

Towards an Understanding of the Derivational Timing of Resumption

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1. Introduction

How does the emergence of resumptive pronouns (henceforth, RPs) interact with other aspects of derivation and computation? The intuition that RPs in some sense ‘repair’ violations incurred by movement has led to questions about the nature of that repair. On one influential view, the repair provided by RPs is only indirect; RPs are associated with an alternative non-movement derivation, in which the violation is simply not incurred (Chomsky 1977, McCloskey 1979, Borer 1984). A different view holds that RPs repair a violation directly, by virtue of their presence within a movement derivation, at least some of the time (Perlmutter 1972, Pesetsky 1998). On this view, the non-pronunciation of the gap is sensitive to islands and locality, not movement per se, repaired when the gap is spelled out as a pronoun. It is within the latter view that questions about the timing of repair, at the core of the paper, arise. When resumption occurs within a derivation which features movement, at what point does it appear? Is it part of the grammar, or part of a broader cognitive mechanism related to sentence processing?

Two common assumptions about the derivational timing of resumption are addressed below. First, that there is a positional match, between the first step of movement and the position of resumption. Second, that there is a derivational match, between the timing of movement in the derivation and the timing of resumption. Regarding the first, it is assumed that resumption must occur at the tail of an A-bar movement chain, even though the violation may be incurred higher up in the tree. For example, when movement is from an embedded clause within a subject or adjunct island, as in (1), the first two steps of movement, to the two local specCPs within the subject island, are valid. Yet the initial step is resumed.

- (1) a. [CP DP₁ ... [TP [SUBJECT ISLAND [CP ~~DP~~₄ ... [CP ~~DP~~₄ ... RP₁]]] T [VP ...]]]
b. ze ha-iS [CP Se-PRO laxSov [CP Se-tifgeSi *t₁ / oto₁] haya tipSi
this the-man that to.think that-you.would.meet *t₁ / him₁ was silly
‘This is the man who to think that you would meet him was silly.’

Why are such licit steps of movement resumed? For the non-movement theory of resumption, the question doesn’t really arise: the derivation underlying (1) is a non-movement derivation all the way through, and an RP at the tail of the dependency is merely its signature. But for theories in which resumption is a surface repair within a movement derivation, the RP must be realized in anticipation of a subsequent violation, which occurs, potentially, an infinite number of CPs away. For this family of theories, there is a question about the positioning of resumption: must it occur at the foot of the chain, and if so, why? There is also a question about the timing of resumption: when exactly does it occur? Can a bottom-up derivation, which has reached the stage of the island violation in (1), at the topmost specCP within the subject island, then reach down and resume in the lower clause? In other words, it is possible to resume a position within a cycle which is earlier than the one which the derivation has reached? If so, is such countercyclic reaching part of the grammar, or not? And how could we tell that this is an option?

The discussion to follow will not answer this question directly, for this particular kind of example. Instead, it sets out to show that cases which I will term ‘mid-chain resumption’ and ‘late resumption’ most likely do occur. If so, this opens the door to thinking about an account of the violation repair in (1) in such terms, within an approach to movement violations in which it is the realization of the movement-

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created gap as an RP which is responsible for the repair. As I will show, resumption need not be restricted to the foot of the chain, and, there need not be a match between the point in the derivation at which movement is launched and the point in the derivation in which a gap is resumed. This could mean that cases such as (1) do not require unbounded look ahead. Our empirical focus will be on Hebrew, a language with grammatical resumption, where, in addition to the better-known RPs realized at the tail of the chain, there is also an option for RPs in the CP area, in (2b), which will be referred to as *high RPs*.

- (2) a. ha-ec₁ Se-hu tipes alav₁
 the-tree that-he climbed on-it
 b. ha-ec₁ (Se-) alav₁ hu tipes
 the-tree that-he climbed on-it
 'the tree that he climbed on'

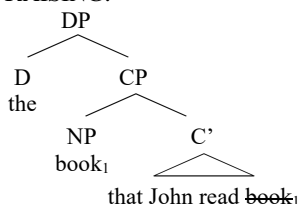
How do RPs come to be realized in this position? Borer (1984) argued that such high RPs have undergone movement, on a par with the movement of relative operators (see also McCloskey 2002 for Irish). Once we study these structures together with their interpretive properties (Bianchi 2004, Sichel 2014), it becomes clear that (i) these are cases of resumption which coincides with movement of the RC head, and (ii) a derivation in which an RP is directly merged in its surface position is virtually unavoidable. We then turn to a discussion of the significance of these high RPs for broader questions about resumption and cyclicity of derivation. Section 2 briefly introduces the structural ambiguity of RCs; section 3 introduces interpretive asymmetries between two types of RPs; sections 4 and 5 present interpretive effects in RCs with high RPs and develops an Economy-based analysis; section 6 concludes.

2. The structural ambiguity of RCs

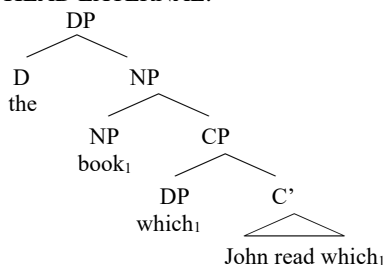
The claim that RCs are structurally ambiguous is based on the observation that RC heads can be interpreted in the RC head position, in (3a), or reconstructed in the gap position within the RC, in (3b), suggesting that the RC head has moved from this position (Bhatt 2002, Hulsey & Sauerland 2006, Bianchi 2004). These distinct interpretive sites are argued to correspond to distinct RC structures: a Raising RC, in which the head starts out within the RC, and RC is complement of D⁰, (4a), and a head external RC, in which the head is external, and the RC is an adjunct (4b).¹ Since the RC head is not derived by movement, no reconstruction is possible; the RC head is interpreted only in its surface position.

- (3) a. Mary₁ found [[the pictures of herself]₂ that John took t₂]
 b. This is [the picture of himself₁ [that John₁ likes ___ best]]

- (4) a. RAISING:



- b. HEAD EXTERNAL:



3. Interpretive asymmetries

In non-island contexts, Hebrew has optional RPs, in object and embedded subject positions, and obligatory RPs, when relativization is from within PP or NP. The two types of RP differ in their interpretation (Bianchi 2004). This section reviews the following generalization (Sichel 2014):

- (5) Optional RPs block reconstruction, obligatory RPs allow reconstruction.

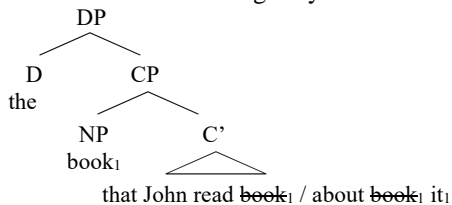
¹ The difference between the head-external RC in (4b), and the Matching RC (Sauerland 2004, Hulsey & Sauerland 2006) is set aside. See Sportiche 2017 for a structural account of the ambiguity which posits distinct chain types, all contained within a single Raising RC.

Here we focus on one representative of each type: optional direct object RPs, referred to as ACC RPs, and obligatory RPs in PPs, referred to as RP in PPs. The contrast between the two types is shown for *De Dicto* and *De Re* readings, and idiomatic readings. ACC RPs block *De Dicto* and idiomatic readings, in (6-7). Assuming that these readings require reconstruction of the RC head, ACC RPs block reconstruction. In the context of an obligatory RP in PP or in DP, however, these readings are available, in (8-9). (See Sichel 2014 for the full paradigm of RP types and reconstruction effects)

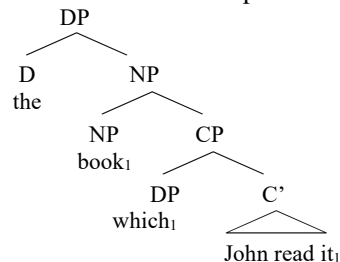
- (6) a. dani yimca et [ha-iSa₁ Se-hu mexapes t₁] *De Re* and *De Dicto*
 dani will.find ACC the-woman that-he searches
 'Dani will find the woman he is looking for'
- b. dani yimca et [ha-iSa₁ Se-hu mexapes **ota**₁] *Only De Re*
 dani will.find ACC the-woman that-he searches her
 'Dani will find the woman he is looking for'
- (7) a. ha-tik₁ Se-tafru t₁ le-dani
 The-case that-they.sewed for-dani
- b. ha-tik₁ Se-tafru **oto**₁ le-dani *Idiomatic reading is unavailable*
 The-case that-they.sewed it for-dani
 'the case that they sewed for Dani / the case that they framed him with'
- (8) dani yimca et [ha-iSa₁ Se-hu xolem aleya₁] *De Re* and *De Dicto*
 dani will.find ACC the-woman that-he dreams of-her
 'Dani will find the woman he is dreaming of'
- (9) ha-ec₁ Se-hu tipes alav₁
 The-tree that-he climbed on-it
 'the high position he took' *Idiomatic reading is available*

The contribution of pronominal form to interpretation is not uniform. Sichel (2014) argues that this is not a pronominal ambiguity per se, but rather the effect that RC structural ambiguity has on the RPs in the two structures. The readings which alternate across RP types form a natural class: they require reconstruction. Since the availability of reconstruction depends on how the RC head is derived, via movement from its thematic position (4a), or not (4b), the interpretive effects can be derived from the RC structure which an RP inhabits, Raising RC or head external RC. These mappings are shown in (10).² Which RC a pronoun will inhabit is determined by competition and the availability of alternatives, in (11). The movement chain in (10a) is optimally realized with a null form; a pronoun is available only if a gap is not. Combined with the assumption that reconstruction depends on movement, this derives the presence of reconstructed readings for obligatory RPs (Sichel 2014). If optional RPs are excluded, and the head-external RC is the alternative, it follows that optional RPs do not exhibit reconstruction effects.

(10) a. RAISING: traces & obligatory RPs



b. HEAD EXTERNAL: optional RPs



(11) Economy: Pronounce the tail of an A-bar movement chain in an RC as a gap whenever possible.

² It is possible that obligatory RPs can inhabit (10b), and, in fact, necessary, if island repair is the product of non-movement. I leave this open, since the answer to this question is not presupposed.

4. When RPs are in the CP area

With this interpretive difference in place, we now turn to the positioning of pronominal material in the left periphery of the RC. Both RP types can appear in this area, to be referred to as *high RPs*: ACC RPs in (12a), and RPs in PPs, which pied-pipe their containing PP, in (12b). When an RP is in this high position, the complementizer *Se* may be omitted.

- (12) a. ha-iSa₁ [C' (Se-)ota₁ dani mexapes ___₁] ACC RP
 the-woman that-her dani looks-for
 'the woman that Dani is looking for'
- b. ha-iSa₁ [C' (Se-)aley₁ dani xolem ___₁] RP in PP
 the-woman that-about.her dani dreams
 'the woman about who Dani is dreaming'

When *Se* (=that) is present, the two RP types are available, as indicated by the parentheses in (12). However, the overall structure is distinct, allowing the full range of topicalized phrases immediately following *Se*, including adjuncts and larger DPs containing a possessor RP, in (13). Without *Se*, on the other hand, the most that can be pied-piped is the PP, in (12b); other kinds of potential topics, such as adjuncts or other arguments, are not allowed. Following Borer (1984), the structures without *Se* have the RPs in specCP, whereas the structures with *Se* have the fronted phrase topicalized, in a lower position.

- (13) a. ha-iSa₁ [C' *(Se-)etmol hu xipes ___₁] the woman that-yesterday he looked-for
 'the woman that yesterday he was looking for'
- b. ha-iSa₁ [C' *(Se-)et axota₁ dani mexapes ___₁] the woman that-acc sister.her dani looks-for
 'the woman whose sister Dani is looking for'

We now turn to the interpretation of RCs with high RPs, with and without *Se*. Given the interpretation of RPs described above, it is surprising that (12a), with high ACC RP, gives rise to *De Dicto* readings, and more generally, to readings which require reconstruction (see also Arad (2014). That is, instead of the mapping of RPs to interpretation observed with RPs in-situ, represented in (14), what we actually find is in (15): high ACC RPs surprisingly allow reconstructed readings, just like traces and high and low RPs in PP. The pattern generalizes to all reconstructed readings.

- | | | | | |
|---------|-----------|-----------------|-------------------|----------------------------------|
| (14) a. | trace: | DP ₁ | t ₁ | <i>De Re</i> and <i>De Dicto</i> |
| b. | RP in-PP: | DP ₁ | P RP ₁ | <i>De Re</i> and <i>De Dicto</i> |
| c. | ACC RP: | DP ₁ | RP ₁ | <i>De Re</i> |
-
- | | | | | | |
|---------|-----------|-----------------|-------------------|----------------|----------------------------------|
| (15) a. | RP in-PP: | DP ₁ | P RP ₁ | t ₁ | <i>De Re</i> and <i>De Dicto</i> |
| b. | ACC RP: | DP ₁ | RP ₁ | t ₁ | <i>De Re</i> and <i>De Dicto</i> |

The examples in (16) exhibit naturally occurring examples (retrieved via Google search) with high ACC RPs, with the complementizer *Se* and without it. The contexts in these examples suggest that they are, or can be, associated with *De Dicto* readings. In (17b), also with high ACC RP, idiomatic readings appear. Both kinds of reading are unavailable when the RP in-situ. Less remarkably, high RPs in-PP exhibit idiomatic readings as well, in (18).

- (16) a. hu mitnaheg be-dereX Se-notenet li le-hargiS Se-ulay ani lo **ha-iSa Se-ota**
 he behaving in-way that-leads me to-feel that-perhaps I not the-woman that-her
hu mexapes, ma la'asot?
 he looks.for what to-do?
 'He is behaving in a way that makes me feel that perhaps I am not the woman that he's
 looking for, what should I do?'

- b. hu haya **ha-gever alav xalma**, hi hayta **ha-iSa ota raca** yoter
 he was the-man on.him she.dreamt, she was the-woman her he.wanted more
 mi-kol, aval be-si ahavatam xadar Sutaf SliSi le-xayehem....
 than-all, but at-height their.love intruded party third to-their.lives...
 'He was the man about who she dreamt, she was the woman who he wanted more
 than anything, but at the height of their love a third party came into their lives....'

(17) a. ha-tik₁ Se-tafru **oto₁** le-dani
 the-case that-they.sewed it for-dani
 'the case that they sewed for Dani'

- b. ha-tik₁ (Se-)**oto₁** tafru le-dani
 the-case it they.sewed for-dani
 'the case that they sewed for Dani' / 'the case that they pinned on Dani'

(18) a. ha-ec₁ Se- hu tipes **alav₁**
 the-tree that-he climbed on-it

- b. ha-ec₁ (Se-) **alav₁** hu tipes
 the-tree (that-)on-it he climbed
 'the tree that he climbed up' / 'the high position he took'

The availability of reconstructed readings with high ACC RPs pretty much holds for all types of reconstruction effects. Here one more context is provided, in which the effect impacts grammaticality. Amount readings in RCs such as (19) require reconstruction (Carlson 1977, Bhatt 2002). Therefore, when reconstruction is blocked by ACC RP in-situ, the amount reading is excluded, and this may lead to ungrammaticality in contexts in which the amount reading is the only one possible, as in (20a) (Bianchi 2004, Sichel 2014). However, the structure is more acceptable (though still somewhat marginal) when the RP is high, in (20b), consistent with the appearance of reconstructed readings in (16-17).

(19) It will take us all year to drink [the champagne that we spilled at the party]

(20) a. ha-kesef₁ / ha-zman₁ Se-bizbazi t₁ / *oto₁
 the-money / the-time that-wasted.I t / *it
 'the money / the time that I wasted.'

- b. ?ha-kesef₁ / ha-zman₁ (Se-)oto₁ bizbazi t₁
 the-money / the-time that-it wasted.I
 'the money / the time that I wasted.'

The wider range of interpretations associated with high ACC RPs shows that the mapping between a high RP and the RC structure cannot be exactly the same as in (10), where the RP is in the familiar base position. The range of interpretations that are available suggest that it must be possible to generate an ACC RP in a Raising RC, unlike (10a), where ACC RPs are excluded.³ This is a bit puzzling, since an RP is available in a high position in a structure in which it is excluded from the base position. How does the RP arrive in the high position? It seems that something other than simple movement from base position to high position must be involved. In what follows I argue that the RP must be realized directly in its high position, regulated by the Economy principle in (11). The derivational result of direct realization will be shown to challenge the two implicit assumptions about resumption mentioned at the outset: positional matching, between RP and the first step of movement, and derivational mapping, between timing of RP and timing of movement.

We now consider possible derivations for RCs with high RPs, beginning with *that*-less RCs. The availability of reconstructed readings suggests that the derivation involves a Raising RC. Consider first derivations with RPs in PP. Since an RP in PP can occur in-situ in a Raising RC, there are three possibilities: (I) Movement of the RP as part of a larger DP which contains both the RP and the RC head, in (21b); possibly, the RC head subsequently sub-extracts. This derives the tight connection between RP fronting and the Raising structure, since RP fronting is part of the operation which derives head raising.

³ A high acc RP based on (10b) cannot be excluded; we set aside the possibility of high RPs in that RC structure.

From this perspective, an RP in-situ is simply a stranded RP, in (21a) (Boeckx 2003). (II) Movement of the RC head and movement of the RP are independent of each other, in (22). A third possibility is that only the RC head actually moves, and the RP is directly realized in its place in the high position, in (23).

- (21) a. RP in-situ + DP subextraction: $[DP_1 [RC \overline{DP}_1 \dots [-\overline{DP}_1 RP]_2]]$
 b. [DP RP fronting] + DP subextraction: $[DP_1 [RC [-\overline{DP}_1 RP]_2 \dots [\overline{DP}_1 RP]_2]]$
- (22) DP movement + RP movement: $[DP_1 \dots RP_1 \dots \overline{DP}_1 \overline{RP}_1]]$
- (23) DP movement: $[DP_1 [RC [-\overline{DP}_1] \dots [-\overline{DP}_1]]]$
 RP Realization: $[DP_1 [RC [RP_1] \dots [-\overline{DP}_1]]]$

One reason to disprefer ‘big DP movement’ in (21b) is that there is no independent evidence for this structure internal to Hebrew; for example, Hebrew does not feature Spanish or Greek-style clitic doubling in these structures. A more substantial reason to disprefer both (21b) and (22) is that RPs in the absence of *Se* (=that) are restricted to the topmost CP in a RC- in intermediate positions, only the topicalized version with *Se* is observed, in (24). This implies that there could be no successive cyclic movement of $[DP_1 RP]$ through intermediate specCP positions, with subsequent sub-extraction of DP, as depicted in (24c). Since there is no obvious way to exclude sub-extraction of DP_1 , and it is in fact necessary, in (21a), the ungrammaticality of (24b) suggests that there is no successive cyclic movement of $[DP_1 RP]$. Yet we do find long distance RC-dependencies, in (25). This implies that the adoption of a ‘big DP’ derivation as in (21) or (24c) would require us to abandon standard locality.

- (24) a. ha-iS (Se-) alav hi dibra
 The-man that about.him she spoke
 ‘the man about whom she spoke’
 b. ha-iS Se-hi hodeta *(Se-)alav hi dibra
 the-man that-she admitted *(that) about.him she spoke
 ‘the man that she admitted that about him she spoke’
 c. $*[DP_1 [RC \dots [CP [-\overline{DP}_1 RP]_2 \dots [\overline{DP}_1 \overline{RP}]_2]]$
- (25) ha-iS alav hi hodeta Se-hi dibra
 the-man about.him she admitted that-she spoke
 ‘the man about whom she admitted that she spoke’

The same consideration applies to independent movement of the RP, in (22): there can be no successive cyclic movement of RP from one *that*-less CP up to the next. However, this doesn’t mean that no successive cyclic movement of an RP is ever possible. We do find embedded topicalized RPs, when embedded *Se*- is present, as in the grammatical version of (24b). This means that, in principle, there could be independent movement of the RP if it moves successive cyclically via topicalization, as argued in Borer (1984), followed by a final step to specCP of the RC and *Se*-deletion. The last step, of *Se*-deletion, could be excluded in intermediate CPs, since they are ordinary declarative CPs, not relative CPs. Therefore, independent RP movement is in principle an option. Direct high realization of the RP in its surface position is also an option.

The possibilities for the derivation of high ACC RPs in Raising RCs are considerably reduced. Recall that such ACC RPs are never available in-situ, and this suggests that a ‘big DP’ derivation, along the lines of (21b), is not an option. Neither is a derivation involving independent RP movement. Either one of these derivations, starting with an ACC RP in-situ, would have to be blocked just in case further movement does not occur. But how? At the very least, it would require substantial, i.e. unbounded, ‘look ahead’. This leaves us with a derivation like (23) above, where RP is directly merged in its high position.

Since it must be available to ACC RPs, this derivation must also be an option for RP in-PP above, though (22), with RP-in-PP moving independently, is not excluded. Since ‘big DP’, with the DP and RP occupying distinct positions, is excluded, there is no particular reason to posit that DP and RP occupy distinct positions. It is assumed, henceforth, that the high position in which the RP is realized is a position through which DP_1 has passed. Putting all of these pieces together produces a novel chain configuration: an RP is merged, or realized, in an intermediate position through which the RC head has passed, rather

than in the lowest thematic position from which movement of RC head is launched. What can this tell us about the nature of RPs, and why is this position resumed, even though the thematic position is not?

5. High RPs, optionality, and Economy

The high-merge, or high-realization, analysis immediately raises another question. Given that ACC RP is prohibited in the low thematic position in Raising RCs, how is it sanctioned in the high position? The logic of Economy excludes it in the low position since a gap is available, hence preferred. The same logic leads to the expectation that in the high position, ACC RP is obligatory.

For that-less RCs, the prediction is straightforwardly confirmed: in the absence of *Se-* (=that), an RP is obligatory. This is true of any high RP, including ACC RP: it is not possible to eliminate the complementizer without having an RP in the high position.

- (26) a. ha-iSa₁ *(ota₁) dani mexapes t₁
 the woman that-her dani looks-for
 ‘the woman who Dani is looking for’
 b. ha-iSa₁ *(aleya₁) dani xolem t₁
 the-woman that-about.her dani dreams
 ‘the woman about whom Dani is dreaming’

The realization of ACC RP in the high position of a Raising RC follows from the Economy condition. The fact that it does provides an independent argument for direct realization in the high position. And because the Economy principle regulates an alternation between gaps and RPs, it implies that the RP marks a position through which the RC head had passed, rather than a position that is adjacent to the gap, as in ‘big DP’ models of resumption. Coupled with the fact that the interpretation of the RP is always determined by the structure it inhabits, the Economy approach also pushes the analysis of RPs further towards a realizational model, in which RPs simply realize particular positions in a derivation, rather than merged as lexical items from a traditional lexicon.

Nevertheless, the conclusion that high RPs are directly realized in this position is somewhat surprising. What is surprising is that the RP appears ‘mid-chain’: the first step of movement of the RC head leaves a gap; the final step, from specCP of the RC to the RC head position, leaves an RP. In other known cases of resumption, the RP is realized at the tail of the chain. We return to briefly discuss mid-chain resumption below.

Turning now to RCs with *Se* (=that) and high topicalized RPs, the empirical picture here is slightly more complex, and so are the conclusions about the workings of the derivation. While *De Dicto* readings do seem available, in (16), amount RCs with ACC RP preceded by *Se* are marginal, in (20b). The availability of idiomatic readings (17b) is somewhere in between. These subtler, and potentially more complex, interpretive effects require more study.⁴ But assuming that at least some reconstruction effects emerge when ACC RP is topicalized, could the topicalized RP be said to be obligatory, consistent with the Economy condition? To the extent that traces cannot be topicalized, the answer must be *yes*. But this leaves open the stage of the derivation at which the RP is realized. If ACC RP is realized in-situ, prior to Topicalization, it would require potentially unbounded ‘look ahead’ towards the position in which it becomes obligatory, since a topicalized RP can be separated from its thematic position by an infinite number of embedded CPs. To avoid this, the RP would have to be realized in its final landing site, following Topicalization of the gap. This is consistent with the Economy principle, which allows an ACC RP just in case a gap is ungrammatical. But once again, there is an unexpected aspect to this derivation: while an RP is realized in a position from which DP has moved, this does not happen at the derivational point at which DP movement was launched, but later on, following Topicalization. The following schema flesh out the syntax of an RC with RP Topicalization (or the lowest/intermediate CP if multiple CPs are embedded). Topicalization is represented, for convenience, as adjunction to TP.

⁴ There could be a categorical boundary, for example, between amount readings, which are unavailable, and other reconstruction effects, which consistently appear, suggesting perhaps a distinct analysis for amount readings. This partitioning could be related to the choice between a *Wh* operator and *that* in English RCs, where amount relatives show a clearer preference for *that* than other reconstruction effects do (Carlson 1977, Bianchi 1999).

- (27) a. Step 1: movement of RC-head to specCP $[_{RC} [DP_1] \text{ that } [_{TP} \dots [-DP_1]]]$
 b. Step 2: Topicalization of gap $[_{RC} [DP_1] \text{ that } [_{TP} [-DP_1] [_{TP} \dots [-DP_1]]]$
 c. Step 3: Realization of topicalized gap as RP $[_{RC} [DP_1] \text{ that } [_{TP} [RP] [_{TP} \dots [-DP_1]]]$

This is a clear case, in other words, in which the derivational timing of resumption does not match the derivational timing of DP movement (of the head of the RC). On standard assumptions about resumption, there is an implicitly assumed match, between the timing of movement and the timing of resumption. An RP is generated in a position through which a DP has moved (or adjacent to one), at the point in the derivation at which movement of the DP is launched. This match is challenged in (27): the RP is realized in the high position, yet the RC head has not itself moved through this position following topicalization, when resumption occurs, but before it.

6. Conclusions

We have started from the observation that the interpretation of RPs in the low position is not uniform, determined by the type of RC, or chain, which the RP inhabits. On its strongest interpretation, this may suggest that RPs are not lexical items in a traditional lexicon, but realizational products of a derivation. This conclusion is further supported by the analysis of high RPs, which must involve direct realization in their high position, regulated by an Economy principle which prefers gaps whenever possible.

Further consideration of high RPs has led to two challenges to the standard view of resumption. First, the idea that there must be a positional match, between the first step of movement and the position of the RP, challenged by mid-chain resumption in that-less RCs. Second, the idea that there must be a derivational match, between the timing of resumption and the timing of movement, challenged by post-topicalization resumption in that-RCs. How exactly to incorporate these challenges into the theory of resumption, as part of a processing mechanism, or as part of the grammar proper, awaits further study.

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