds a *pro* in argument position, along the lines of Cinque 1990. Cinque argues that a number of constructions commonly considered to be derived by wh-movement do not involve a movement chain: parasitic gaps, complement object deletion constructions, and also the gaps in what he calls ‘apparent extraction from islands’, from an adjunct island (Cinque 1990 ch 3 example 1) and from a relative clause island (Chomsky 1986). Cinque demonstrates that these constructions are more selective than standard wh-movement constructions in a number of respects. Among other restrictions, only a DP is allowed at the head of the chain. PP extraction from a RC island, for example, is impossible in Italian, but DP extraction is perfectly acceptable (from Cinque 1990 ch 3 example (17)):

(52) a. I Rossi, che dubito ci sia qualcuno disposto a rivedere dopo quanto è

successo...

‘the Rossis, who I doubt there is anybody willing to see again after
what happened...’

b. *I Rossi, in cui dubito ci sia qualcuno disposto a confidare, dopo quanto è

successo,...

‘the Rossis, in whom I doubt there is anyone willing to confide after what
happened...’

Cinque proposes that the empty category in (52a) is an \bar{A} -bound null pronoun, not a trace, since a null pronominal is necessarily a DP. If a gap in this context can only be a null pronominal, this can explain why PP-relativization in (52b) is ungrammatical. Since the relative clauses in (49) and (51) all involve fronted PPs, they wouldn’t count as ‘apparent island violations’ in this sense.²⁹

Another alternative would have the initial PP as part of the matrix IP, either as a direct dependent of the matrix predicate by virtue of an ‘aboutness’ relation (Davies 2005, Landau 2009, Gallego 2010 among others), or as an ordinary argument of the matrix predicate. An aboutness relation is exemplified by the about-phrase in the English proleptic construction in (53) (from Davies 2005).

(53) I believe about Kate that she won the daughter-of-the-year award.

An analysis of (49) and (51) along these lines is highly unlikely since the matrix predicate need not denote an activity or event which is ‘about’ anything. While saying, proving, thinking, or regretting, can be about an entity, finding x or being familiar with x are not about anything. The main predicate in (49b) is ‘hear’, which can certainly be about something, but in this example the fronted constituent ‘in this restaurant’ is a locative, so it is not compatible with an ‘aboutness’ interpretation.

Conversely, the fronted constituent in (52b) contains a locative preposition which in this context does denote the meaning of ‘about’, but it cannot be construed as a matrix dependent, since the matrix predicate ‘find’ cannot be about anything. Therefore, it doesn’t look like these initial PPs stand in an ‘aboutness’ relation to the matrix clause. The other option, in which PP is an ordinary argument of the matrix predicate is not very likely either given the particular combinations of locative prepositions and matrix predicates. Furthermore, an idiomatic interpretation of the fronted PP seems to be available, where the fronted PP is construed as an idiom chunk associated with the embedded predicate. This too suggests a movement chain.

- (54) me-ec ka-ze gavoha, lo xaserim anaSim Se-lo yed’u eix la-redet ____
 from-tree so high, not lacking people that-not know how to-come.down
 ‘There’s no shortage of people who wouldn’t know how to come down from a
 tree that high.’

Therefore, the sentence-initial position of the PP in (49) and (51) seems to be derived by movement, and relative clauses do seem to allow extraction under certain conditions. Some of these conditions are discussed next.

5.2 Some Conditions on Extraction from Relative Clauses

If the analysis of the correlation with reconstruction is on the right track, extraction is launched from a Raising RC. The hypothesis under consideration is that the factor which distinguishes the grammatical extractions in (49) from the ungrammatical ones in (50) is the choice between a Raising or head-external structure. This account appeals to structure, and the effect of the pronoun is only indirect, mediated by the mapping of pronouns to RC structure. There is a potential non-structural alternative which would appeal directly to the semantic contribution of the pronoun, sketched

briefly in the next paragraph. The argument developed below is constructed to show that extraction possibilities are independent of the presence of pronouns.

A direct appeal to the presence of the pronoun could capitalize on the fact that in the good extractions in (49) the RC appears in an existential, or narrow scope, environment. This requirement is not well understood, but it seems to be closely related to a similar constraint on extraction from simple, non-relative, DPs (Erteschik-Shir 1973, 1981, Fiengo & Higginbotham 1981, Dubinsky & Davies 2005 among many others).³⁰ Recall from section 2.1 example (3) that the optional direct object pronoun forces the De Re reading of the RC head. Combining this with the existential requirement on extraction, it could be claimed that the pronoun blocks extraction because it induces specificity, and as a result the requirement for an existential context is no longer met. This alternative semantic account would assimilate direct object pronouns to the ingredients of specificity or definiteness which block extraction from a simple DP in English.

- (55) a. Who₁ did you hear [_{DP} jokes about t₁]
b. *Who₁ did you hear [_{DP/+Specific} those silly jokes about t₁]
c. *...Wh₁ [_{DP/+Specific} ... NP₂ it₂ ... t₁]

The examples below are constructed to tease apart structural considerations from factors related to the semantics of the pronoun, such as specificity, by showing that extraction is impossible from a head-external structure even when there is no resumptive pronoun and the RC couldn't be said to be specific.

In order to establish that extraction requires the Raising structure we would need to show that it is impossible to extract when the RC is clearly head-external and does not contain a pronoun. The head-external structure can be forced by a potential

Principle C violation, or by having an anaphor in the RC head which must be bound from a position in the matrix clause. The following examples are constructed to support extraction from an unambiguous head-external structure. First, the RCs are all narrow-scope existential. Second, the examples have PP as the extracted constituent (Cinque 1990). The discourses in (56) provide contexts for existential head-external RCs, with either an R-expression in the RC head (B's response in (56a)) or an anaphor bound from the matrix clause (B's response in (56b)).

(56) a. A: Samati Se-dani₁ sone et kol tmunot ha-bar mitzva Selo₁.

heard.I that-dani hates ACC all pictures the-bar mitzvah his

'I heard that Dani hates all his Bar Mitzvah photos.'

B: lo, yeS kama tmunot bar mitzva Sel dani₁ Se-hu₁ lakax mi-doda Selo₁.

no, is few pictures bar mitzvah of dani that-he took from-aunt his

'No, there are a few Bar Mitzvah pictures of Dani that he took from his aunt.'

b. A: Samati Se-dani₁ hexbi et kol ha-tmunot Sel miri Se-hu₁ cilem.

heard.I that-dani hid ACC all the-pictures of miri that-he photographed

'I heard that Dani hid all the photos of Miri that he photographed.'

B: naxon, ein la₁ af tmuna Sel acma₁ Se-dani cilem.

true, neg to.her no picture of herself that-dani photographed

'True, she doesn't have any photo of herself that Dani photographed.'

The following examples test extraction. A context with a potential Principle C violation is given in (57a), and a context with matrix binding in (58a). Extraction is impossible in both of them, in contrast to the grammatical extractions where an external head RC isn't forced, such as (57b), with a pronoun in the RC head, or (58b), where the antecedent is embedded and reconstruction is forced.

(57) a. *me-ha-doda hazot₃, yeS [kama tmunot bar micva Sel dani₁]₂ Se-hu₁ lakax t₂ t₃.

from-the-aunt this is few photos Bar Mitzva of dani that-he took

b. me-ha-doda hazot₃, yeS [kama tmunot bar micva Selo₁]₂ Se-hu₁ lakax t₂ t₃.

from-the-aunt this exist few photos Bar Mitzva of-his that-he took

‘From this aunt, there are a few Bar Mitzvah photos of his /*Dani that he took.’

(58) a. *al kir ba-maxlaka₃, yeS lo₁ rak [tmuna axat Sel acmo₁]₂ Se-ani

on wall in.the-department is to.him only picture one of himself that-I

muxana litlot t₂ t₃.

willing to.hang

b. al kir ba-maxlaka₃, yeS rak [tmuna axat Sel acmo₁]₂ Se-hu₁

on wall in.the-department is only picture one of himself that-he

muxan litlot t₂ t₃.

willing to.hang

‘On a wall in the department, there is only one picture of himself that he is willing to hang.’

When the RC head is necessarily interpreted in its surface position it is not possible to extract from a relative clause and conversely, when the RC head is interpreted within the relative clause extraction is possible. This is further demonstrated on free relatives, which necessarily have the head interpreted within the RC (see section 2.1). Grosu & Landman (1998) observe that free relatives are similar to embedded questions in allowing extraction (in some languages). Romanian allows extraction from an embedded question and from a free relative (Grosu & Landman 1998). In Hebrew too it is possible to extract from an embedded question (Reinhart 1981, Preminger 2010) and from a free relative.

(59) a. al ma at lo yoda'at [im mi [efSar le-daber]?

about what you not know with who possible to-talk

'What don't you know with who it is possible to talk about?'

b. al ma ein lax [im mi le-daber]?

about what neg.BE you with who to-talk

'What don't you have with who to talk about?'

These examples suggest that it is possible to extract from a RC only if the head is interpreted within the RC. Why should the interpretation of the RC head have this effect on extraction? While limitations of space preclude the development of a fuller analysis, these examples provide the foundations for an account in which extraction is facilitated by the same kind of structural conditions which give rise to reconstruction. Given the similarity of Raising RCs to embedded questions, and the possibility for selective extraction from embedded questions, in some languages, and under certain conditions, it is perhaps not so surprising that extraction from RCs should sometimes be permitted as well, in some languages, and under certain conditions. The abstractness of the requirement for a Raising RC and the very specific conditions which must be in place to enforce it, may explain why the systematic possibility for extraction from an RC has not been fully acknowledged up until now.³¹

The conclusion is based on contrasts which are completely independent of resumptive pronouns, showing that the effect of the pronoun on extraction is only indirect, mediated by the structure which the pronoun inhabits: optional pronouns are confined to an externally headed RC, so the presence of an optional pronoun will necessarily be correlated with blocked extraction.³² The restriction of extraction to the Raising structure provides evidence of an entirely new sort for the structural

ambiguity of relative clauses. Since extraction is purely syntactic, and reconstruction is observed under similar conditions, it follows that RC reconstruction is similarly syntactic, derived by movement.

Before concluding this section it is important to address one of the strongest objections to a movement analysis of reconstruction with resumptive pronouns. The objection is based on the expectation that pronouns which are compatible with reconstruction should exhibit sensitivity to islands (Salzmann 2009, Asudeh 2011, Rouveret 2011). The objection is certainly justified. It seems, however, to overlook variation in the resumptive typology: there are pronouns which are sensitive to islands, as in Swedish (Engdahl 1980), Vata (Koopman 1983), and Welsh (Tallerman 1983, Rouveret 1994), and there are pronouns which are not sensitive to islands, in Hebrew, Irish, and other languages. It is only pronouns of the latter type which challenge the movement analysis of resumptive pronouns. On the analysis developed above, the latter type are confined to the head-external structure, and do not involve movement. The prediction regarding sensitivity to islands is therefore more fine-grained: resumptive pronouns generated by movement should be sensitive to islands, but resumptive pronouns which do not exhibit reconstruction effects are not derived by movement, and are not expected to be sensitive to islands and locality.

Testing this prediction is not easy, since the locality-sensitivity of movement-derived pronouns can be masked by the availability of a non-movement structure. This is the situation typically encountered in Hebrew, for example, where obligatory pronouns in PP/NP can be generated either in the Raising structure, where locality effects are expected, or in the head-external structure, where locality effects are not expected (recall Table 3 The typology of RC structures and the discussion of head-

external structures in section 3). Therefore, when both structures are available, sensitivity to locality is not observed. It is possible, though, that some languages do not have access to the head-external structure. This may well be the situation in Welsh, a language in which Principle C violations are observed in the presence of resumptives, suggesting the absence of a head-external structure, with consequences for locality.³³ The prediction can also be tested in languages of the Irish / Hebrew type, if care is taken to select an unambiguous Raising relative, such as a free relative or an amount relative. Borer (1984) shows that resumptive pronouns in free relatives, in contrast to ordinary relatives, are sensitive to islands. The examples in (60) show a pronoun in a PP within a complex NP island, and compare a free relative (60a) with a pronoun in an ordinary relative (60b) (example (41) in Borer 1984). The amount relative in (61) shows the same thing. The context is an election campaign, where what matters are numbers, not any particular people. The example in (61b) contains an amount relative with a CNP island, and again it is degraded.

(60) a. *ze ma₁ Se-pagaSti et ha-iS₂ Se-t₂ hexlit alav₁.

this what that-met.I ACC the-man that- decided on.it

b. raiti et ha-yeled₁ Se-dalya makira et ha-iSa₂ Se-t₂ xaSva alav₁.

saw.I ACC the-boy that-dalya knows ACC the-woman that thought on.him

‘I saw the boy who Dalya knows the woman who thought about him.’

(61) a. mad’igim otanu ha-alpayim tomxim₁ Se-menahel ha-kampein

worry.pl us the-two.thousand supporters that-head the-campaign

muxan levater aleyhem₁ be-yeruSalayim.

willing to.give.up on.them in-Jerusalem

‘We are worried about the two thousand supporters who the head of the

campaign is willing to give up on in Jerusalem.’

b.??mad’igim otanu ha-alpayim tomxim₁ Se-dibarnu im menahel
worry.pl us the-two.thousand supporters that-we.talked with head
ha-kampein Se-muxan levater aleyhem₁ be-yeruSalayim
the-campaign willing to.give.up on.them in-Jerusalem
‘We are worried about the two thousand supporters who we spoke with the
head of the campaign who is willing to give up on in Jerusalem.’

When care is taken to isolate relatives that do not have a head-external analysis, the island-sensitivity of resumptive pronouns rears its head. This is exactly what is expected on the analysis which says that UG makes available more than one structure for relative clauses. Without the structural ambiguity of RCs it is difficult to see how selective island sensitivity could even be accounted for.

6 Conclusions and Questions

Up until now, the basis for the ‘elsewhere’ analysis of resumptive pronouns has been the observation that pronouns can be used where gaps would be impossible. The conclusions from this study add an interpretive dimension: the interpretation of a pronoun is the same as the interpretation of the gap would have been were it not ungrammatical. The existence of resumptive pronouns which are not interpreted like gaps presents particularly strong evidence for the ‘elsewhere’ view: *only* when a gap is impossible can a pronoun be used in this way.

The paper also reveals a correlation between reconstruction and extraction from RCs. Based on the purely syntactic status of extraction, it is argued that relative clauses are ambiguous between a Raising derivation and a head-external derivation,

that reconstruction is syntactic, and that it relies on the copy theory of movement as realized in the Raising structure. The syntactic analysis of reconstruction effects is also independently supported by the typology of resumptive pronouns. Since there is no related semantic division for ordinary pronouns, it is difficult to see what other source this division could have.

The view of resumptive pronouns emerging from this study is remarkably close to the current understanding of ordinary pronouns and Principle B effects. Recent attempts to dissolve the Binding Theory have turned to theories of competition to derive Principle B and complementarity with anaphors (Hornstein 2001, Safir 2004, Rooryck & Wyngaerd 2011, Reuland 2011). Some of the strongest evidence in that domain comes from the observation that a pronoun may take on anaphoric properties when an anaphor is unavailable (Pica 1984, Burzio 1991, and many others). Here we have seen that when gaps are unavailable, resumptive pronouns may take on the interpretive properties typically associated with gaps. While resumptive pronouns certainly have special properties which distinguish them from ordinary pronouns, these special properties are due to the RC context in which they occur. This is expected if resumptive pronouns are just pronouns.

If its properties derive from external factors, it is unlikely that a resumptive pronoun is a lexical item merged from the (traditional) lexicon. A better understanding of their non-lexical nature and how exactly they emerge in the course of the derivation should ultimately also shed more light on the source of distributional differences, on what makes some pronouns obligatory and others optional.

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¹Some speakers find the differences between pronouns and gaps in (5) to be subtle. A reviewer mentions the following, with a resumptive pronoun, as compatible with an idiomatic interpretation:

- (i) me'uxar miday, kol xatul₁ Se-toci'u oto₁ me-ha-sak axSav lo ya'acor
late too any cat that-you.take it from-the-bag now neg stop
et ha-projekt ba-Salav haze
ACC the-project at.the-stage this
'It's too late. Any cat that you pull out of the bag now cannot stop the
project at this stage.

The crucial comparison is between the direct object pronouns in (5), and the indirect object pronouns in (10) below. All speakers I have consulted find the difference between the two classes robust and obvious.

²Example (13b) is taken from (12c) in Bianchi 2004; (13c) is (13c); (14b) is (67a), and (14c) is (70a) in Bianchi 2004. The Hebrew examples in (13a) and (14a) have been modified to highlight the amount reading, since distances refer to amounts.

³See Arad 2010 for another contrast between optional and obligatory pronouns, regarding the scope of adjectival modifiers in the RC head.

⁴When the RC has a fronted focal constituent the subject resumptive is possible alongside a gap (Shlonsky 1992). There are speakers who find embedded subject resumptives similarly degraded. The judgments in this section reflect the intuitions of speakers who generally accept embedded subject resumptives.

⁵See Malkawi 2009 for the claim, in the context of Jordanian Arabic, that the availability of a gap alternative has an effect on the interpretation of the pronoun. See also footnote 21 below.

⁶See Pesetsky 1998 and Bianchi 2004 for accounts in terms of the inherent properties of pronouns.

⁷I thank Philippe Schlenker, Edit Doron and Luka Črnič (personal communication) for suggesting the weak crossover, object experiencer and complement of *only* environments, respectively. According to Landau 2009 the experiencer object of a psych verb is a PP, hence a resumptive in this position is essentially another case of an obligatory pronoun in PP.

⁸All pronouns have this effect:

(i)ze ha-baxur₁ Se-ima Selo₁ dibra alav₁ / ito₁ / im ha-xavera Selo₁.

this the-guy that-mother his talked about-him / with-him / with his girlfriend

‘This is the guy who his mother talked about him / with him / with his girlfriend.’

The obligatory pronouns in (i) are particularly interesting in this respect since syntactically, they inhabit the Raising structure just like gaps do, so it doesn’t look like the repair of WCO is related to structure. Neither can a semantic property such as specificity be the decisive factor in the repair of WCO (see Falco 2007), since obligatory pronouns in NP/PP are no more necessarily specific than gaps (as shown in 2.1). The WCO repair by a necessarily non-specific pronoun in the free relative in (29) below is particularly revealing in this respect (thanks to Valentina Bianchi p.c. for pointing this out). This suggests that phonological form is the crucial factor in WCO repair, and supports an account of WCO along the lines of a parallelism condition, which requires the two variables to be realized in the same way, either as gaps or as pronouns (Safir 1984, 1996).

⁹Recall that the discussion in Section 2.1 left open the possibility that bound variable anaphora with an RC-internal quantifier may ultimately involve QR of the quantifier (with or without reconstruction of the RC head). The details of the analysis, however, are less important than the status of the pronoun, which is identical to its status in standard cases of reconstruction: a pronoun which in an ordinary context is degraded is much more acceptable in an obligatory context. It is argued in Section 5 that extraction, in this case QR, is possible in the same Raising structure which licenses reconstruction and is subject to (23). Either way, the bound variable test is diagnosing the Raising RC, either because it involves reconstruction or because it involves QR.

¹⁰The object idiom chunk diagnostic could not be applied to Obj-Exp objects or objects in the complement of a focus particle. Focus on the RC head tends to restrict interpretation to the literal reading, regardless of the presence of the pronoun. An idiomatic Obj-Exp construction could not be found. If such an object idiom chunk exists, the idiomatic interpretation should allow direct object resumption.

¹¹For some speakers judgments were not always consistent. Perhaps this is to be expected given the unavoidable complexity of some of the examples. It is hopefully controlled for, at least partially, by testing a single phenomenon in 7 different ways.

¹²A potentially important issue is how to derive reconstruction for the parasitic gap in the complement of ‘chose’. I will assume, following Chomsky 1986 and many others, that parasitic gaps are derived by movement, but that the moving constituent is a full copy, semantically equivalent to the antecedent of the real gap. This accounts for locality effects (Kayne 1983) and for reconstruction effects with parasitic gaps, and I assume that in (33c) and (37c) the pronoun realizes the tail of this chain.

¹³See Hornstein 2001 for similar reasoning and a related conclusion regarding the non-lexical status of pronouns, and Bianchi 2004 for a similar conclusion for different reasons.

¹⁴See section 4 for the rationale for preferring gaps over pronouns.

¹⁵The head-external structure is not the only way to capture the lack of Principle C effects. Here I briefly mention two other possibilities. In Bianchi 2004, all restrictive relatives are derived by movement of the RC head. To block reconstruction for Principle C it is proposed that only referentially independent R-expressions count for Principle C, where referential independence is associated with R-expressions within

the high, non-bound, copy. Given the movement derivation, this implies that the neutralization of a Principle C effect should coexist with reconstruction for anaphor binding, and (ia) should be fine alongside (ib), but (ia) is degraded. See also discussion in Sauerland (2003).

- (i) a. *That's the picture of herself₁ with John₂ that she₁ reminded him₂ of.
b. ?That's the picture of herself₁ with him₂ that she₁ reminded him₂ of.

Donati & Cecchetto (2011) propose a Late Merge approach to adjuncts within RC heads where Principle C effects are alleviated, where the constituent introducing the R-expression is merged directly into the head position. This leads to the expectation that reconstruction effects for material in the RC head (other than the nominal head itself) should never be observed, such as an anaphor bound by an RC-internal antecedent (example (4) above), since an anaphor would have to be merged in the base position. To the extent that such effects do exist, they must be due to some other mechanism. Section 5 provides an independent argument for the syntactic status of reconstruction in RCs, but see Heycock 2012 for the possibility that not all reconstruction effects in RCs have the same source.

¹⁶See section 5 for discussion of resumptive pronouns which do not repair island violations.

¹⁷In some languages locality constraints are not observed in gap RCs, and the non-movement head-external structure may host a gap, realized as *pro*. The conditions on null resumptive pronouns are not fully understood and languages vary in this respect (see Cinque 1990 and Postal 1994, 1998). Some languages have null resumptive pronouns pervasively (Irish, McCloskey 1990; Palauan, Georgopoulos 1985, 1991;

Welsh, Tallerman 1983, Willis 2000; and Zurich German, Salzmann 2009; see Salzmann 2009 for recent discussion), whereas in Hebrew their distribution is covered by the null subject parameter.

¹⁸The Secondary Strong Crossover paradigm developed in Safir 1999 might give us a handle on this question, at least partially. As discussed above, quantifiers are used in order to force the activation of the low copy, and a quantifier within a complement produces a violation, as in (40). Examples (i) and (ii) adapt Safir's paradigm to Hebrew, with a quantifier in a complement in (i) and in an adjunct in (ii); the English equivalent of (i) violates secondary SCO and is degraded. The prediction for resumptives is the following. If (i) is improved in the presence of a pronoun it must be inhabiting the no-movement structure; if the pronoun version is equivalent to the gap version, it must not have access to an RC which lacks a low copy, and must be inhabiting the Matching structure.

(i)[[ha-tmuna Sel kol xayal₁]₂ Se-hu₁ macig t₂ le-ra'ava] culma
the-picture of every soldier that-he displays __ prominently photographed
ba-krav.
in.the-battle
'The picture of every soldier that he displays prominently was photographed
on the battlefield.'

(ii)[[ha-tmuna ba-xeder Sel kol xayal₁]₂ Se-hu₁ macig t₂ le-ra'ava]
the-picture in.the-room of every soldier that-he displays __ prominently
culma ba-krav.
was.photographed in.the-battle

‘The picture in the room of every soldier that he displays prominently was photographed on the battlefield.’

The judgments for the gap versions were not clear enough, and speakers didn’t agree that the adjunct structure (ii) was better than the complement structure in (i). It is possible that had more speakers been consulted a clearer picture would have emerged. I leave this as an open question.

¹⁹This does not imply that only \bar{A} -chains are subject to competition. It is conceivable that the *pro* / overt pronoun alternation in null subject languages discussed in Montalbetti 1984 and Larson and Lujan 1999 are directly related to the alternation in RCs, and that these all hark back to the Avoid Pronoun Principle in Chomsky 1982. See also Hornstein 2001.

²⁰If it turned out that optional pronouns could inhabit the Matching structure, the restriction would have to be stated differently, not simply in terms of movement, so as to include Raising and exclude Matching.

²¹This suggestion is based on a related competition observed in Jordanian Arabic discussed in Malkawi 2009 which could not be included for reasons of space. Jordanian Arabic has a richer pronominal typology which includes clitics and stronger pronominal forms, and this highlights the preference for the weakest form available, possibly a weak pronoun, rather than an absolute preference for a gap. See Malkawi 2009 for further discussion.

²²CP, SigmaP, and IP are arbitrary labels for projections of sequential functional heads in the extended DP, with no implications for the content of these projections.

²³Another possibility would be in terms of Minimize Pronunciation, along the lines of Pesetsky 1998. I will not choose between the two, and will restrict the discussion to showing that *some* account is conceivable. See Salzmann 2009 for criticism of the idea that phonetic content underlies the preference for gaps over resumptive pronouns.

²⁴Heycock 2012 calls into question the syntactic status of reconstruction in RCs. Heycock (2012) argues that low readings of superlatives and ordinals (Bhatt 2002) are limited to Neg-Raising contexts, suggesting that the effect is not syntactic. It is also shown that Principle C does not always correlate with other reconstruction effects, such as reconstruction for idiomatic interpretation or scope reconstruction. Assuming that reconstruction for Principle C is necessarily syntactic, this suggests that these other effects may not be. Heycock also suggests that where reconstruction effects for Principle C do appear to be present, in (ia) (from Sauerland (2003)), and in (ib) (from Bhatt & Iatridou 2012), it is only because the R-expression can be construed as coindexed with a null PRO agent, within the RC head. The source of the violation is null PRO, not the embedded pronoun.

- (i) a. *This represents the only headway on Lucy₁'s problem that she₁ made.
b. *The five stories about Diana₁ that she₁ wants to invent.

In order for the argument to be complete these examples should be compared with cases in which the embedded predicate does not allow a coindexed construal of a local PRO. For example, (iia) should be good, and so should (iii), under the reading need>many (Sauerland 2003).

- (ii) a. ??Smoking is a habit of Lucy₁'s that she₁ can't kick
b. Smoking is a habit of hers₁ that Lucy₁ can't kick

(iii)*The many books for Gina₁'s vet school that she₁ needs will be expensive.

²⁵Extraction from RCs is also observed in English (see Kuno 1976, McCawley 1981, Chomsky 1982, Chung and McCloskey 1983, Kush, Omaki, and Hornstein 2010). See also Hulse & Sauerland 2006 and Heim 2012 for QR from an RC, and the claim that RCs are not scope islands.

²⁶It is sometimes suggested that resumptive pronouns reduce the processing complexity associated with movement (Keenan and Comrie 1977, Wanner and Marastos 1978, Maling and Zaenen 1982, Hawkins 1999). Facts such as these, in which the gap version is grammatical and the pronoun version is ungrammatical, suggest that this cannot be generally true.

²⁷These examples improve when the topicalization chain is itself resumed, as in (i), for (50a). This may be because resumption in topicalization does not involve movement, on a par with resumptive pronouns in head-external RC structures.

(i)ha-sifria hazot₂, od lo macati [sefer exad₁ [Se-kedai [PRO le-haS'il **oto**₁
the-library this yet not found book one that-worth to-borrow it
mimena₂]]]
from.it

'This library, I haven't yet found a single book worth borrowing from it.'

However, the presence of the pronoun doesn't seem to block reconstruction. The examples in (ii) and (iii) compare non-resumed and resumed topicalizations for idiomatic readings.

(ii)me-ha-ec haze kaSe lo laredet.

from-the-tree that difficult to.him to.descend

‘It will be difficult for him to give up his position.’

(iii) ha-ec haze, kaSe lo laredet mimeno.

the-tree that difficult to.him to.descend from.it

‘It will be difficult for him to give up his position.’

I leave open the interaction of movement, pied-piping, resumption, and reconstruction in Topicalization.

²⁸Some speakers report a minor degradation in (51b). This is likely to be due to the relative height of the two PPs within VP and to constraints on the interaction of the two chains (Pesetsky 1982, Richards 2001, Fox & Pesetsky 2004).

²⁹Extraction of DP is acceptable, as in Italian:

(i) (i) elu ha-anaSim Se-ani be-safek im yeS miSehu Se-muxan lifgoS ___ Suv
these the-people that-I in-doubt if is someone that-willing to.meet again
axrey ma Se-kara.

(i) after what that-happened

‘These are the people who I doubt there is anybody who would be willing to meet again after what had happened.’

³⁰The conditions under which a sentence can denote an existential statement are complex, and rely heavily on context and information structure (Erteschik-Shir 1973, 1982, 1997, Engdahl 1998, and Rubovitz-Mann 2000). The existential nature of the DP can also be seen in English ((i) is from McCawley 1981 and (ii) from Kuno 1976).

(i)a. Then you look at what happens in languages that you know and languages₁ that you have [a friend who knows t₁].

b. This is the child₁ that there is [nobody who is willing to accept t₁].

A better understanding of the existential restriction awaits further study. In keeping with the restriction to Raising RCs, a syntactic implementation could appeal to the theory of islands. The requirement for an existential might fall into place if raised DPs are islands for extraction, but DPs in-situ are not (Uriagereka 1988, 1999, Diesing 1992, Stepanov 2007, Boeckx 2012), combined with the idea that existential DPs remain in-situ and non-existentials are always raised, possibly covertly (Diesing 1992). See Sichel (in preparation) for further discussion.

³¹This conclusion meshes with the observations in Cinque 2010 about extraction and the choice of complementizer. Cross-linguistically, extraction from relative clauses is more widespread than previously acknowledged, and Cinque proposes that it is possible only when the relative is introduced by an element which also introduces other clause types (*che / que* in Italian, Spanish and French, and *som / sem* in Scandinavian), and not by the ordinary element which introduces relatives. It is tempting to recast Cinque's generalization in structural terms: the RC which resembles other wh-chains is the Raising RC, and 'ordinary' RCs are externally headed.

³²The paradigm does not completely exclude a more subtle semantic alternative of the kind proposed in Bianchi (2004), where the two RC structures are Raising structures, individuated semantically: non-specific vs. specific RCs. Since in that model Principle C effects are neutralized in a Raising RC with a specific head, the extraction contrasts in (57) could be derived directly from the specificity of the RC, without external headedness. This is a subtle difference, but there are still good reasons for preferring a head-external structure: (a) The contrast in (58) would be left

unexplained; (b) The [+specific] Raising structure predicts reconstruction effects for Principle A to coincide with the absence of Principle C effects, but this is not attested (see footnote 15); (c) A head-external non-movement structure can provide a natural account of pronoun variation with respect to island sensitivity. See immediately below for discussion.

³³Rouveret (2011) notes that of the two complementizers found in Irish, one corresponding to movement relatives and one to base-generated relatives, Welsh only has the former.

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