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Why and how to distinguish between *pro* and trace*

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Starting from a well-known observation, namely that in a language like Hebrew there is no free alternation between traces and (overt) resumptive pronouns, this paper aims to demonstrate that even in languages with seemingly little or no resumption such as English, the distinction between a putatively null resumptive pronoun and trace is equally material. More specifically, I contend that positing a resumptive (i.e. bound variable) *pro* also in English-like languages is not only theoretically appealing for various reasons (a.o. ideas in Hornstein 1999, 2001, Boeckx & Hornstein 2003, 2004, Kratzer 2009), but also empirically adequate (as conjectured e.g. in Cinque 1990). The central claim of this paper however is that resumption is restricted to (sometimes concealed) relatives. Applying this proposal to languages like English, the distinction drawn between (resumptive or bound variable) *pro* and trace accounts for phenomena as diverse as lack of superiority effects, lack of weak crossover in appositives, lack of Principle C effects in relative clauses, and so-called ATB movement phenomena.

1. Introduction

Doron (1982) observed that in Hebrew, when a trace in a relative clause is c-commanded by a quantified expression, the sentence is ambiguous between a 'single-individual' and a 'multiple-individual' reading, as shown in (1), but if the trace position is filled by a resumptive pronoun, the multiple-individual interpretation is not available, as shown in (2).

(1) ha-iSa Se kol gever hizmin hodeta lo
the-woman Op every man invited thanked to-him
a. The woman every man invited thanked him (=y)
b. For every man x, the woman that x invited thanked x

(2) ha-iSa Se kol gever hizmin **ota** hodeta lo
the-woman Op every man invited her thanked to-him
The woman every man invited thanked him (=y)

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Sharvit (1999) notes similar interpretive differences between *wh*-questions with resumptive pronouns versus traces, e.g. that *wh*-questions with resumptive pronouns only allow functional answers but not pair-list readings, as in (3) vs (4)[1].

(3) ezyo iSa kol gever hizmin _
which woman every man invited
'Which woman did every man invite?'
a. et Gila
Acc Gila
b. et im-o
Acc mother-his
c. Yosi et Gila; Rami et Rina
Yosi Acc Gila; Rami Acc Rina

(4) ezyo iSa kol gever hizmin **ota**
which woman every man invited her
'Which woman did every man invite?'
a. et Gila
Acc Gila
b. et im-o
Acc mother-his
c. *Yosi et Gila; Rami et Rina
Yosi Acc Gila; Rami Acc Rina

In spite of these differences however, Sharvit (1999) challenges Doron's (1982) contention that there is a fundamental difference between traces and resumptive pronouns, since the contrast seen in (1) versus (2) disappears in specificational sentences, as in (5).

(5) ha-iSa Se kol gever hizmin _ / **ota** hayta iSt-o
the-woman Op every man invited her was wife-his
a. The woman every man invited was his (he = y) wife.
b. For every man x, the woman x invited was x's wife

To account for the contrast between specificational and predicational sentences in this respect, Sharvit (1999) claims that relative clauses in equative (i.e. specificational) sentences correspond to so-called "natural" functions, whereas in non-equative (i.e. predicational) sentences, they correspond to lists of arbitrary pairs. Therefore, although traces are licensed in both types of sentences, resumptive pronouns are licensed only in equative sentences. But as Sharvit herself assumes based on Chierchia (1991, 1993), the pair-list reading is also a functional reading (albeit of a different kind). That is, semantic type alone does not differentiate between 'natural' functions and sets of (possibly arbitrary) pairs; both are functions from individuals to individuals (i.e. type <e,e>). Sharvit (1999:602) suggests that: "resumptive pronouns

[1] Sharvit shows that this holds "even if the pronoun cannot alternate with a trace for syntactic reasons (i.e., to avoid an ECP violation)" … "[a] pair-list reading is strongly disfavoured even if the second member of each pair happens to be, for example, the mother of the first member" (Sharvit 1999:595):
(i) ezyo iSa kol gever rakad ita
Which woman every man danced with-her
'Which woman did every man dance with?'

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support natural function readings but not pair-list questions because natural functions (for whatever reason) are *permissible referents of pronouns*, but sets of arbitrary pairs are not" [emphasis mine]. To put it differently, Sharvit's analysis rests on the assumption that there is a semantic/pragmatic (but crucially *not* syntactic) distinction between natural functions and pair-lists, which goes beyond semantic type denotation and which relies heavily on the notion of D-linking. And as is well-known, D-linking causes turmoil also elsewhere, as I discuss next.

To start with, while English generally exhibits superiority effects, as in (7), so-called "D-linked" *wh*-phrases (Pesetsky 1987) can violate superiority, as in (8a,b), both of which are acceptable to many English speakers (Frazier & Clifton 2002).

(7) a. Mary asked [who$_i$ [e$_i$ read what]]? (Pesetsky 1987:104 (21))
b. *Mary asked [what$_i$ [who read e$_i$]]?

(8) a. Mary asked which man$_i$ [e$_i$ read which book]? (Frazier & Clifton 2002)
b. Mary asked which book$_i$ [which man read e$_i$]?

Secondly, across languages, resumption and/or clitic doubling in interrogatives is restricted to D-linked *wh*-phrases, as illustrated in (9a) vs. (9b) for Hebrew and in (10a) vs. (10b) for Albanian (see Boeckx 2003 for an overview).

(9) a. eyze student nifgaSta (ito) (Hebrew, Sharvit 1999:591)
which student you-met with-him
'Which student did you meet?'
b. *mi nifgaSta ito
who you-met with-him
'Who did you meet with?'

(10) a. Çfarë (*e) solli Ana? (Albanian)
what 3S,CL,ACC brought Ana$_{NOM}$
'What did Ana bring?'
b. Cil-in libër (e) solli Ana?
which-the$_{ACC}$ book 3S,CL,ACC brought Ana$_{NOM}$
'Which book did Ana bring?'

Having introduced some initial observations across several languages and the crux of Sharvit's (1999) analysis of the Hebrew data, I go on to present an alternative syntactic analysis, which can also be extended to account for a variety of other, hitherto obscure facts of English syntax, such as lack of superiority effects and of weak and strong crossover in several construction types, as well as ATB phenomena. This analysis also accounts for other phenomena across languages, such as weak and strong crossover effects in constructions without resumptive pronouns versus their obviation in constructions with resumptive pronouns. Crucially (and unlike Sharvit's analysis), my analysis does not rely on D-linking, but rather explains some of the well-known D-linking effects obtaining across languages and construction types.

2. The nuts and bolts of the proposal

The central claim that I put forward is that resumption is restricted to (sometimes concealed) relatives. Specifically, I contend that a sentence such as the Hebrew one in

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(4), which contains a resumptive pronoun, has the bi-clausal structure in (11), the highlighted part of which is a silent/null copular construction containing a concealed relative clause[2]:

(11) [$_{CP}$ which woman$_k$ is [$_{DP}$ the one / such (woman$_k$)]$_j$ [$_{CP}$ that every man invited her$_j$]]

The structure in (11) is thus a cleft-like specificational construction[3]. In other words, the *wh*-phrase in (4) has not been moved from the object position of the verb (occupied by the resumptive pronoun), but is (externally) merged in an upper clause[4].

This analysis straightforwardly derives the grammaticality contrast between (9a) and (9b). The intuition behind my analysis fits also with other facts discussed in Sharvit (1999) concerning the distribution of different types of (roughly) distributive versus functional readings of relatives in specificational versus predicational contexts (e.g. as discussed in section 1)[5,6]. Moreover, this analysis accounts for other facts across languages, such as weak and strong crossover effects in constructions without resumptive pronouns or clitics versus their obviation in constructions with resumptive pronouns or clitics (Demirdache 1991, Shlonsky 1992, Kallulli 2008, a.o.).

To illustrate, the structural difference between the 'resumptive' (or 'clitic') and the 'no-resumptive' (or 'no-clitic') versions of a sentence like (10b) is corroborated by the following facts, discussed in detail in Kallulli (2008). In Albanian and other so-called "clitic doubling" languages, a sentence like the one in (12a) is ungrammatical due to a weak crossover effect, just as its English counterpart is. However, the allegedly "clitic doubled" counterpart of (12a) is grammatical, as shown in (12b). That is, the clitic in (12b) triggers weak crossover obviation.

(12) a. *Cil-in djalë$_i$ pa nëna e tij$_i$?
which-the$_{ACC}$ boy saw.3S mother agr his
'*Which boy$_i$ did his$_i$ mother see?'

b. Cil-in djalë$_i$ e pa nëna e tij$_i$?
which-the$_{ACC}$ boy 3S,CL,ACC saw.3S mother agr his
'Which boy$_i$ is such that his$_i$ mother saw him$_i$?'
(or: 'Which boy$_i$ is the one that his$_i$ mother saw?')

Under my analysis, the structure of (12b) differs from that of (12a) in that it is bi-clausal. More specifically, in line with what was stated earlier for the relevant Hebrew data (see the structure in (11)), the structure of (12b) contains a null copular construction with a concealed relative clause in it, as given in (13). Hence, the grammaticality of (12b) is unsurprising since the *wh*-phrase here c-commands the

[2] Similar proposals (involving a bi-clausal structure) have been made by McCloskey (1990) and Demirdache (1991:42ff) for questions with resumptive pronouns in Irish and Arabic, respectively.
[3] Note also that the linking of the resumptive pronoun inside the (concealed) relative clause and the *wh*-phrase in the upper clause is mediated by a constituent that has been deleted under identity with a previously mentioned linguistic expression (i.e. 'woman').
[4] Of course the question arises as to the exact structure of the upper clause (i.e., where inside this clause is the *wh*-phrase merged) but this does not have a bearing on the main issue at hand here.
[5] Note in this context that pair-list readings disappear across islands (Hagstrom 1998, Dayal 2002).
[6] The multiple-individual reading of (1) still poses the question how it is obtained, since the quantified expression seems to bind a pronoun outside its scope (recall that relative clauses are scope islands and as such they presumably block long-distance QR). To date, there is no account for this phenomenon, to the best of my knowledge.

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embedded subject *nëna e tij* 'his mother' from an A-position, therefore binding the pronoun in it.

(13) [$_{CP}$ cilin djalë$_i$ është i tillë/ai (djalë)$_i$ [CP që e$_i$ pa nëna e tij$_i$ *pro*$_i$]]
which boy is such/it/the one (boy) that 3S,CL,ACC saw mother his pro

In other words, the clitic in (12b) 'doubles' a non-overt (resumptive) pronoun, namely *pro* (Sportiche 1996) and not the *wh*-phrase *cilin djalë* 'which boy', which is externally merged in an upper clause (analogous to the *wh*-phrase in (11))[7]. That is, the clitic version of (10b) has a bi-clausal structure, unlike its no-clitic version.

Other facts that speak for the correctness of this analysis can be adduced. Strikingly, while the *wh*-phrase in the no-clitic version of (10b) can appear in what seems to be its base position, namely the object of the verb *solli* 'brought', still retaining its question interpretation, the *wh*-phrase in the 'clitic' / resumed version in (10b) cannot do so, as shown in (14a) versus (14b), respectively.

(14) a. Ana solli cil-in libër?
Ana$_{NOM}$ brought which-the$_{ACC}$ book
'Ana brought which book?'
b. *Ana e solli cil-in libër?
Ana$_{NOM}$ 3S,CL,ACC brought which-the$_{ACC}$ book

Naturally the account of the structural asymmetry between the 'clitic' and the 'no-clitic' versions of (10b) that I have posited leads one to expect asymmetries with respect to reconstruction. As I have shown in Kallulli (2008), these do indeed exist. For instance, while the (mono-clausal) sentence in (15a) shows Principle C effects, the minimally different one in (15b) containing a clitic does not.

(15) a. *Cil-ën fotografi të Anës$_i$ pa (ajo)$_i$ në gazetë?
which-the$_{ACC}$ picture of Ana saw.3S she in newspaper
'*Which picture of Ana$_i$ did she$_i$ see in the newspaper?'
b. Cil-ën fotografi të Anës$_i$ e pa (ajo)$_i$ në gazetë?
which-the$_{ACC}$ picture of Ana 3S,CL,ACC saw-3S(she) in newspaper
'Which picture of Ana$_i$ is such that she$_i$ saw it in the newspaper?'

Under the bi-clausal analysis that I have proposed, the lack of Principle C effects in (15b) is straightforwardly accounted for, since under this analysis, the clitic doesn't double the *wh*-phrase in the matrix clause but an (embedded) bound variable object *pro*.

3. Bound variable / resumptive *pro* in English: The scope of the proposal

3.1. Accounting for lack of superiority

As mentioned earlier, while English generally exhibits superiority effects, D-linked *wh*-phrases can violate superiority; see (7) vs. (8). I submit that the lack of superiority effects in (8b) as well as more generally is due to the existence of a tacit bi-clausal

[7] The fact that the *wh*-element *cilin djalë* 'which boy' in (12b) bears accusative and not nominative case, can be accounted for under a realizational framework such as Distributed Morphology: basically, the bound morpheme *–in* (the,acc), not being able to attach to the phonetically null (i.e. *pro*) embedded object in (13), will attach to its recovering element *cili djalë* 'which boy' in the matrix.

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structure. Specifically, I contend that a construction like (8b) has a structure like the one in (16), the highlighted part of which is a (already introduced) null copular construction containing a chunk elided under identity with a previously mentioned linguistic expression (namely *book*). That is, *which book* is not raised from inside the relative clause but is externally merged in the upper CP[8].

(16) Mary asked [$_{CP}$ which book$_k$ is [DP such / the one (book$_k$)]$_j$ [CP that which man read it$_j$ / *pro*$_j$]]

Thus, the dependency between the clause-initial *wh*-phrase in the first embedded CP and its purported thematic position (i.e. the complement of the verb *read*) is under this proposal not established by *wh*-movement, but by variable binding (cf. also Adger & Ramchand 2005). That is, the 'thematic' position is occupied by a phonetically null pronoun, either *pro* or PF-elided, depending on the exact nature of the concealed relative clause[9]. This pronoun is in turn bound either by the (restrictor of) the *wh*-phrase (in the upper CP), or alternatively by a (PF-deleted) copy of the restrictor of this *wh*-phrase[10]. Hence, the null pronoun inside the concealed relative is a bound variable (i.e. resumptive) pronoun. In sum, there is no superiority violation at all.

Turning to the distinction between trace and (resumptive) *pro*, while one may imagine it to be material for languages where it can be shown that (overt) resumptive pronouns have different properties from traces (such as for instance Hebrew, as we have seen), it is legitimate to ask whether this distinction is independently motivated for English. I believe it is. First, the existence of resumptive *pro* in English has already been argued for in Cinque (1990) in connection with parasitic gap constructions, who also observed that parasitic gaps are restricted to the category DP, as shown in (17a)[11]. Note that an overt pronoun is also possible here, as in (17b).

(17) a. This is a neighbourhood which you should work in before residing *(in).
b. This is a neighbourhood which you should work in before residing in (it).

[8] Note the alternation between the elements *such* and *the one* in the structure in (16). For the purposes of this paper, it is not important to distinguish between these two alternatives. What is important here is the existence of a concealed relative clause in the structure. Note also that depending on whether the concealed relative is a *such that* or its *the one that* alternative, the bound variable pronoun inside it will be either PF-deleted, or simply null (i.e., *pro*), but at any rate non-overt.

[9] Note in this context that as has often been pointed out "[b]inding is a […] relation between NPs and does not require strict semantic identity between the two coreferential NPs involved […]; it can also be a very loose relation, a vague 'aboutness' relation" (Demirdache 1991: 177), as shown in (i):

(i) a. John, I hate the bastard. (Demirdache 1991:176)
b. John, I really hate that man / the man.
c. The shirt that John is wearing, I really hate that kind of shirt.
d. John, I really can't stand that type of guy.

This is a relevant point, because it shows again that the hidden relative clause in the structure in (19) may be either a *such that* or a *the one that* relative.

[10] Of course this issue depends on the exact structure inside the first (embedded) CP, specifically the precise external merging position of the *wh*-phrase inside this CP. Crucially, however, note that a sentence such as 'What is it (that) you want?' is completely fine in English, the idea being that the post-copular (null) DP in the structure in (16) has the same status as the overt pronoun 'it' in such sentences.

[11] See also Ross (1967), Perlmutter (1972), Obenauer (1984/1985), who argue that all extractions involve empty resumptive pronouns.

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Secondly, notice that contexts such as (18a,b) require a gap, contrasting in this way with their close paraphrase, namely the so-called " 'unlyrical' such that" relative (Quine 1960:110), which needs an overt resumptive pronoun, as shown in (19)[12].

(18) a. Which movie is of the kind$_i$ that you like (*it$_i$)?
b. Which movie is the one$_i$ that you like (*it$_i$)?

(19) Which book is such that you bought *(it)?

This amounts to evidence that the gap in constructions such as (18a,b) is in fact a resumptive *pro* and not a trace, on a par with the overt resumptive pronoun *it* in (19)[13].

Finally, positing a resumptive *pro* in English is also theoretically appealing in view of the ideas in Hornstein (1999, 2001) and Boeckx & Hornstein (2003, 2004), who argue for the existence of arbitrary (i.e. non-resumptive) *pro* in (non-obligatory) control structures. That is, if a language has arbitrary *pro*, the unavailability of resumptive *pro* in that language is hard to account for.

Turning to null copulas, these have been postulated for languages as different as Arabic (Benmamoun 2000), Austronesian (Paul 2001), Hebrew, Russian (Pereltsvaig 2001), Irish (Carnie 1997), Japanese (Fukaya & Hoji 1999), Korean (Lee 1995), Turkish (Ince 2006), Welsh (Rouveret 1996) and even English (Larson, den Dikken & Ludlow 1997). Indeed copular constructions in English have been notoriously recalcitrant to analysis, and their behaviour also in relative clauses and other contexts (such as ellipsis-related environments) has been rather difficult to accomodate in linguistic theory (cf. Merchant 2001, 2004)[14].

3.2. Accounting for weak crossover obviation in appositives

A well-known observation (originally due to Safir 1986) is that appositives do not exhibit weak crossover effects, as shown in (20b), thus contrasting with restrictive relatives, as shown in (20a).

(20) a. ?*A man$_i$ who$_i$ his$_i$ wife loves t$_i$ arrived early.
b. John$_i$, who$_i$ his$_i$ wife loves t$_i$, arrived early.

My core proposal can also be extended to account for the obviation of weak crossover effects in appositives, whose structure will accordingly be as in (21).

(21) John$_i$, who$_i$ is [$_{DP}$ such / the one]$_i$ that his$_i$ wife loves him$_i$/pro$_i$, arrived early.

3.3. Extension to ATB movement phenomena

Across-The-Board (ATB) movement phenomena as in (22) have long puzzled syntacticians as the single exception to the Coordinate Structure Constraint (CSC).

[12] In this context, see also van Riemsdijk (2007) for the idea that *such* in a *such that* relative in fact means *the kind (of x) that*. In other words, the antecedent of the bound variable pronoun is deleted under identity with a previously mentioned linguistic expression also in these constructions.

[13] Note that such that relatives are also fine with overt 'copies' involving an overt pronominal only:
(i) Which book is such that you read that book?
(ii) *Which book is such that you read the book?

[14] For arguments on a lexically and structurally non-uniform copula *be* in English, see Becker (2000, 2004), Schütze (2004), and references therein.

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(22) Who did John like and Mary hate?

My proposal can be extended to this type of construction, as given in (23)[15].

(23) Who_k is [DP the one / the person]$_j$ [CP that [$_{IP}$ John liked *pro*$_j$] and
[$_{IP}$ Mary hated *pro*$_j$]]

3.4. Accounting for lack of Principle C reconstruction effects
As noted by Munn (1994), sentences like the one in (24) constitute a problem for the promotion or head-raising analysis of relative clauses given in (25a), since under this analysis the configuration in (25b) should be ungrammatical due to illicit binding of a name (i.e., a Principle C violation).

(24) The picture of $John_i$ which he_i saw in the paper is very flattering.

(25) a. [$_{DP}$ … $name_i$ …]$_j$ [$_{CP}$ $pronoun_i$ … t_j]
b. [$_{DP}$ … ~~$name_i$~~ …]$_j$ [$_{CP}$ $pronoun_i$ … $name_i$] (LF reconstruction)

Furthermore, sentences like (24) contrast in this respect with analogous *wh*-questions, as given in (26) through (29) (examples from Sauerland 1998 and Safir 1999).

(26) a. The picture of $John_i$ which he_i saw in the paper is very flattering.
b. *Which picture of $John_i$ did he_i see in the paper?

(27) a. The pictures of $Marsden_i$ which he_i displays prominently are generally the attractive ones.
b. * Which pictures of $Marsden_i$ does he_i display prominently?

(28) a. I have a report on $Bob's_i$ division he_i won't like.
b. *Which report on $Bob's_i$ division won't he_i like?

(29) a. In pictures of Al_i which he_i lent us, he_i is shaking hands with the President.
b. *Which pictures of Al_i did he_i lend us?

Yet, the (b) examples in (26) through (29) are fine in certain contexts such as contrastive ones (evidenced through the use of the emphatic reflexive expression), as shown in (30).

(30) a. Which picture of $John_i$ did he_i himself see in the paper?
b. Which pictures of $Marsden_i$ does he_i himself display prominently?
c. Which report on $Bob's_i$ division won't he_i himself like?
d. Which pictures of Al_i did he_i himself lend us?

My proposal can be extended to the (a) sentences in (26) through (29), as well as to those in (30). That is, I propose that a sentence like the one in (26a) is derived from the structure in (31) in a manner analogous to what was said for the structure of (8b).

[15] Of course more needs to be said about the extension of my proposal to ATB phenomena, especially on the issues of *do*-insertion and the structural parallelism needed to block sentences like: **Who did John like and Mary hate(d) Bill*.

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Thus, in a sentence like (26a) the *wh*-phrase neither 'reconstructs' in its putative external merging site (i.e., as the object of the verb *saw*), nor is deleted at PF[16].

(31) [$_{CP}$ [$_{DP}$ The picture$_k$ of John$_i$ [$_{CP}$ which is [DP such / the one (picture$_k$)]$_j$ [$_{CP}$ that he$_i$ saw it$_j$/*pro*$_j$ in the paper]]] is very flattering]

Similarly, I suggest that a sentence like the one in (30a) has the structure in (32)[17].

(32) [$_{CP}$ [$_{DP}$Which picture$_k$ of John$_i$] is [$_{DP}$ such / the one (picture$_k$)]$_j$ [$_{CP}$ that he$_i$ himself did see it$_j$/*pro*$_j$ in the paper]]

Finally, my proposal on lack of Principle C reconstruction effects does not entail lack of Principle A reconstruction effects. To account for the perseverance of Principle A effects, I adopt Guilliot & Malkawi's (2006) analysis (henceforth: G&M) of reconstruction and typology of resumption. G&M argue that what really matters for reconstruction is on the one hand the type of resumption, and on the other hand the type of binding condition. Specifically, G&M show that reconstruction with weak resumption (e.g., a clitic) is sensitive to the type of binding condition (there is reconstruction with bound variable anaphora but not with R-expressions) but insensitive to islandhood (it occurs even in strong islands), whereas reconstruction with strong resumption (e.g., a strong pronoun or epithet) is sensitive to islandhood (present in no or weak islands and absent in strong islands), but insensitive to the type of binding condition. The central claim in G&M is that reconstruction of an XP follows from interpretation of a **copy** of that XP (and not the XP itself). Capitalizing on the difference between two distinct processes as the origin of copies, namely movement and ellipsis, G&M argue that reconstruction with weak resumption follows from ellipsis (specifically via Elbourne's 2001 NP-deletion analysis of third person pronouns to resumptive pronouns), whereas reconstruction with strong resumption is the result of movement.

4. Comparison with other accounts

My account of lack of Principle C effects is similar to that in Safir (1999), which builds on Fiengo & May's (1994) independently motivated mechanism of *Vehicle Change*. This is a procedure that replaces a name with its 'pronominal correlate' (i.e. a pronoun bearing the same index), as depicted below:

(33) A picture of John$_i$ which he$_i$ thought Mary would like to have was recently stolen.

(34) A picture of John$_i$ which he$_i$ thought Mary would like to have *picture of John$_i$* was recently stolen. (LF reconstruction)

(35) A picture of John$_i$ which he$_i$ thought Mary would like to have picture of him$_i$ was recently stolen. (*Vehicle Change*)

[16] See Citko (2001) for the view that the *wh*-phrase in the (a) sentences in (26) through (29) does not reconstruct but is instead deleted at PF.

[17] A non-trivial question concerning the application of my proposal to strong crossover obviation effects, as well as ATB phenomena, involves the phenomenon of *do*-insertion. I leave this issue and the complex of problems that it relates to (such as for instance the nature of the relation between *do* and the main verb) open to future research.

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But as Citko (2001) remarks, there is a major problem with Safir's Vehicle Change approach, namely that it predicts the lack of Principle C effects in many environments in which they do occur, as mentioned earlier.

The crucial differences between Safir (1999) and my analysis are that: (i) I take the bound variable pronoun to be *pro* (or a PF-deleted one if the structure involves a concealed *such that* relative), which has a different, obviously more restricted, distribution in English relative to that of overt pronominals; and (ii) *pro* is co-indexed with a c-commanding (elided copy of a) DP in a phonetically null copular structure. Given the restricted distribution of *pro* or putatively other null pronouns in English (relative to overt ones), my analysis eschews the objections raised against Safir (1999) in Citko (2001). However, the question arises as to why emphatic *wh*-questions pattern with relative clauses while non-emphatic *wh*-questions don't. That is, what is it that licences the concealed relative clause strategy, why is it available for the (a) sentences in (26) through (29) (as well as for (30)) but not for the respective (b) sentences, since both involve D-linked *wh*-phrases? At this point, I can only speculate that it is the (hidden) bi-clausal structure of emphatic *wh*-questions that is responsible for their presuppositional structure, which as mentioned earlier and as repeated under (36) is different from that of their non-emphatic counterparts, among other things.

(36) a. Which book did Ana bring (if any)?
b. Which book is such that Ana brought it (#if any)?
c. Which book is of the kind that Ana brought (#if any)?
d. Which book is the one that Ana brought (#if any)?

In sum, D-linked *wh*-phrases come in (at least) two blends, which is exactly how I have analysed D-linked *wh*-questions, namely as structurally mono-clausal versus bi-clausal ones. Thus, the implication of my claim that resumption is restricted to (sometimes concealed) relatives is only one way: resumption with D-linked *wh*-phrases entails a bi-clausal structure, but bi-clausality does not entail resumption/clitic doubling. This is in line with Sharvit's (1999:595) observation that "satisfaction of the D-linking requirement alone does not suffice to license a resumptive pronoun". One ramification of this view is that also 'simple' *wh*-phrases should always have D-linked uses. Though this is sometimes disputed, the well-formedness of sentences such as the ones in (37) confirms the correctness of my analysis.

(37) a. What is the thing that John likes? (What are the things John likes?)
b. Who is the one that John likes? (Who are the ones that John likes?)
c. What / who is it John likes?

To conclude, my analysis derives Sharvit's 'D-linking' assumption in a purely syntactic fashion.

5. Conclusion

My main agenda in this paper was to show that though locality constraints are often hard to detect because of spell-out forms that obscure the presence of agreement chains, they still exist and are obeyed, a view that has been argued for most recently in Kratzer (2009) in connection with the relationship between bound variable pronouns and their antecedents. More specifically, I have argued that agreement chains can be

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established through part-whole or specificational relations, and that in particular, resumption is restricted to (sometimes concealed) relatives. It is precisely this (concealed) structure that is responsible for apparent lack of superiority effects, among other things. Crucially, I have provided evidence for a phonetically null resumptive pronoun with properties different from traces also in languages like English.

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