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The Non-Concealed Nature of Free Relatives: Implications for Connectivity in Specificational Sentences*

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1. INTRODUCTION

Connectivity is the name for the effect that elements within the pre- and the post-copular phrases in specificational sentences behave as if they were in a c-command configuration, though they are not. This effect is found with a range of syntactic and semantic phenomena, which are therefore referred to as *connectivity effects*. Examples of connectivity effects are the distribution of anaphors and negative polarity items, the availability of opaque readings and binding relations, and Case and agreement markings. The existence of these effects poses a real challenge to direct compositionality, because a direct compositionality analysis of connectivity requires abandoning well-established analyses of these phenomena that are all based on c-command and instead developing new analyses that do not rely on such a notion.

An apparently simpler option is to assume a grammatical operation that posits the desired c-command configuration at an abstract level of representation; this would allow one to maintain the current c-command based analyses of the different phenomena. This option, which we will generally refer to as the *reconstruction strategy*, has received a number of implementations in the generative literature in the last forty years. One of the main problems with these implementations is the lack of independent evidence for the abstract level of representation. A promising implementation of the reconstruction strategy is the so-called “question-answer” approach, originally due to Ross (1972), which takes specificational sentences to be question-answer pairs. Under this approach, the desired c-command configuration is restored in the post-copular full answer. The “question-answer” approach is particularly attractive because positing the desired c-command configuration is independently motivated by the status of the post-copular phrase as a full answer.

Two versions of the question-answer approach have been proposed recently. Den Dikken, Meinunger and Wilder (2000) analyze the pre-copular phrase as a question syntactically and semantically, while Schlenker (2003) and Romero (to appear, this

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volume) propose that the pre-copular phrase is syntactically a nominal and is only interpreted as a question, i.e. it is a “concealed question”. This paper argues against the question-answer approach to specificational sentences by presenting crosslinguistic data showing that the pre-copular phrase in a specificational sentence is not a question, neither syntactically nor semantically. We focus on the status of the pre-copular phrase as a question because it stands at the core of the question-answer approach. If the pre-copular phrase in a specificational sentence is not a question, there is no motivation to posit a post-copular full answer that has the desired c-command configuration.

The paper is organized as follows. We begin by presenting the range of connectivity effects in section 2 and then briefly review the direct compositionality strategy and the reconstruction strategy in section 3. Section 4 presents crosslinguistic data showing that the *wh*-clause in the pre-copular position of a specificational sentence is not an embedded *wh*-interrogative, contra den Dikken *et al.*; instead, we argue that it is a free relative. Section 5 argues against the concealed question version of the question-answer approach, namely, against Schlenker’s (2003) and Romero’s (in press, this volume) implementations, in which the pre-copular nominal in a specificational sentence, whether a free relative or a headed nominal, is a syntactic nominal that is interpreted as a question. We conclude that this attractive version of the reconstruction strategy to connectivity, i.e. the question-answer approach, suffers from the same weakness as the others: the lack of independent evidence for positing the desired c-command relation at an abstract level.

2. CONNECTIVITY EFFECTS

This section presents the full range of connectivity effects: our goal is to illustrate the diversity of this group of syntactic and semantic phenomena which is important for understanding the conceptual difference between the direct compositionality strategy and the reconstruction strategy. What these phenomena have in common is that they are usually found only under a c-command configuration, but in specificational sentences they occur even though this configuration is absent.

“Binding Theory” Connectivity. This group of connectivity effects deals with the distribution of anaphoric elements – the terminology of Binding Theory (Chomsky 1981) is borrowed only in order to label the generalizations regarding different anaphors. The examples in (1) illustrate Principle A connectivity: the anaphor *himself* is licensed in the post-copular phrase, even though it is not c-commanded by its antecedent *John* which is embedded inside the pre-copular phrase. In the examples in (2), the pronoun *him* cannot take the nominal *John* as its antecedent, even though the desired antecedent does not c-command the pronoun. Finally, in the examples in (3), the pronoun *he* and the nominal *John* cannot corefer, even though they are not in a c-command relation.

(1) *Principle A connectivity*

- a. [What John is _] is proud of himself.
- b. [The person John likes most _] is himself.

(2) *Principle B connectivity*

- a. *[What John_i is _] is proud of him_i.
- b. *[The person John_i likes most _] is him_i.

(3) *Principle C connectivity (from Sharvit 1999)*

- a. *[What he_i is _] is a nuisance to John_i.
- b. *[The people he_i saw _] were John_i and some of Mary's friends.

Notice that in each pair example (a) has a pre-copular *wh*-clause, i.e. it is a pseudocleft, and example (b) has a headed nominal in the same position. That is, as pointed out as early as Higgins (1973), connectivity effects are not special to pseudoclefts but are found in all specificational sentences. We will show the same below for the other connectivity effects.

Opacity Connectivity. *De dicto* readings are usually available only in opaque contexts, i.e. under the scope of an intensional operator, where scope is defined in terms of c-command. In (4), the nominal *a pink giraffe* in the post-copular phrase has a *de dicto* reading, i.e. the existence of pink giraffes is not entailed, even though the nominal is not in the scope of the intensional predicate *look for*, which is embedded inside the pre-copular phrase. A *de re* reading, where the existence of pink giraffes is entailed, is also available.

- (4) a. [What John is looking for _] is a pink giraffe.
- b. [The only thing that John is looking for _] is a good job.

NPI Connectivity. It is standardly assumed that Negative Polarity Items (NPIs) like *any* can only occur in restricted environments, one of which is under the scope of negation, where scope is usually defined in terms of c-command. In the specificational sentences in (5), *any* is licensed despite the fact that it is not c-commanded by the negation. That negation is indeed the licenser is illustrated by the contrast with the sentences in (6): the lack of the negation leads to ungrammaticality.

- (5) a. [What John didn't buy _] was any books. (Sharvit 1999)
- b. [The one thing he didn't do _] was buy any wine. (den Dikken *et al.* 2000)

- (6) a. *[What John bought _] was any books.
- b. *[The one thing he did _] was buy any wine.

Bound Variable Connectivity¹. The usual configuration of a quantified expression binding a pronoun is c-command. Nonetheless, both *no man* and *no student* can bind *his* in (7), although in both cases such configuration is absent (both examples are from Sharvit 1999).

- (7) a. [The women [no man]_i listens to _] are his_i wife and his_i mother in law.
 b. [What [no student]_i enjoys _] is his_i finals.

Case Connectivity. Case is usually assigned locally under a c-command configuration, but in specificational sentences the post-copular phrase is marked for the same Case assigned to the gap position in the pre-copular phrase. The examples in (8) illustrate this connectivity effect in Hebrew, where definite direct objects must be marked by *et*. The post-copular constituent in the specificational pseudoclefts in (8) is neither a subject nor a direct object², nevertheless it exhibits the same restrictions on the distribution of *et* as the gap in the pre-copular *wh*-clause: when the gap is in direct object position, *et* must precede the post-copular phrase (8a), and when the gap is in subject position, *et* cannot occur mark the post-copular phrase (8b).

- (8) a. *Object Gap*
 [ma še-kaninu ba-šuk _] ze *(et) ha-sveder ha-kaxol
 what that-we-bought in-the-market is Acc the-sweater the-blue
 ‘What we bought at the market was the blue sweater.’
 b. *Subject Gap*
 [ma še _ nafal alay] ze (*et) ha-sveder ha-kaxol
 what that fell on-me is Acc the-sweater the-blue
 ‘What fell on me was the blue sweater.’

Agreement Connectivity. Like Case assignment, agreement is usually local, but in specificational sentences the post-copular phrase exhibits agreement with the subject inside the pre-copular *wh*-clause even though there is no c-command relation between the agreeing elements. The examples in (9) illustrate agreement connectivity in Hebrew, where a predicate obligatorily agrees with the subject in number and gender. In (9a), the post-copular predicate must be feminine in accordance with the gender of the subject

¹ We only discuss specificational sentences here, but bound variable connectivity is also found in predicational sentences – see Sharvit (1997, 1999).

² Unless the copula is analyzed as a standard transitive verb. But then we would expect the post-copular phrase to be marked Accusative in all cases and not just when the position of the gap in the pre-copular phrase is in object position – (8b) shows that this is not the case.

inside the free relative, whereas in (9b) the post-copular predicate must be masculine in accordance with the masculine subject inside the free relative (examples are from Heller 2002).

- (9) a. [ma še-**rut** hayta _] ze { *mo'il / **mo'ila** } la-xevra
 what that-Ruth was(f) is *helpful(m) / helpful(f) to-the-society
 ‘What Ruth was was helpful to society.’
- b. [ma še-**dan** haya _] ze { **mo'il** /*mo'ila } la-xevra
 what that-Dan was(m) is helpful(m)/*helpful(f) to-the-society
 ‘What Dan was was helpful to society.’

All the examples above show the two main properties of connectivity effects: their extremely heterogeneous nature and the lack of the c-command relation, which is otherwise assumed to license these effects.

3. DIRECT COMPOSITIONALITY AND CONNECTIVITY

As we mentioned earlier, there are two main strategies to approach connectivity: the direct compositionality strategy and the reconstruction strategy. The two crucially differ in their perspective on the implications of the existence of connectivity effects. The reconstruction strategy takes the fact that all these phenomena are otherwise licensed under c-command to indicate that c-command is available in specificational sentences as well. Since no c-command is found on the surface, it must be available at an abstract level. Positing c-command at an abstract level derives all connectivity effects at once.³ Direct compositionality, on the other hand, takes the heterogeneous syntactic and semantic nature of connectivity effects as evidence that they do not constitute a single phenomenon and, therefore, call for a revision of the analyses the rely on c-command.

A non-structural analysis of various connectivity effects has been developed by Jacobson (1994), Sharvit (1999), Cecchetto (2000) and Heller (2002). In this strategy, specificational sentences are an equation between the pre- and post-copular phrases as they appear on the surface, and connectivity effects arise as a by-product of semantic equation. For instance, following Jacobson (1994), Principle A connectivity in (1a) (repeated below as (10)) is the result of equating a free relative denoting a maximal predicate with the post-copular reflexive predicate.

³ This may not always be a desirable result, because of the existence of anti-connectivity effects (see Sharvit 1999) and also because of the existence of connectivity patterns like the Hebrew one, where different kinds of pseudoclefts exhibit a different subset of connectivity effects – see Heller (2002).

- (10) a. [What John is _] is proud of himself.
 b.. $\iota P[P(j)] = \lambda x.\text{proud-of}^*(x,x)$ (Jacobson 1994)

Analyses of other phenomena that show up as connectivity effects have been developed for bound variable connectivity (Jacobson 1994), opacity connectivity (Sharvit 1999), effects pertaining to quantifier scope (Cecchetto 2000), and Case and agreement connectivity (Heller 2002). At this point, the main challenge for direct compositionality is to account for NPI connectivity (which has been shown by den Dikken *et al.* to be non reversible – see §4) and for the distribution of pronouns and proper names, i.e. for Principle B and Principle C connectivity, which requires a non-structural analysis of the distribution of anaphors.

A reconstruction analysis of connectivity has been proposed as early as Peters and Bach (1968). They posit a level of representation at which the post-copular phrase is surrounded by a copy of the free relative, as in (11b). In a different analysis, Hornstein (1984) proposes that the c-command relation is achieved by having the post-copular phrase in the position of the gap inside the free relative, as in (11c).

- (11) a.[What John_i is _] is proud of himself_i.
 b.[What John_i is _] is John_i is proud of himself_i.
 c.[What John_i is proud of himself_i] is proud of himself_i.

These analyses face a number of problems – see Higgins (1973, Chapter 2) for the earliest discussion. But the main objection to deriving connectivity in this way is that the level of representation at which the c-command relation is posited makes little semantic sense and is also not independently motivated – it is specifically tailored to account for connectivity.

A more recent mechanism for deriving connectivity effects is Heycock and Kroch's (1999) "iota-reduction", which manipulates the logical representation of a specificational pseudocleft post LF, turning it into the corresponding simple sentence. This is illustrated in (12b) for the pseudocleft in (12a).

- (12) a.[What John_i is _] is proud of himself_i
 b. $(\iota P: \text{John is P}) = \text{proud-of-himself} \rightarrow \text{John is proud of himself}$

As pointed out in Schlenker (2003), this account of connectivity also faces the problem that it is not independently motivated. That is, Heycock and Kroch do not present independent evidence for positing the additional level of representation beyond LF.⁴

⁴ In addition, not all specificational sentences have a "corresponding" simple sentence.

The advantage of the question-answer approach over other reconstruction analyses is that it derives connectivity effects using mechanisms that already exist in the grammar. In particular, the reason for reconstruction is not particular to specificational sentences, but rather it is based on similarities with question-answer pairs. The resemblance of the *wh*-clause in specificational pseudoclefts in English to an embedded *wh*-interrogative has led Ross (1972, 1997) to propose that specificational pseudoclefts like the one in (13a) are analyzed as in (13b), i.e. as an equation between a *wh*-question Q (14a) and an elided (or short) answer ANS (14c), which is assumed to be derived from the full answer (14b) by a process of phonological deletion.

- (13) a. What John is is proud of himself.
 b. [Q What John is] is [ANS ~~John~~_i is proud of himself_i].
- (14) a. [Q What is John_i?] *Question*
 b. John_i is proud of himself_i. *Full answer*
 c. [ANS ~~John~~_i is proud of himself_i]. *Short answer according to Ross*

According to this analysis, we hear the short answer, but we compute the full answer as far as grammatical principles are concerned. This is crucial since it is in the full answer that the relevant c-command configuration is found.

A similar account can be given to other connectivity effects we have seen here, as schematically shown in (15)-(19).

- (15) *Principle B*
 a. What is John_i? *~~John~~_i is proud of him_i.
 b.*[Q What John_i is] is [ANS ~~John~~_i is proud of him_i].
- (16) *Principle C*
 a. What is he_i? *~~He~~_i is proud of John_i.
 b.* [Q What he_i is] is [ANS ~~he~~_i is proud of John_i].
- (17) *Opacity*
 a. What is John looking for? ~~John~~_i is looking for a pink giraffe.
 b. [Q What is John looking for] is [ANS ~~John~~_i is looking for a pink giraffe].
- (18) *NPI*
 a. What didn't John buy? ~~John~~_i didn't buy any books.
 b. [Q What John didn't buy] is [ANS ~~John~~_i didn't buy any books].

(19) *Bound Variable*

- a. What does [no student]_i enjoy? [~~No student~~_i enjoys his_i finals].
- b. [Q What does [no student]_i enjoy]? [ANS [~~No student~~_i enjoys his_i finals].

To support the existence of question-answer equations, Ross presents examples in which the post-copular answer is not elided:

- (20) a. What I did then was [call the grocer]. (Ross 1972)
- b. What I did then was [I called the grocer].
- (21) a. What John did was [buy some wine]. (den Dikken *et al.* 2000)
- b. What John did was [he bought some wine].

The logic is that in order to account for the existence of (20b) and (21b), one has to assume that the grammar allows for question-answer pairs in copular sentences. Having a pair of a question and an elided answer, as in (20a) and (21a), comes “for free” due to the independent existence of ellipsis in answers. That is, these examples show that analyzing specificational sentences as question-answer pairs does not involve postulating new mechanisms in the grammar.

Two versions of the question-answer analysis have been proposed recently. Den Dikken, Meinunger and Wilder (2000) analyze the pre-copular phrase as a question syntactically and semantically, while Schlenker (2003) and Romero (to appear, this volume) propose that the pre-copular phrase is syntactically a nominal and is only interpreted as a question, i.e. it is a “concealed question”. In what follows, we examine the status of the pre-copular phrase in specificational sentences and conclude that there is no evidence that it is a question syntactically, contra den Dikken *et al.*, or semantically, contra Schlenker and Romero.

The reason for focusing on the status of the pre-copular phrase as a question is that it constitutes the motivation for the question-answer approach. If the pre-copular phrase in a specificational sentence is not a question, then the post-copular phrase cannot be an answer and we cannot explain connectivity by relating it to parallel effects found in question-answer pairs. In addition, since being an answer concerns the discourse status of an indicative sentence but is not marked syntactically or semantically, it is easier to examine whether the pre-copular phrase is a question, since questions are expected to have certain syntactic and/or semantic properties.

It should be pointed out that our goal is not to determine whether there exist question-answer pairs in copular sentences. That such sentences exist has already been demonstrated by Ross – see again (20) and (21) above. In fact, the existence of question-answer pairs in copular sentences is predicted by any theory that assumes a

cross-categorical ‘*be* of identity’. Rather, our goal is to assess the claim that question-answer pairs are responsible for connectivity.

The next section shows that the *wh*-clause in a specificational pseudocleft is syntactically a free relative and not a *wh*-interrogative, contra what has originally been proposed by Ross (1972) and adopted by den Dikken *et al.* (2000). Then, in section 5, we show that the pre-copular phrase in a specificational sentence is also not interpreted like a question, contra Schlenker’s and Romero’s versions of the question-answer approach.

4. THE WH-CLAUSE IN SPECIFICATIONAL PSEUDOCLEFTS IS SYNTACTICALLY NOT A QUESTION

Den Dikken *et al.* adopt Ross’s original idea and analyze specificational pseudoclefts as “self-answering questions”. In their analysis, the pre-copular *wh*-clause is an embedded *wh*-interrogative and the post-copular phrase is an (obligatorily) elided full IP that answers the question in the pre-copular *wh*-interrogative. Their primary motivation comes from Ross’s examples in which the post-copular IP is not elided – see again examples (20)-(21). Note, however, that the existence of question-full answer pairs as we saw in (20a) and (21a) only shows that such copular sentences are allowed by the grammar. It does not show that specificational sentences are such question-answer pairs.

Den Dikken *et al.* distinguish this type of pseudoclefts (which they call “Type A”) from reversed pseudoclefts (“Type B”) which they analyze as predicational sentences in which the predicate is a free relative. This distinction is motivated by the irreversibility of NPI connectivity. In particular, they notice that NPIs are licensed in the post-copular phrase by the negation inside the pre-copular *wh*-clause, as in (22a) and (23a), but reversing the order of the elements around the copula renders the sentences ungrammatical, as in (22b) and (23b), i.e. the NPI in the pre-copular phrase is not licensed by the negation inside the post-copular *wh*-clause.

(22) a. What John didn’t buy was any books. **Type A**

a'. [What John didn’t buy] was [_{IP} ~~he didn’t buy~~ any books].

b.*[_{DP} Any book] is/was [what John didn’t buy]. **Type B**

(23) a. What wasn’t available was a doctor who knew anything about babies.

a'. [What wasn’t available] was [_{IP} ~~there wasn’t available~~ a doctor who knew anything about babies].

b.*[_{DP} A doctor who knew anything about babies] was [what wasn’t available].

Taking as their starting point the standard assumption that NPIs are licensed by a c-commanding negation, den Dikken *et al.* assume that the licensing of an NPI in (22a) and

(23a) indicates that negation is present in a c-commanding position, and hence conclude that the post-copular phrase is an elided full IP. Den Dikken *et al.* claim that the ungrammaticality of (22b) and (23b) suggests that the pre-copular phrase in Type B pseudoclefts is not an elided IP but rather an XP – a DP in the examples here.

This section is not intended to review den Dikken *et al.*'s arguments. Instead, it presents crosslinguistic data arguing that the *wh*-clause in a specificational pseudocleft is not an embedded interrogative, but rather a free relative. Our logic is that if the pre-copular phrase is not a question, then the post-copular phrase cannot be the answer, so we lose the motivation for reconstructing a full IP in the post-copular position.

4.1. Morphological differences between *wh*-interrogatives and specificational pseudoclefts

The resemblance of the *wh*-clause in a specificational pseudocleft in English to an embedded *wh*-interrogative has led den Dikken *et al.* to analyze it as syntactically a *wh*-interrogative. In English, embedded *wh*-interrogatives and free relatives look identical, but other languages distinguish the two constructions overtly. We present data from Macedonian, Hungarian, Wolof and Hebrew showing that in those languages the *wh*-clause in the pre-copular position of a specificational pseudocleft is a free relative.

In Macedonian, free relatives differ from embedded interrogatives in that they are introduced by *ona* 'that'. When the *wh*-clause occurs in the complement of *kazhi* 'tell', as in (24a), *ona* cannot occur, and when the same *wh*-clause occurs in the complement of *sakam* 'love', as in (24b), *ona* must occur. Crucially, *ona* is also obligatory in the specificational pseudocleft in (24c): this pseudocleft is made sure to be specificational as it exhibits Principle A connectivity.

(24) MACEDONIAN

a. *Embedded Interrogative*

Kazhi mi [(***ona**) shto navistina Petar saka].
 tell me that what really Petar love
 'Tell me what Petar really loves.'

b. *Free Relative*

(Jas) sakam [**(ona)** shto Petar saka].
 I love that what Petar loves
 'I love what Petar loves.'

c. *Specificational Pseudocleft*

[*(**Ona**) shto Petar saka] e samiot sebe si.
 that what Petar loves is alone himself
 'What Petar loves is himself.'

In Hungarian, the words that introduce free relatives are characterized by a prefix *a-* that make them distinguishable from the *wh*-words that introduce interrogatives. In (25a) the *wh*-clause occurs as the complement of *mondd* ‘tell’, i.e. it is an interrogative (INT), and in (25b) the *wh*-clause occurs as the complement of *megettem* ‘ate’, i.e. it is a free relative (FR). While in the former environment only *mit* ‘what’ is possible, the opposite pattern is observed in the latter environment, i.e. only *amit* ‘what’ can occur. Crucially, only *amit* can occur in the specificational pseudocleft in (25c). It is important to point out that (25c) is ambiguous between a *de dicto* and a *de re* reading, i.e. it exhibits opacity connectivity.

(25) HUNGARIAN

a. *Embedded Interrogative*

Mondd meg [***amit/mit** fo"zött]
 tell me what_{FR}/what_{INT} cooked
 ‘Tell me what he cooked.’

b. *Free Relative*

Megettem [**amit/*mit** fo"zött]
 I-ate what_{FR}/what_{INT} cooked
 ‘I ate what he cooked.’

c. *Specificational Pseudocleft*

[**Amit/*mit** keres _] az Chomsky legújabb könyve
 What_{FR}/What_{INT} is-looking-for that C.’s latest book
 ‘What he is looking for is Chomsky’s latest book.’

In Wolof, a Niger-Congo West Atlantic language spoken mainly in Senegal and Gambia, the (contracted) *wh*-words result from combining the many classifiers of the language with the suffix *-u*, while the words that introduce free relatives are formed by adding the suffix *-i* to the same classifiers. Again, we compare the clause that occurs as the complement of an interrogative taking verb like *yëg* ‘found out’ in (26a) with that of an individual taking verb like *bañ* ‘hate’ in (26b). The former predicate only allows for a clause introduced by *l-u*, which is an interrogative, while the latter requires a clause introduced by *l-i*, which is a free relative. Crucially, the specificational pseudocleft in (26c), which exhibits Principle A connectivity, allows only for the free-relative version with *l-i*.⁵

⁵ Many thanks to Harold Torrence for collecting and analyzing the Wolof data.

(26) WOLOF

a. *Embedded Interrogative*

yëg -na [***l-i** /**l-u** móódu gën-ë bëgg].
 find out-neutral cl-FR/cl-INT⁶ Moodu surpass-inf like
 ‘She found out what Moodu likes most.’

b. *Free Relative*

bañ-na [**l-i** /***l-u** móódu gën-ë bëgg].
 hate-neutral cl-FR/cl-INT Moodu surpass-inf like
 ‘She hates what Moodu likes most.’

c. *Specificational pseudocleft*

[**l-i** /***l-u** móódu gën-ë bëgg _] bopp-am la.
 cl-FR/cl-INT Moodu surpass-inf like head-3sgposs be
 ‘What Moodu likes most is himself.’

In Hebrew, free relatives are distinguished morphologically from *wh*-interrogatives in that they require the occurrence of the complementizer *še*. In the complement position of the verb *berer* ‘inquired’ in (27a), the *wh*-clause cannot contain the complementizer. In the complement position of the verb *kara* ‘read’ in (27b), the complementizer *še* must occur. The specificational pseudocleft in (27c) patterns with (27b) in that it requires occurrence of the complementizer – this sentence is ensured to be a specificational pseudocleft as it exhibits both Principle A connectivity and Case connectivity.

(27) HEBREW

a. *Embedded Interrogative (from Sharvit 1999)*

dan berer [ma (***še**)-karati]
 Dan inquired what that_{COMP}-(I)-read
 ‘Dan inquired what I read.’

b. *Free Relative (from Sharvit 1999)*

dan kara [ma *(**še**)-karati]
 Dan read what that_{COMP}-(I)-read
 ‘Dan read what I read.’

c. *Specificational pseudocleft*

[ma *(**še**)-dan ohev _] ze et acmo
 what that_{COMP}-Dan loves is Acc himself
 ‘What Dan loves is himself.’

⁶ *cl-FR*: classifier + free relative morpheme; *cl-INT*: classifier + interrogative morpheme.

The data presented here shows that when a language overtly distinguishes *wh*-interrogatives from free relatives, the *wh*-clause in a specificational pseudocleft takes the form of the free relative and not that of the interrogative.

Den Dikken *et al.* also mention languages that show a similar pattern to what is presented here for Hebrew, Wolof, Hungarian and Macedonian (their footnote 23). In particular, they cite Bulgarian (following Izvorski 1997) and Greek (following Alexiadou and Giannakidou 1998) as languages that distinguish interrogatives and free relatives overtly and employ only the latter in specificational pseudoclefts. Den Dikken *et al.* propose analyzing these cases as their “Type B” pseudoclefts, i.e. as simple copular sentences that do not involve questions and answers. The same analysis can be applied to the languages discussed here. But this would leave us with six languages (mostly genetically unrelated) in which den Dikken *et al.*’s analysis does not apply. That is, even if there are languages in which the *wh*-clause in a specificational sentence is an embedded interrogative, as proposed by den Dikken *et al.*, this is not true of specificational pseudoclefts crosslinguistically and therefore cannot be used as a general account of connectivity.

4.2. The range of *wh*-words in free relatives and interrogatives

But even in a language like English where free relatives and *wh*-interrogative are not distinguished overtly, it is possible to observe differences between the two constructions. In particular, the range of *wh*-words that occur in free relatives is a subset of those found in embedded *wh*-interrogatives. Crucially, this is the same subset of *wh*-words that occur in the pre-copular *wh*-clause of specificational pseudoclefts.

The examples in (28) present the range of *wh*-words in embedded interrogatives. In the examples in (29), the same *wh*-words are used in *wh*-clauses in the complement position of non-interrogative predicates, i.e. free relatives. What we see is that free relatives introduced by *what* (29a) and *where* (29b) are judged fully acceptable, while free relatives introduced by *who* are marginal (29c) and free relatives introduced by complex *wh*-expressions such as *which*+NP or *how much* are completely unacceptable (29d,e). The specificational pseudoclefts in (30) exhibit exactly the same restriction on *wh*-words as free relatives (for more on the range of *wh*- words in free relatives see Caponigro 2003).

(28) *Embedded interrogatives*

- a. I wonder [**where** she has lunch].
- b. I wonder [**what** John is reading].
- c. I wonder [**who** gave you the flowers].
- d. I wonder [**which** book John is reading].
- e. I wonder [**how much** Sue weighs].

(29) *Free relatives*

- a. I have lunch [**where** she has lunch].
- b. I read [**what** John is reading].
- c. ??I met [**who** gave you the flowers].
- d. * I read [**which** book John is reading].
- e. * I weigh [**how much** Sue weighs].

(30) *Specificational pseudoclefts*

- a. [**Where** she has lunch] is at the cafeteria.
- b. [**What** John is reading] is “Ulysses”.
- c. ??[**Who** gave you the flowers] was your advisor.
- d. * [**Which** book John is reading] is “Ulysses”.
- e. * [**How much** Sue weighs] is 130 pounds.

These data show that although in English the *wh*-clause in specificational pseudoclefts seems to be morphologically identical to embedded interrogatives, a closer examination of this *wh*-clause shows that it patterns with free relatives and not with interrogatives.

It should be pointed out that den Dikken *et al.* do mention in a footnote the difference between the range of *wh*-words in embedded interrogatives and in specificational pseudoclefts. However, they attribute this fact to a restriction on the kinds of interrogatives that can appear in specificational pseudoclefts. Unfortunately, they do not offer any insight as to what this restriction may be, so at this point it is merely a stipulation.

4.3. **Headed nominals as embedded *wh*-interrogatives?**

Recall from §2 that connectivity effects are also available in specificational sentences in which the pre-copular phrase is a headed nominal rather than a *wh*-clause. In these cases, it is not clear that the pre-copular phrase is an interrogative in any syntactic sense. den Dikken *et al.* propose that these nominals are in fact elided embedded interrogatives. For example, they propose that the non-pseudoclefted specificational sentence in (31a) is derived from (31b).

- (31) a. The one thing he didn't do was buy any wine.
 b. [_{CP} ~~What~~ [the one thing he didn't do] ~~was~~ *t*] was [~~he didn't~~ buy any wine].

As noted by the authors, pursuing this analysis requires an explanation “for why ellipsis of this sort ... is restricted to the ‘topic’ questions of specificational pseudoclefts” (p. 83). In other words, the authors acknowledge that the suggested ellipsis is highly specialized: it

only applies to *wh*-interrogatives and only occurs in the pre-copular position of specificational sentences. While this may turn out to be a necessary kind of ellipsis, den Dikken *et al.* do not present any independent evidence that this is indeed the case. At this point, then, their suggestion is just a stipulation.

4.4. Conclusions for Section 4

Den Dikken *et al.*'s version of the question-answer approach where the pre-copular phrase in a specificational sentence is analyzed as an embedded interrogative is only applicable to a very limited number of cases and requires several stipulations. First, it does not apply to languages where the *wh*-clause is clearly distinguishable from an embedded interrogative. We have mentioned six such languages: Macedonian, Hungarian, Wolof, Hebrew, Bulgarian, and Greek. Second, even in the languages like English in which the *wh*-clause in specificational sentences has the same form as an embedded interrogative, it is necessary to stipulate that certain *wh*-words cannot occur in specificational sentences, though they can in interrogatives. Third, the analysis can apply to specificational sentences with a headed nominal in the pre-copular position, rather than a *wh*-clause, only if an *ad hoc* ellipsis process is stipulated. The number of stipulations required in applying this analysis to specificational sentences is a strong indication that it is not on the right track.

The next section turns to consider a version of the question-answer analysis that avoids the problems raised here by analyzing the pre-copular phrase in a specificational sentence as a syntactic nominal and assuming that this nominal is interpreted as a question.

5. THE SUBJECT OF A SPECIFICATIONAL SENTENCE IS NOT INTERPRETED AS A QUESTION

Schlenker (2003) acknowledges that the *wh*-clause in a specificational pseudocleft is syntactically not an interrogative, but rather a free relative. To maintain the question-answer analysis, Schlenker proposes that these free relatives, as well as all the headed nominals that occur in the pre-copular position of specificational sentences, are interpreted as questions. Interpreting the pre-copular phrase as a question motivates positing a post-copular answer. In Schlenker's analysis, this answer is an (obligatorily elided) full IP in which the desired c-command configuration is available.

How can the subject of a specificational pseudocleft be interpreted as a question if syntactically it is not an interrogative, but rather a nominal, whether a free relative or a headed nominal? It is known since the work of Baker (1968) that some English headed nominals can function as "concealed questions", i.e. be interpreted like questions, in a certain environment (see the Appendix for more on which headed nominals can be interpreted as concealed questions). The canonical environment for concealed question nominals is the complement position of (certain) interrogative taking predicates. This is

illustrated in (32)-(36) where the (a) examples are embedded *wh*-interrogatives and the (b) examples are the corresponding concealed question nominals (Baker 1968: 81).

- (32) a. Jane figured out [_{CP} what the plane's arrival time is].
 b. Jane figured out [_{DP} the plane's arrival time].
- (33) a. John refused to tell the police [_{CP} who the fellows who has been involved were].
 b. John refused to tell the police [_{DP} the fellows who has been involved].
- (34) a. Susan found out [_{CP} what the place where the meeting was to be held is].
 (35) b. Susan found out [_{DP} the place where the meeting was to be held].
- (36) a. Fred tried to guess [_{CP} what the amount of the stolen money was].
 b. Fred tried to guess [_{DP} the amount of the stolen money].

While the complements in both the (a) and the (b) examples are interpreted as questions, they take different syntactic forms. Schlenker's proposal then is that (i) the pre-copular position of a specificational sentence is another concealed question environment and (ii) both headed nominals and free relatives can be interpreted as concealed questions in this environment. Support for this analysis comes from Romero (in press, this volume), who presents interpretive similarities between headed nominals that can occur in both the canonical concealed question environment and the pre-copular position of specificational sentences. However, we will see that many nominals that occur in pre-copular position of specificational sentences are banned from the canonical concealed question environment and thus Romero's arguments are relevant only for a small subset of specificational sentences.

We present three arguments against the concealed question versions of the question-answer approach. First, we show that the availability of connectivity effects is not always associated with concealed question interpretations crosslinguistically, since there is at least one language – Macedonian – that exhibits connectivity and yet does not allow for concealed questions (§5.1). Then, we point out distributional differences between the pre-copular position of specificational sentences and the canonical concealed question environment (§5.2). In particular, we show that free relatives can occur in the pre-copular position of specificational sentences, but they are banned from the canonical concealed question environment (§5.2.1). Similarly, we show that some headed nominals that can occur in the pre-copular position of specificational sentences are unacceptable in the canonical concealed question environment (§5.2.2). Then, we discuss interpretative differences between *wh*-clauses that can occur in both environments and conclude that free

relatives do not receive a concealed question interpretation in the pre-copular position of specificational sentences (§5.3).

5.1. Argument I: Connectivity without concealed questions

If connectivity effects depended on the concealed question interpretation of nominals, we would expect any language that exhibits connectivity to have nominals that are interpreted as concealed questions in the canonical concealed question environment. The Macedonian data below shows that this prediction is not borne out. (37) shows that Macedonian has specificational sentences. This is illustrated by the availability of two kinds of connectivity effects: Principle A connectivity and Opacity connectivity.

(37) a. *Principle A connectivity*

[Ona shto Petar saka _] e samiot sebe si.
that what Petar loves is alone himself
'What Petar loves is himself.'

b. *Opacity connectivity*

[Ona shto Petar bara _] e najnovata kniga od Chomsky
that what Petar look-for is latest-the book by Chomsky
'What Petar is looking for is Chomsky's latest book.'

However, no nominals in Macedonian can be interpreted as concealed questions. (38) shows that even nominals that are easily interpreted as concealed questions in English and other languages do not receive a concealed question interpretation in Macedonian. When these nominals occur in the canonical concealed question environment, e.g. the complement position of the predicate *kazhi* 'tell', the resulting sentences are totally unacceptable.

(38) a. *Kazhi mi go {saatot / chasot / vremeto}.

tell me it hour-the / hour-the / time-the
(‘Tell me the time.’)

b. *Kazhi mi ja {tezhinata / tvojata tezhina}.

tell me it weight-the / your-the weight
(‘Tell me your weight.’)

c. *Kazhi mi ja {goleminata / tvojata golemina} na chevlite.

tell me it size-the / your-the size-the of shoes-the
(‘Tell me your shoe size.’)

The predicate *kazhi* ‘tell’ was chosen because the correlates of *tell* crosslinguistically seem to be the most permissive in allowing concealed question nominals. In addition, we also checked a number of other predicates that can take interrogative complements – *prashuva* ‘wonder’, *otkrie* ‘discover’ and *doznava* ‘found out’ – but none of them allowed for concealed question nominals.

This pattern suggests that the concealed question version of the question-answer analysis cannot account for connectivity crosslinguistically, as connectivity is found in languages that do not allow for concealed question nominals. It is still logically possible that Macedonian has a concealed question interpretation that is specific to the pre-copular position of specificational sentences. We examine this possibility, albeit for English, in §5.2.2.

5.2. Argument II: Distributional difference between the canonical concealed question environment and the pre-copular position in specificational sentences

If the pre-copular position of specificational sentences is a concealed question environment, we expect parallelisms with the canonical concealed question environment in the kinds of expressions they host. Contra this prediction, this section shows that not all nominals that occur in the pre-copular position of specificational sentences can also occur in the canonical concealed question environment, i.e. as complements of interrogative taking verbs. This is shown for free relatives in §5.2.1. and for headed nominals in §5.2.2.

5.2.1 Free relatives

As pointed out by Sharvit (1999), parallelisms between the pre-copular position of specificational pseudoclefts and the canonical concealed question environment can only be tested in languages that (i) distinguish free relatives and *wh*-interrogatives morphologically and (ii) allow for concealed question nominals. Sharvit tests this prediction for Hebrew, which allows concealed question nominals, as in (39a). Not surprisingly, embedded *wh*-interrogatives can freely occur in this position (39b), but, crucially, free relatives cannot. Recall from example (27) in §4.1 that free relatives in Hebrew differ from *wh*-interrogatives in the presence of the complementizer *še*.

(39) HEBREW

a. *Concealed Question*

dan berer et [DP ha-sha'a]

Dan inquired Acc the-hour

‘Dan inquired about the time.’

b. *Embedded Interrogative*

dan berer [ma karati]

Dan inquired what (I)-read

‘Dan inquired what I read.’

c. *Free Relative*

*dan berer [ma še-karati]

Dan inquired what that_{COMP}-(I)-read

‘Dan inquired what I read.’

In §4.1 we saw three other languages that distinguish embedded interrogatives and free relatives overtly: Macedonian, Wolof and Hungarian. In the previous section (§5.1), we saw that Macedonian does not allow for any concealed question nominals, so examining free relatives is irrelevant here. In the rest of this section we apply Sharvit’s argument to Wolof and Hungarian. These languages show the same pattern as Hebrew.

In Wolof, the verb *birëlé* ‘find out’ can take as its complement a concealed question nominal in (40a) and an embedded interrogative in (40b), but not a free relative in (40c): the two clausal arguments differ in the word that introduces them: *l-u* for interrogatives and *l-i* for free relatives.

(40) WOLOF

a. *Concealed Question*

móódu birëlé-na [DP waxtu-wu ñëw-u avion bi].

Moodu find.out-NEUTRAL time-u arrive-u airplane the

‘Moodu found out the airplane’s arrival time.’

b. *Embedded Interrogative*

birëlé-na [l-u móódu gën-ë bëgg].

find out- NEUTRAL cl-INT Moodu surpass-INF like

‘She found out what Moodu likes most.’

c. *Free Relative*

* birëlé-na [l-i móódu gën-ë bëgg].

find out-NEUTRAL cl-FR Moodu surpass-INF like

‘She found out what Moodu likes most.’

Turning to Hungarian, we also find concealed question nominals in the complement of an interrogative taking verb, as in (41a). The same environment of course allows for *wh*-interrogatives, as in (41b), but not for free relatives, as in (41c): the two are distinguished morphologically in the form of the *wh*-word.

(41) HUNGARIAN

a. *Concealed Question*

Mondd meg [_{DP} az eredményt].

tell me the score

‘Tell me the score.’

b. *Embedded Interrogative*

Mondd meg [**mit** fo"zött].

tell me what_{INT} cooked

‘Tell me what he cooked.’

c. *Free Relative*

*Mondd meg [**amit** fo"zött].

tell me what_{FR} cooked

‘Tell me what he cooked.’

The data presented here show that free relatives cannot occur in the canonical position of concealed questions. If free relatives freely received a concealed question interpretation as proposed by Schlenker, this would be an unexpected result. That is, these data show that free relatives do not receive a concealed question interpretation via a context-insensitive mechanism. It is still possible, however, that free relatives receive such interpretation only in the pre-copular position of specificational sentences, i.e. via a context-sensitive mechanism. We argue against this option in §5.3. But, first, we turn to distributional facts concerning headed nominals.

5.2.2 *Headed nominals*

The previous section compared the availability of free relatives in the canonical concealed environment and in the pre-copular position in specificational sentences. This section does the same for headed nominals. We find that some nominals that occur in the pre-copular position of specificational sentences and thus, according to Schlenker, receive a concealed question interpretation cannot occur in the canonical concealed question environment.

(42a) is a specificational sentence with the lexical nominal *the president of the United States* in the pre-copular position, which can also occur in the complement position of an interrogative predicate (42a’). By contrast, an apparently similar individual-denoting nominal like *the boy who ran over my pet snake* can occur in the specificational sentence in (42b), but not in the canonical concealed question environment in (42b’). (43) and (44) show the same contrast for different lexical items.

- (42) a. [The president of the United States] is G.W. Bush.
 a'. Tell me [the president of the United States].
 b. [The boy who ran over my pet snake] was John.
 b'. */??Tell me [the boy who ran over my pet snake].
- (43) a. [The capital of France] is Paris.
 a'. Tell me [the capital of France].
 b. [The city I live in] is Paris.
 b'. ??Tell me [the city you live in].
- (44) a. [The candy Jill wants to buy] is jelly beans.
 a'. Tell me [the candy Jill wants to buy].
 b. [The money that was stolen] was Swiss Franks.
 b'. *Tell me [the money that was stolen].

Like with free relatives, these data show that the expected parallelism between the pre-copular position of specificational sentences and the canonical concealed question environment is not found. As with free relatives, it is possible that the nominals in the (b) examples in (42)-(44) are not interpreted as concealed questions via a context-insensitive mechanism, but can receive such interpretation in special contexts, such as the pre-copular position of specificational sentences. Unfortunately, we did not find a way to test this claim. Without independent evidence, assuming that nominals can be freely interpreted as concealed questions in the pre-copular position of specificational sentences is stipulative.

5.3. **Argument III: Interpretative difference between the canonical concealed question environment and the pre-copular position in specificational sentences**

We saw in §5.2.1 that free relatives do not receive a concealed question interpretation in the canonical concealed question environment. In this section, we examine the possibility that the pre-copular position of a specificational sentence is special in that it allows for a concealed question interpretation of free relatives and other nominals that occur in this position. We will see that the interpretation that free relatives are expected to receive in this position is different from the interpretation that would be expected for free relatives as concealed questions.

If free relatives do receive a concealed question interpretation in specificational sentences, the question arises as to what this interpretation would be. In order to answer this question, we examine the interpretation of the relevant string in the canonical concealed question environment – we expect the free relative to denote a concealed question that is parallel to the embedded question. Consider, for example, the interpretation

of the *wh*-clause in (45a) – we expect it to be similar to the interpretation of the nominal in (45b).

- (45) a. Tell me [what the capital of France is _].
 b. Tell me [the capital of France].

But what does the *wh*-clause mean in (45a)? This sentence is asking to identify Paris. That is, it would be fine to reply to (45a) by saying *Paris*, but it would be totally infelicitous to reply with *beautiful*.

Our next step looks at the interpretation of this string in a specificational pseudocleft. Interestingly, in this context we find the opposite pattern. In particular, if the same *wh*-clause occurs in the pre-copular position of a specificational pseudocleft, the post-copular phrase must be a property like *beautiful* (46b) and not an individual like *Paris* (46a).

- (46) a.* [What the capital of France is _] is Paris.
 b. [What the capital of France is _] is beautiful.

If we compare the two environments, we see that the free relative in (46) gets a different interpretation from what is expected from (45): while the concealed question asks for an individual, the specificational sentence requires a post-copular property. That is, even when we examine the expected interpretation of a free relative in the pre-copular position of a specificational, we do not find the concealed question interpretation. This pattern allows us to conclude that the pre-copular position of a specificational sentence is not a concealed question environment.

5.4. Conclusions for §5

In this section, we have shown that the concealed question versions of the question-answer approach cannot account for crosslinguistic patterns of connectivity. First, not all languages that exhibit connectivity allow for concealed question nominals. The fact that connectivity is found in a language like Macedonian that does not allow for concealed question nominals in the canonical concealed question environment suggests that the two phenomena are unrelated. Second, free relatives and some headed nominals that occur in specificational sentences cannot occur in the canonical concealed question environment. Both these arguments indicate that the pre-copular position of specificational sentences is different from the canonical concealed question position. Under the concealed question analysis, however, these positions are predicted to be parallel. One could still argue that while both are concealed question environments, the canonical environment is somehow

more restricted. To address this option, we targeted the interpretation of nominals directly in the pre-copular position of a specificational sentences and showed that free relatives do not receive the interpretation that is expected if they were interpreted as questions.

As we mentioned earlier, Romero (in press, this volume) discusses headed nominals in the pre-copular position of specificational sentences that exhibit similarities to when they occur in the canonical concealed question environment. Based on these similarities, she concludes that these nominals receive a concealed question interpretation also when they occur in specificational sentences, and analyzes connectivity as arising from (concealed) question-answer pairs. This may be the right analysis for some copular sentences – the existence of such sentences is expected in any theory that allows for a crosscategorical ‘*be* of identity. However, it is unclear that this analysis can be extended to the large set of nominals that we have discussed in this section that do not exhibit such similarities, and hence it cannot be adopted as a general account of connectivity,

6. CONCLUSIONS

In this paper, we have argued against the question-answer approach to connectivity in specificational sentences. Prima facie this analysis seems to have the best motivation for positing the desired c-command configuration, namely, by positing a post-copular full answer. However, we have shown that, crosslinguistically, the pre-copular phrase of a specificational sentence is not a question, neither syntactically, contra den Dikken *et al.* (2000), nor semantically, contra Schlenker (2003) and Romero (in press, this volume). If the pre-copular phrase in a specificational sentence is not a question, then the post-copular phrase is not an answer, in which case we lose the motivation to reconstruct a full clause in this position. Without such reconstruction, we will not have the desired c-command configuration that could account for connectivity effects using the current analyses of these phenomena.

More generally, since all the mechanisms by which the desired c-command configuration is posited at an abstract level lack independent evidence, the apparent simplicity of the reconstruction strategy over direct compositionality disappears. Indeed, direct compositionality faces great challenges – Principle B and Principle C connectivity requires a non structural theory of anaphora, and a direct compositionality analysis of NPI connectivity looks non-trivial – but it seems to be a more promising option if we aim for a general account of connectivity across languages.

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APPENDIX

Which nominals can be interpreted as concealed questions?

The data presented in §5.2 and §5.3, which was used to argue that the pre-copular position in specificational sentences is not a concealed question environment, is also relevant to the study of concealed question nominals. The kinds of nominals that can occur in the canonical concealed question environment have not been discussed in the concealed question literature – this literature is mostly concerned with characterizing the predicates that allow for concealed question nominals (Grimshaw 1979, Heim 1979, Dor 1992). In this appendix, we would like to use our findings from examining the (concealed) question-answer approach to specificational sentences to shed light on which nouns are possible in the canonical concealed question environment. Our hope is that this will contribute to future research on concealed question nominals.

The examples we saw in §5.2.2 contrasted nominals like *president*, *capital* and *candy*, which can form concealed questions, with nominals like *boy*, *city* and *money*, which cannot. (47)-(50) present examples of other nouns that can occur in the canonical concealed question environment (as marked, some of the examples are cited from previous work).

- (47) a. John found out the **murderer** of Smith. (Heim 1979)
 b. Tell me the **president** of the United States.
 c. Tell me the **chair** of your department.
 d. Tell me the **winner** of last year's Pulitzer Prize.
 e. Tell me the **writer** who won the last Pulitzer Prize.
- (48) a. John discovered the **location** of the meeting. (Dor 1992)
 b. Tell me the **capital** of France.
- (49) a. John knows Bill's **telephone number**. (Heim 1979)
 b. Harold guessed the **time** of the meeting. (Dor 1992)
 c. Tell me your shoe **size**.
 d. Tell me your **height**.
 e. I couldn't figure out her **age**.
 f. Guess the **temperature** of the water.
 g. Tell me the **amount** of money that was stolen.
 h. Please tell me the **grade** you got in that class.
- (50) a. Harold knew the **kind** of candy that Jill liked. (Dor 1992)
 b. Harold learned the **outcome** of the trial. (Dor 1992)
 c. Guess the **color** of my eyes.

We propose that it is functional nouns (in the sense of Vinker and Jensen 2002) that allow for concealed question interpretation, i.e. nouns whose interpretation depend on an additional argument. The nouns in (47) are functional nouns denoting people: a person is not a murderer by virtue of some properties inherent to the person himself; rather, that person must be a murderer of someone. The nouns in (48) are functional nouns denoting locations. In (49) the output of the function is a certain number and the nouns in (50) are other functional nouns.

In (51), the nouns themselves are not functional, but the whole phrase is. For example, while the noun *person* is not functional, the nominal *the person who won the last Pulitzer Prize* in (51b) is.

- (51) a. Tell me your **favorite movie**.
 b. Tell me **the person who won the last Pulitzer Prize**.
 c. Tell me **the candy Jill wants to buy**.
 d. John can't remember **the wine she likes**.
 e. Tell me **the largest city in Italy**.

However, this cannot be the whole story. In particular, the nominal we saw above in (43b) *the city you live in* is also functional – it is a function from you to the place you live in. While we believe that the generalization that only functional nominals are possible concealed questions is on the right track, a more fine-grained notion of functional is clearly needed. We leave this issue here – see Nathan (forthcoming) for further development of this idea.