

Connectivity Effects and Questions as Specificational Subjects

Eun-Jung Yoo*[†]

Seoul National University

Eun-Jung Yoo. 2006. Connectivity Effects and Questions as Specificational Subjects. *Language and Information* 10.2, 21–45. Connectivity effects have been central issues in dealing with specificational pseudoclefts. While syntactic approaches motivate their analysis in order to explain connectivity effects in terms of a connected clause, these accounts have numerous problems including a wide range of anti-connectivity effects that constitutes crucial counterevidence. On the other hand, semantic accounts of connectivity effects treat BV and BT connectivity by independent interpretive mechanisms, providing a more fundamental explanation for connectivity effects. Yet existing semantic accounts have limitations in explaining syntactic properties and syntactic connectivity effects in SPCs, and in accounting for BV anti-connectivity effects in English. Focusing on BV connectivity, this paper explores how the relevant (anti-)connectivity facts can be accounted for by an analysis that provides both an elaborate syntactic analysis of SPCs and a semantic mechanism for bound anaphora. Based on Yoo's (2005) non-deletion based, question-answer pair analysis of SPCs, this paper shows that a functional question analysis of a specificational subject, when combined with a theory of operator scope and a non-configurational condition on bound anaphora, can explain various BV (anti-)connectivity patterns in SPCs and related constructions. (Seoul National University)

Key words: connectivity effects, specificational pseudoclefts, bound variable connectivity, anti-connectivity effects, question-answer pair analysis, HPSG

* Department of English Language and Literature, Seoul National University, San 56-1, Sillim-dong, Gwanak-gu, Seoul 151-742, Korea. E-mail: ejyoo@snu.ac.kr

[†] Part of this paper was presented at the Korean Society for Language and Information in November, 2006, and I got helpful comments from the audience. I also would like to thank to Carl Pollard, Peter Culicover, Craige Roberts, and Elizabeth Smith on their valuable comments at the earlier stage of the paper, and three reviewers of *Language and Information* for their comments and suggestions. All of the remaining errors are mine.

1. Introduction

Since Higgins (1979), connectivity effects have been central issues in dealing with specificational pseudoclefts (SPCs, hereafter). While some connectivity effects such as categorical parallelism are obviously syntactic in nature, other connectivity effects involve more or less interpretive aspects such as bound variable readings of pronouns, coreference relations, and licensing of polarity items. Yet there have been many syntactic accounts of connectivity effects in SPCs that claim that connectivity effects are explained in terms of a connected clause in which syntactic accounts centering around *c*-command relations are made available. On the other hand, proponents of semantic accounts attempt to provide a purely semantic analysis for connectivity effects, without much care about the syntactic properties and syntactic connectivity in SPCs.

Although some problems with syntactic approaches to SPCs have been pointed out in previous researches such as Sharvit (1999), Cecchetto (2000), Yoo (2005), this paper provides a more thorough examination of the claims and predictions made within the syntactic approaches, especially from the viewpoint of connectivity effects. In particular, a new set of data is provided to show that anti-connectivity effects exist with respect to various (potentially) non-syntactic connectivity effects, thus constituting crucial counterevidence for the syntactic accounts.

In addition, this paper points out that purely semantic accounts of SPCs have limitations in explaining various syntactic connectivity effects in SPCs. More importantly, we show that their account of BV connectivity is also flawed, when more examples of BV anti-connectivity are taken into account. Thus an account of connectivity effects requires both an elaborated syntactic analysis of SPCs as well as a semantic mechanism that deals with interpretive aspects of the construction.

Focusing on BV connectivity, this paper aims to explore how the connectivity and anti-connectivity facts on bound anaphora can be accounted for by an analysis that does not posit a connected clause. For the general account of SPCs, this paper adopts Yoo (2005), which analyzes the pre-copular *wh*-clause as an interrogative clause that is interpreted as a subject of a specificational sentence, and the post-copular phrase as a (short) answer to the question that does not involve a deletion process. The paper shows that problematic BV (anti)-connectivity patterns in SPCs and related constructions can be neatly handled by a functional question analysis of the subject *wh*-clause, together with a weak crossover principle that is independently motivated in the grammar for the account of bound anaphora.

2. Syntactic and Potentially Non-syntactic Connectivity Effects

Previous studies have taken different views on the nature of connectivity, and sometimes it is not clear whether certain connectivity can be characterized as syntactic or not. While some connectivity effects involving category matching and case assignment are clearly syntactic, other connectivity effects with respect to anaphor or pronominal binding, bound variable readings of pronouns, and NPI licensing are treated either syntactically or semantically depending on the analysis of SPCs. These two groups of connectivity effects will be presented in this section.

2.1 Syntactic connectivity

Categorial parallelism is one of the prominent properties of SPCs. As Higgins (1979) shows, diverse phrasal categories may appear in the pivot of the SPCs that match the categories of the gap position in the *wh*-clause.

- (1) a. What Jane brought to the party was *French wine*. (NP)
 b. What Jane is is *proud of herself*. (AP)
 c. What Jane reported was *that they found a witness for the accident*. (CP)
 d. What Jane revealed her feeling was *to her sister*. (PP)
 e. What Jane then did was *set the temperature*. (VP)

Moreover, parallelism in subcategorization patterns is exhibited with respect to specific VP, PP, and CP complement forms.

- (2) a. What John did was buy/*buying/*bought some bread.
 b. What John was doing was buying/*buy/*bought a newspaper.
 c. What John has done is eaten/*eating/*ate the pizza.
- (3) a. What I heard the news is from/*to my uncle.
 b. I heard the news from/*to my uncle.
- (4) a. What Jane wondered was whether/*that they would come.
 b. Jane wondered whether/*that they would come.

Considering semantic match is not enough, because as Bošković's (1997, 250) shows in (5–6), although both *ask* and *wonder* select questions as their complements, only *ask* permits an NP form.¹

- (5) a. I asked {what the time was/the time}.
 b. I wondered {what the time was/*the time}.
- (6) a. What John asked was {what the time was/the time}
 b. What John wondered was {what the time was/?*the time}

¹ Although Bošković accounts for the data in terms of the Case Theory, he also notes the possibility of an alternative account based on syntactic/semantic selection. In a theoretical framework in which case is accounted for by a different mechanism, an account in terms of syntactic/semantic selection will be more plausible.

Another well-known syntactic connectivity in SPCS is case connectivity. Although this is not evident in English due to its limited case morphology, Iatridou and Varlokosta (1998) present the following German examples to show that in the SPC in (7a), the case of the pivot NP is determined by the verb in the *wh*-clause.

- (7) a. Was Hans essen wollte war einen Apfel
 What Hans eat wanted was an-Acc apple
 ‘What Hans wanted to eat was an apple.’ (specificational)
- b. Was Hans essen wollte war ein Apfel
 What Hans eat wanted was an-Nom apple
 ‘What Hans wanted to eat was an apple.’ (predicational)²

The following pair of Hebrew examples from Heller (2002, 244–245) also shows similar case connectivity, since the postcopular NP is accusative only when it corresponds to the gap in the object position, not in the subject position.

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

2.2 Potentially non-syntactic connectivity

Bound variable (BV) connectivity, NPI connectivity, and Binding Theory (BT) connectivity are the most commonly discussed phenomena. In the examples (9–13) below, the (a) examples exhibit parallel patterns with those of their connected counterparts in the (b) examples.

Bound variable connectivity

- (9) a. What every student_{*i*} treasures is his_{*i*} diary.
 b. Every student_{*i*} treasures his_{*i*} diary.

NPI connectivity

- (10) a. What he didn’t buy was any drink.
 b. He didn’t buy any drink.

² As Higgins (1979) discusses, in pseudoclefts, specificational readings are distinguished from predicational ones. Thus in (ia), the predicate *silly* is predicated of the *wh*-clause subject *they* directly, while in (ib), the predicate (*is*) *worthwhile* is predicated of some property of the *wh*-clause subject *they*.

- (i) a. What they are is silly. (specificational)
 b. What they are is worthwhile. (predicational)

For these two possibilities, examples like (7) are ambiguous between SPC and PPC readings.

Binding Theory connectivity

- (11) a. What he_i is is proud of himself $_i$ / $*j$. (Principle A)
 b. He_i is proud of himself $_i$ / $*j$.
- (12) a. What he_i is is proud of him $*i$ / j . (Principle B)
 b. He_i is proud of him $*i$ / j .
- (13) a. What he_i is is proud of John $*i$ / j . (Principle C)
 b. He_i is proud of John $*i$ / j .
 (Examples (11–13) are from Schlenker (2003, 161))

3. Syntactic Accounts of Connectivity

3.1 Syntactic approaches to connectivity

There are two kinds of syntactic approaches to connectivity. The first one is a reconstruction approach in which a syntactically complete sentence is formed at some level of representation via a movement (or reconstruction) process. Under the earlier movement analyses such as Akmajian (1970b; 1970a) and Culicover (1977), SPCs are formed with the movement of the pivot out of the *wh*-clause, as shown in (14b). On the other hand, Bošković (1997) rejects the earlier movement analyses on the ground that those movements critically violate the *Wh*-Island Constraint and the Subject Condition, and proposes that the pivot moves to the gap position at LF, resulting in (14c). Although specific mechanisms are different, Heycock and Kroch's (2002) analysis can also be classified as a reconstruction approach, since the pivot placed in the SPEC of FocP at LF undergoes reconstruction, yielding a connected simple clause in (14c).

- (14) a. What John brought was French wine.
 b. [what John brought t_i] was French wine $_i$. (Akmajian (1970b), Culicover (1977))
 c. John brought French wine. (Bošković (1997), Heycock and Kroch (2002))

Another one is a deletion approach which assumes that the SPC pivot is actually a full connected clause that undergoes some PF deletion, as in (15b). This approach is implemented as a Question in Disguise Theory (QDT, hereafter), because the underlying assumption is that the *wh*-clause in SPCs is a question and the pivot constitutes an answer to the question (See Ross (1972; 1985; 1997), Schlenker (1998; 2003) and Den Dikken, Meinunger, and Wilder (2000) among others).

- (15) a. What John brought was French wine.
 b. What John brought was [~~John brought French wine~~].

However, both syntactic approaches have problems with the syntactic operations (i.e. movement or deletion) that are assumed.³ In particular, the deletion

³ For a critical review of the movement approach, see Yoo (2005).

approach fails to provide a precise mechanism of the deletion process. In order for this account to be tenable, it is necessary to posit the deletion of an affix (without the deletion of a root verb) at PF in such examples as (16), which is not likely to happen at a phonetic level of representation.

- (16) a. What I did was call/*called the grocer.
 b. What I did was [I called the grocer]

Moreover, in the deletion analysis, it should be also explained why deletion is obligatory in many cases. For example, the following example in (17) is ill-formed without deletion.

- (17) *What Jane likes is [Jane likes herself].

Putting aside the problems concerned with the syntactic operations themselves, in this paper, we would like to focus on predictions and consequences that these analyses make regarding connectivity issues. The gist of a syntactic analysis is that i) there exists a connected counterpart of a SPC sentence at some level of representation, and ii) connectivity effects are explained via this connected clause.

However, there is evidence against these two central claims of syntactic approaches. First, as Green (1971) first points out, there are cases where no corresponding simple clause can be posited.

- (18) What I like about John is his sense of humor. (Green (1971, 3), cited in Higgins (1979, 48))
- (19) a. *I like his sense of humor about John.
 b. *I like about John his sense of humor.
- (20) What he doesn't like about the R.O.T.C. is having to conduct himself at all times like an officer and a gentleman. (Higgins (1979, 49))
- (21) *He doesn't like having to conduct himself at all times like an officer and a gentleman about the R.O.T.C..

As for (18), neither of the connected clauses in (19) is grammatical. Likewise, (20) does not have its simple clause counterpart, as (21) shows.

Similarly, examples in (22–23) also demonstrate the same point. The example (22) is from Higgins (1979, 79), and the ones in (23) are from Carl Pollard (p.c.).

- (22) What John did to Bill was hurt him.
- (23) a. What bothers me the most about Columbus is it's too flat.
 b. What happened to John was John got run over by a truck.

c. What happened next was it started rain. (Pollard p.c.)

Again, (22–23) do not have their uncleft counterparts, as the following example corresponding to (23c) illustrates.

(24) *It started rain happened next.

Next, as for the account of connectivity effects, this approach has two problems. One is the problem with the assumption that bound variable readings, binding theories, and NPI licensing can all be explained by syntactic constraints, in particular in terms of *c*-command relations. There has been a substantial amount of literature that points out problems with a *c*-command condition based analysis of each phenomenon. First of all, as for the bound variable readings, it has been noted that even a quantifier inside a relative clause can induce a bound variable reading of a pronoun outside of the relative clause, despite the lack of *c*-command relationship. The following example is from Sharvit (1999, 303):

(25) The picture of himself that every student bought was a nuisance to him.
(For every student *x*, the picture of *x* that *x* bought was a nuisance to *x*.)

In addition, previous *c*-command based WCO (weak crossover) constraints on bound anaphora such as Lasnik & Stowell's (1991) have certain limitations. As argued in Pollard (ms.), the contrast in (26a,b) cannot be accounted for by Lasnik & Stowell's condition in (27), because the ungrammaticality of (26a) can be accounted for by (27) only with the assumption that the shifted object is inside VP, but the same assumption will also rule out (26b).

(26) a. *The teacher put into his_{*i*} file (a copy of) no boy's_{*i*} spring-quarter report card.

b. The teacher put into no boy's_{*i*} file (a copy of) his_{*i*} spring-quarter report card.

(27) Lasnik and Stowell's generalization on WCO (L&S 1991:690)

In a configuration where a quantifier *Q* locally binds a pronoun *P* and a trace *T*, *P* may not be contained in an argument phrase *XP* that *c*-commands *T*.

Moreover, regarding the binding theory, especially for BT A and BT C, it has been pointed out that purely configurational accounts have limitations. The following “picture noun” examples from Pollard and Sag (1992; 1994) are well-known for standing against a *c*-command based binding condition for anaphor binding.

(28) John suggested that [tiny gilt-framed portraits of [each other]_{*i*}] would make ideal gifts for [the twins]_{*i*}].

Problems with BT C with respect to reconstruction effects have been much discussed as well. The example in (29) is taken from Pollard and Sag (1994, 247) as one of the problematic data that shows that BT C makes a wrong prediction under the normal practice of being applied after reconstruction.

- (29) a. I wonder [which of Clair's_i friends]_j [we should let her_i invite t_j to the party].
- b. I wonder [we should let her_i invite [which of Clair's_i friends]_j to the party]. (post-reconstruction)

Examples like (29) are relevant to our discussion since a similar binding relation holds in SPCs as well.

- (30) What I am wondering is [which of Clair's_i friends]_j [we should let her_i invite t_j to the party].

Third, with respect to NPI licensing, Hoeksema (2000) convincingly argues that it is not the case that a polarity item must lie in the syntactic scope determined by a *c*-command relation. He argues that a coordinated structure is especially problematic, because most accounts of a coordinated structure predict that at least the first conjunct *c*-commands the second, and if a parallel structure is assumed, there is a mutual *c*-command relation. Consequently, in the former analysis, (31a) is predicted to be grammatical, and in the latter, both (31a) and (31b) are predicted to be grammatical, contrary to the facts.

- (31) a. *Few professors and any students were at the party.
- b. *Any students and few professors were at the party. (Hoeksema (2000))

Furthermore, Hoeksema presents the following examples, where the NPIs in a topicalized phrase are licensed by the negation, although not *c*-commanded.

- (32) a. A solution that is any better, I have *(not) been able to find.
- b. A fireman who has ever used this equipment, we *(don't) have available right now.

Hoeksema notes that the licensing of NPIs here is connected to the presence of subjunctive negation. (See also Giannikidou (1998; 2002), among others, for the occurrence of polarity items in non-veridical contexts such as modal, intensional, future, habitual, and generic sentences.)

Given the problematic data we have shown here and presented in other literature, there are enough reasons to doubt the assumption that the phenomena such as bound variable interpretations, binding, and NPI licensing can be accounted for by syntactic conditions based on *c*-command.

However, even if we do not take these defects regarding *c*-command relations seriously, there is a more fundamental problem with the account of connectivity in terms of a simple connected sentence. Although the crucial premise of the syntactic approaches is that SPCs exhibit the same connectivity effects as their syntactically complete counterparts, it is not always the case. As will be shown below, so-called 'anti-connectivity effects' are present with respect to each connectivity phenomenon, such that it cannot be concluded that connectivity should be accounted for in terms of a connected clause.

3.2 Anti-connectivity effects

BV anti-connectivity

Bound variable connectivity is observed in specificational sentences quite extensively. It appears not only in ordinary SPCs, but also in reverse SPCs as shown in (33a), and in pseudoclefts with noun antecedents as in (33b). It is also interesting to see that in contrast to other kinds of connectivity, bound variable connectivity is exhibited in PPCs (predicational pseudoclefts) as well, as in (34). (Cf. Williams (1994), Heycock and Kroch (1999), and Sharvit (1999).)

- (33) a. A picture of his house is what nobody bought. (Den Dikken, Meinunger, and Wilder (2000, 43))
- b. The woman who every Englishman admires (the most) is his mother. (Jacobson (1994, 161))
- (34) What every student got was a nuisance to him. (Sharvit (1999, 303))
(For every student x , what x got was a nuisance to x .)

However, the correspondence between a SPC and its simple sentence counterpart does not always hold, as we can see in the following examples (35–36).

- (35) a. What marches behind every general _{i} is his _{i} battalion.⁴
- b. ?*/??His _{i} battalion marches behind every general _{i} .
- (36) a. What protects every general _{i} is his _{i} loyal band of troops.
- b. ?*/??His _{i} loyal band of troops protects every general _{i} .

The importance of these examples is that they clearly show that BV connectivity in SPCs cannot be explained by either of the two syntactic approaches, i.e., the reconstruction approach and the deletion-based QDT approach.

Binding Theory anti-connectivity

First of all, anti-connectivity is observed with respect to Binding Theory B, in the pair of examples like (37) and (38).

- (37) *What hit him _{i} was John's _{i} car.

⁴ The examples in (35) are the English counterpart of Cecchetto's (2000, 143) Italian sentences. The sentences in (35a) and (36a) were refined by Peter Sells (p.c.). Some speakers tend to avoid the use of *what* in referring to an animate phrase, and in this case, the following example can be given. Example (i) is due to Elizabeth A. Smith (p.c).

- (i) a. What was growing beside every plant _{i} was its _{i} seedlings.
- b. ?*/??Its _{i} seedlings were growing beside every plant _{i} .

(38) John's_i car hit him_i.

In addition, Binding Theory C anti-connectivity is found in the pairs (39) & (40), and (41) & (42). Examples (41) & (42) are due to Carl Pollard (p.c.).

(39) Who/What she told about Bill's_i raise is HIM_i. (with special accent)

(40) *I told HIM_i/him_i about Bill's_i raise.

(41) (I was talking to John and found out) what he_i thinks that Mary really likes is John_i himself.

(42) *(I was talking to John and found out) he_i thinks that Mary really likes John_i himself.

While (40) and (42) invoke BT C violation, such violation does not occur in the cleft sentences in (39) and (41). Furthermore, contrary to den Dikken et al's claim that reverse SPCs also exhibit connectivity (except for NPI connectivity), anti-connectivity exists in reverse SPCs with regard to BT C antireconstruction effects, as shown in the following examples by Heycock and Kroch (2002, 104).

(43) a. *What he_i has always claimed is that Cane_i is innocent.

b. That Cane_i is innocent is what he_i has always claimed. (Heycock and Kroch (2002))

(44) *He_i has always claimed that Cane_i is innocent.

Now let us consider BT A. Schlenker (2003, 203) presents the following example as a case of anti-connectivity.⁵

(45) a. What John_i thinks that Mary likes is himself_i.

b. *John_i thinks that Mary likes himself_i.

Regarding (45), Schlenker (2003, 202–203) claims that it is not a problem for his QDT (Question in Disguise Theory) because the same anti-connectivity fact holds with question-answer pairs.

(46) A: What does John think that Mary likes?

B: Himself.

However, when we consider what the details of this theory entail, his claim is quite problematic. Schlenker suggests that the unelided part of the answer move to the front before the rest of the answer is deleted as in (47), under the assumption that only constituents are deleted.

⁵ Schlenker's example is constructed based on similar examples in (i) by Sharvit (1999, 303–324).

- (i) a. The person every professor/no professor hopes his wife likes best is himself/??him.
b. Every professor/no professor hopes his wife likes *himself/him best.

(47) himself_i [~~John thinks that Mary likes t_i~~]

Yet this claim is not tenable, because the structure in (47) presupposes the one in (48) before the movement occurs. According to the QDT, before (45a) takes its surface form, there must be a full answer form as in (48).

(48) *What John_i thinks that Mary likes is [John_i thinks that Mary likes himself_i].

Therefore, a deletion-based QDT has a problem, because in order to produce a surface form, it has to posit an ungrammatical underlying representation.

NPI anti-connectivity

Culicover and Jackendoff (2005, 253) argue against the view that pseudoclefts are part of a syntactically complete clause, based on the following anti-connectivity facts.

(49) a. ??What Robin didn't buy was a picture of anyone.
 b. ??What no one believes are any of your stories.
 c. ??What Robin didn't do was anything stupid.
 d. ??What Robin didn't think was that anyone called. (Culicover and Jackendoff (2005, 253))

(50) a. Robin didn't buy a picture of anyone.
 b. No one believes any of your stories.
 c. Robin didn't do anything stupid.
 d. Robin didn't think that anyone called. (Culicover and Jackendoff (2005, 253))

Den Dikken, Meinunger, and Wilder (2000) also discuss the following anti-connectivity regarding NPI licensing:

(51) a. ?What WASn't sitting on the shelf was a book that said anything sensible about X.
 b. *A book that said anything sensible about X wasn't sitting on the shelf.

Again, the deletion-based QDT theory that Schlenker (as well as den Dikken et al. and Ross) assume(s) has a crucial problem, because it cannot explain how (51a) is derived from the ungrammatical sentence in (52).

(52) *What WASn't sitting on the shelf is [a book that said anything sensible about X wasn't sitting on the shelf].

Therefore, anti-connectivity effects still yield serious problems for syntactic approaches to SPCs.

4. Semantic Accounts of Connectivity

4.1 Semantic approaches and general problems

In contrast to reconstruction-based syntactic approaches, semantic approaches advocated in Jacobson (1994), Sharvit (1999), Cecchetto (2000; 2001), and Heller (2002) do not posit any abstract or underlying representations that are different from surface structures. They argue that a pre-copular *wh*-clause in SPCs is a free relative, and that semantically, specificational sentences express identity between the pre- and post-copular meanings. This semantic analysis is based on Partee (1986), in which the copula, as *be*-of-identity, has the meaning ‘ $\lambda X \lambda Y [X=Y]$ (where $\text{type}(X) = \text{type}(Y)$).’

In this approach, since connectivity is not derived from any syntactic representation, there must be independent accounts of connectivity effects. The BV connectivity is accounted for by the semantic identity of two natural functions. Accordingly, the example in (53a) is interpreted as in (53b), in which the pre-copular phrase denotes the (unique) natural function that maps every student to the individual that he loves, and the post-copular phrase denotes the function that maps every individual to his mother. The Max(imality)-operator here is used to represent uniqueness/maximality/exhaustivity associated with SPCs.

- (53) a. What every student_{*i*} loves is his_{*i*} mother.
 b. $\text{Max}(\lambda g_{\langle e, e \rangle} [\text{Nat}'(g) \ \& \ \forall x (\text{student}'(x) \rightarrow \text{love}'(x, g(x)))])$
 $= \lambda y [\text{Max}(\lambda z [\text{mother-of}'(z, y)])]$

The BT A connectivity is explained in the same vein, by interpreting a reflexive as an identity function, i.e., ‘ $\lambda x [x]$ ’, as in (54).

- (54) a. What every student_{*i*} loves is himself_{*i*}.
 b. $\text{Max}(\lambda g_{\langle e, e \rangle} [\text{Nat}'(g) \ \& \ \forall x (\text{student}'(x) \rightarrow \text{love}'(x, g(x)))] = \lambda x [x]$

On the other hand, the account of BT B,C connectivity is more challenging, because a radically different, non-syntactic account is called for that is not simply a by-product of interpretational procedures. Sharvit (1999) proposes that BT B, C effects in examples like (55–56) can be achieved by extending Grodzinsky & Reinhart’s (1993) rule of intra-sentential coreference as in (57).

- (55) a. What John is shaving is a pet which belongs to him. (specificational and predicational readings)
 b. What_{*j*} John_{*i*} is shaving t_{*j*}^{*i*} is a pet which belongs to him_{*i*}.
 c. $\exists f (\forall x \in \text{Dom}(f) [\text{pet-which-belongs-to-}x'(f(x))] \ \& \ \text{Max}(\lambda g [\text{shave}'(j, g(j))]) = f)$ (specificational)
- (56) What he is shaving is a pet which belongs to John. (predicational reading only)

(57) Revised Rule-I (Sharvit (1999, 332))

NP X and NP Y cannot corefer if either (a) or (b) yields a bound variable interpretation which is indistinguishable from the coreferential interpretation:

(a) replacing Y with a variable A-bound by X;

(b) replacing Y with a variable co-indexed with X, and replacing a simple trace c-commanded by X with a double-indexed trace, whose argument-index is A-bound by X.

According to Sharvit, when *John* in (56) is replaced by *him*, and the non-functional trace is replaced by a functional trace, as in (55b), a natural function reading in (55c) arises, thus causing *him* to be indirectly bound. Consequently, the rule (57) blocks the coreference between *he* and *John* in the specificational reading in (56).⁶

Sharvit's account is based on Chierchia's (1993) theory of functional/pair-list questions in which a function reading is derived by positing a doubly-indexed trace in the position of a gap. As in Chierchia, a double-index of a trace consists of a function index that is bound by an A'-operator and an A-bound argument index. Although Sharvit's account has a merit in explaining why BT B,C connectivity occurs in SPCs, but not in PPCs, it crucially depends on Chierchia's doubly-indexed trace approach, whose problem we will discuss in 4.2.

Another problem with Sharvit's analysis is an account for BT B, C anti-connectivity exhibited in (37–42). Sharvit's claim is to replace existing BT B, C with the rule (57). Therefore, in anti-connectivity examples, the same rule should be applied to a pair of sentences with opposite grammaticality. However, for example, in (41) and (42), this causes a problem, because the rule (57) would wrongly rule out (41). When (57b) is applied, (41) will look like (58) below, which allows a bound variable interpretation. Accordingly, if we follow (57), coreference between *he* and *John* must be prohibited.

(58) What_j he_i thinks that Mary really likes t_jⁱ is him_i.

This contrasts with (42), of which the ungrammaticality is predicted by (57), due to the availability of a bound variable interpretation in *He_i thinks that Mary really likes him_i*.

Putting aside specific accounts of connectivity, semantic approaches have more general problems. First, while advocates of a semantic analysis argue that SPCs involve free relatives (FRs), none of them provides a precise syntactic mechanism that accounts for the syntactic behaviors of SPCs. However, in order to account for the category connectivity shown in (1), and the well-known "matching effects" of free relatives that the category of the FRs and that of the *wh*-phrases in the FRs are of the matching type, the FR analysis will analyze SPCs as in (59), with the detailed internal structure of FRs ignored.⁷

⁶ On the other hand, Sharvit ascribes the predicational reading in (55–56) to the pair-list reading as in (i).

(i) $\exists f(f = \text{Max}(\lambda g[\text{shave}'(j, g(j))]) \ \& \ \forall x(x \in \text{Dom}(f) \rightarrow \text{be-a-pet-that-belongs-to}'(f(x), x)))$

⁷ Van Riemsdijk (2000) argues that as to the internal structure of FRs, there are two main

- (59) a. [_{NP} *What(*ever)* Jane brought to the party] was French wine. (NP)
 b. [_{AP} *What(*ever)* Jane is] is proud of herself. (AP)
 c. [_{CP} *What(*ever)* Jane reported] was that they found a witness for the accident. (CP)
 d. [_{PP} *What(*ever)* Jane revealed her feeling] was to her sister. (PP)
 e. [_{VP} *What(*ever)* Jane has done] was eaten the pizza. (VP)

However, this is problematic, because, in English FRs, when a plain *wh*-word without *-ever* is employed, VP FRs as well as AP FRs do not occur.

- (60) a. *Jane is [_{AP} what her sister is]. (Not interpreted as ‘Jane is silly’ when her sister is silly)
 b. *I will make you [_{AP} what your sister is]. (Not interpreted as ‘I will make you happy’ when her sister is happy)
 c. *John has [_{VP} what his brother has done]. (Not interpreted as ‘John has eaten the pizza’ when his brother has eaten the pizza)

Once a grammar generates FRs with diverse categories, there will be no way to restrict their distribution in a sentence, since the internal structures of those APs or VPs are not visible in terms of syntactic distribution.

In addition, it is also questionable how the FR analysis can explain various other syntactic properties of SPC *wh*-clauses that behave like interrogative clauses rather than free relatives. (See Ross (1985), Den Dikken, Meinunger, and Wilder (2000), and Yoo (2005) for the detailed discussion of these properties.)

Lastly, as in the reconstruction-based syntactic approach, the appearance of a full clause in the pivot in the following examples posits a serious problem for the FR analysis of a semantic approach:

- (61) a. [What I did then] was I called the grocer. (Ross (1972))
 b. [What John did] was he bought some wine. (Den Dikken, Meinunger, and Wilder (2000, 43))
- (62) [What happened next] was it started rain. (= (23c))

Although these examples may be explained semantically in terms of functional equation, syntactically they are problematic, because, under the FR analysis, the pre-copular phrases are VP and NP in (61) and (62), respectively, thus not matching with the category of the post-copular clause.

choices, the Shared Structure Hypothesis and the Distributed Structure Hypothesis, which is respectively shown in the following (ia) and (ib).

(i) a. [_{XP} CP] b. [_{XP} XP CP]

4.2 Problems with Cecchetto (2000)

Cecchetto (2000) claims that Chierchia's (1993) doubly-indexed trace analysis of functional questions is essential in explaining BV connectivity in SPCs. Following Sharvit, he assumes that an SPC sentence like (63) is interpreted as an equation between two functions.

(63) What_j every linguist_{*i*} loves t_j^i is her_{*i*} first syntax class.

According to Cecchetto, this analysis predicts that WCO effects should affect BV connectivity in the same way as Chierchia's analysis of functional questions explains the unacceptability of (64a) via the WCO configuration in (64b) where the quantifier is moved across the *wh*-trace.

(64) a. Who saw everyone_{*i*}? *Her_{*i*} mother.

b. *Who_{*j*} everyone_{*i*} t_j^i saw t_i ?

His claim is based on the Italian example in (65), in which the LF of (65a) involves a WCO configuration in (65c).

(65) a. ??Ciò che difese [ogni generale]_{*i*} fu il suo_{*i*} battaglione.
'It that (=what) defended every general was his battalion.'

b. ??Il suo_{*i*} battaglione difese [ogni generale]_{*i*}.
'His battalion defended every general.'

c. [_{CP} what_{*j*} ... [every general]_{*i*} [_{IP} ... [_{VP} t_j^i defended t_i]]] (WCO configuration)

In Cecchetto, example (65a) contrasts with the following example in (66a), of which the acceptability is accounted for by the absence of WCO effects as shown in (66c).

(66) a. Ciò che dietro a [ogni generale]_{*i*} era il suo_{*i*} battaglione.
'It that (=what) was marching behind every general was his battalion.'

b. ??Il suo_{*i*} battaglione sfilava dietro a [ogni generale]_{*i*}.
'His battalion was marching behind every general.'

c. [_{CP} what_{*j*} [_{IP} ... [behind [every general]_{*i*}] ... [_{VP} t_j^i ...]]] (no WCO configuration)

However, this line of analysis is problematic in English, since as shown in the following examples repeated from (35–36) and footnote 4, anti-connectivity is observed in (67a) as well as in (68a) and (69a).

(67) a. What protects every general_{*i*} is his_{*i*} loyal band of troops.

b. ?*/??His_{*i*} loyal band of troops protects every general_{*i*}.

- (68) a. What marches behind every general_i is his_i battalion.
 b. ?*/??His_i battalion marches behind every general_i.
- (69) a. What was growing beside every plant_i was its_i seedlings.
 b. ?*/??Its_i seedlings were growing beside every plant_i.

Although Cecchetto claims that examples involving locative PPs as in (68a) and (69a) do not constitute a WCO configuration, based on the assumption that the locative PP, unlike a complement NP, is placed outside the VP as in (66c), examples like (67a) show that the anti-connectivity does not bear on the distinction between an ordinary complement NP and a locative PP in English. Therefore, Cecchetto's (and Sharvit's) doubly-indexed trace analysis of the BV connectivity is flawed.⁸

5. Connectivity Effects and the Role of a Syntactic Analysis

In section 3, we showed that syntactic accounts of connectivity effects in terms of connected clauses have fundamental problems. What is more striking is that anti-connectivity effects appear in a wide range, especially with respect to BV, BT, and NPI connectivity. This makes syntactic accounts based on *c*-command relations even more untenable.

On the other hand, while semantic accounts provide promising directions for explaining BV and BT connectivity, the account of syntactic properties and syntactic connectivity in SPCs is still limited as discussed in section 4.1, since their account is based on the assumption that pre-copular *wh*-clauses are free relatives. Thus, at least on syntactic grounds, we need an alternative account that may explain syntactic properties and syntactic connectivity effects. Moreover, as mentioned in 4.1, Sharvit's account of BT connectivity has a problem in explaining BT anti-connectivity examples. Even Cecchetto's analysis that deals with BV anti-connectivity effects reveals a problem, as shown in 4.2, when relevant English examples are taken into account.

As for BT connectivity, we agree with the view that some other kind of anaphora rules are needed to account for binding facts in SPCs, instead of existing syntactic binding theories. However, we doubt that the kind of intra-sentential rule such as (57) is sufficient to account for facts regarding Binding Principles B and C in both ordinary sentences and SPCs. Considering the existence of BT anti-connectivity facts, it would be reasonable to assume that BT connectivity in SPC examples requires a different kind of explanation. This is suggested by the fact that BT anti-connectivity effects as well as connectivity effects in SPCs are parallel to those observed in question and short answer pairs.

⁸ In our view, a more fundamental problem with this analysis lies on adopting Chierchia's claim that the unavailability of certain functional/pair-list question readings is due to WCO configurations in their LFs with a doubly-indexed trace. While it is beyond the scope of the paper to discuss such problems in detail, see Yoo (1998) for some problems with Chierchia's analysis of pair-list questions.

- (70) *What hit him_i was John's_i car. (= (37))
- (71) A: What hit him_i?
B: *John's_i car.
- (72) John's_i car hit him_i. (= (38))
- (73) Who/what she told about Bill's_i raise is HIM_i. (with special accent) (= (39))
- (74) A: Who did you tell about Bill's_i raise?
B: HIM_i.
- (75) *I told HIM_i/him_i about Bill's_i raise. (= (40))

Therefore, we can say that whatever rule on anaphora is operative in the question and short answer pairs in (71) and (74), it can be applied to in SPCs in (70) and (73). And that rule may be different from the one for ordinary sentences such as (72) and (75). Thus as Yoo (2005, 145) suggests, the account of BT connectivity effects in SPCs should rely on that of short answers that takes into account coreference relations in question-short-answer pairs. Since the full analysis of short answers in discourse is beyond the scope of this paper, we leave this issue for future research.

On the other hand, the case of BV (anti-)connectivity is different, because, as mentioned in 3.2, unlike other kinds of connectivity, BV connectivity is more widespread, even occurring in PPCs as well. This implies that the facts on bound anaphora should be treated more generally on semantic grounds.

In the rest of the paper, we focus on the issue of BV connectivity, and how this can be explained in terms of an SPC analysis that treats the pre-copular *wh*-clause as interrogatives, not as free relatives, and yet provides a non-configurational account for the BV (anti-) connectivity effects.

6. Bound Variable Connectivity in a Revised QDT Analysis

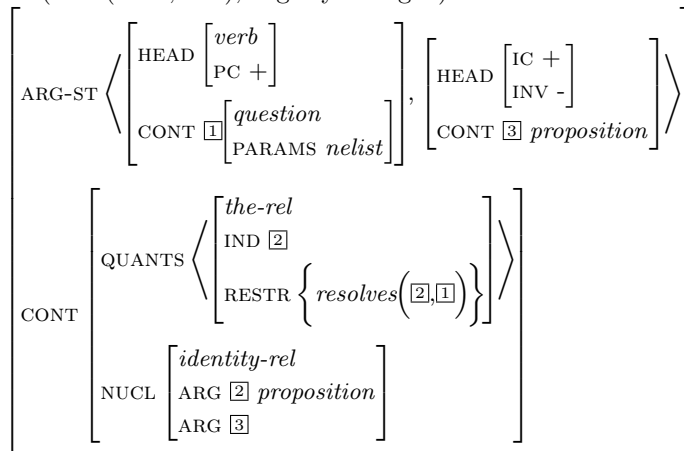
6.1 Questions as specificational subjects

It has been pointed out that there are numerous similarities between SPC *wh*-clauses and interrogative clauses and that SPC pivots behave like answers to questions (Ross (1972; 1985; 1997), Meinunger (1998), Den Dikken, Meinunger, and Wilder (2000), Schlenker (2003), Yoo (2005)). While the central claim of the previous QDT approaches is that the SPC pivots correspond to full answers to questions expressed by the pre-copular clauses, which undergo PF deletion, Yoo (2005) argues that syntactic parallelism should be made between SPCs and question-short-answer pairs, not between SPCs and question-full-answer pairs. We have also shown in section 3 that positing a full answer in LF yields many problems in accounting for various connectivity effects, although, ironically, the representation with a full answer clause is motivated by connectivity phenomena in the first place.

In order to represent a short answer directly for a post-copular clause, we follow Yoo (2005) that analyzes a post-copular clause consisting of a short answer as a

decl(arative)-frag(ment)-cl(ause), which is a subtype of *headed-fragment-phrase*, as in Ginzburg and Sag (2000). Moreover, following Yoo (2005), we assume that the copula in SPCs has important lexical information as in (76), by which necessary syntactic and semantic requirements on pre- and post-copular elements are imposed and the semantic identity relation between the two elements is represented.

(76) *be* (Yoo (2005, 130), slightly changed)



One change we made in (76) is that we use the P(SEUDO)C(LEFT) feature instead of the INT feature, and the *wh*-words that may appear in SPCs is marked as [PC+]. We further propose that the PC feature should not be a LOCAL feature and should be subject to an independent inheritance rule in (77).

(77) In a headed phrase, the PC value is inherited only from a SPR daughter’s PC or a filler daughter’s PC.

Consequently, the *p(seudo)c(left)-cl(ause)*, which is a subtype of *wh-int-cl*, is specified as [PC+] by inheriting the filler daughter’s PC value, without any separate constraint on the *pc-cl* as in Yoo (2005).

This change is motivated by i) the great degree of speaker variance as to which *wh*-phrase is permitted in SPCs, and ii) the acceptability of examples like (78), which shows that pied-piping is possible with a possessive phrase.⁹

(78) Whose book Jim borrowed was Jane’s.

Yet our analysis correctly disallows pied-piping with *which* phrases as in **Which book Jennifer borrowed was that one*, because the *wh*-word *which* will be specified as [PC-] in the lexicon.

⁹ On the other hand, the example in (i) will be predicted to be bad, due to the pivot’s infelicitous status as a short answer.

(i) *Whose book Jim borrowed was Jane.

Moreover, for a speaker who does not accept (78), *whose* will be specified as [PC-].

6.2 BV connectivity

Now, let us consider how the BV connectivity in (79) can be accounted for by the non-deletion-based question-answer analysis.

(79) What every student_{*i*} treasures is his_{*i*} diary.

Following Engdahl (1986), we assume that a *wh*-phrase may have a functional use when its index is functionally dependent on the indices of other NP(s). Ginzburg and Sag (2000, 163) represent a functional use of a *wh*-phrase in questions as in (80), so that the functional dependency is captured via the parameter's index [f] and the parameter's restriction.

(80) *what* (functional use, Ginzburg and Sag (2000, 163))

$$\left[\begin{array}{l} \text{CONT} \left[\begin{array}{l} \textit{parameter} \\ \text{INDEX } \boxed{f}(x) \\ \text{RESTR } \{ \} \end{array} \right] \\ \text{STORE } \left\{ \left[\begin{array}{l} \textit{parameter} \\ \text{INDEX } \boxed{f} \\ \text{RESTR } \{ \forall z(z \in \text{Dom}(\boxed{f}) \rightarrow \textit{thing}(\boxed{f}(z))) \} \end{array} \right] \right\} \end{array} \right]$$

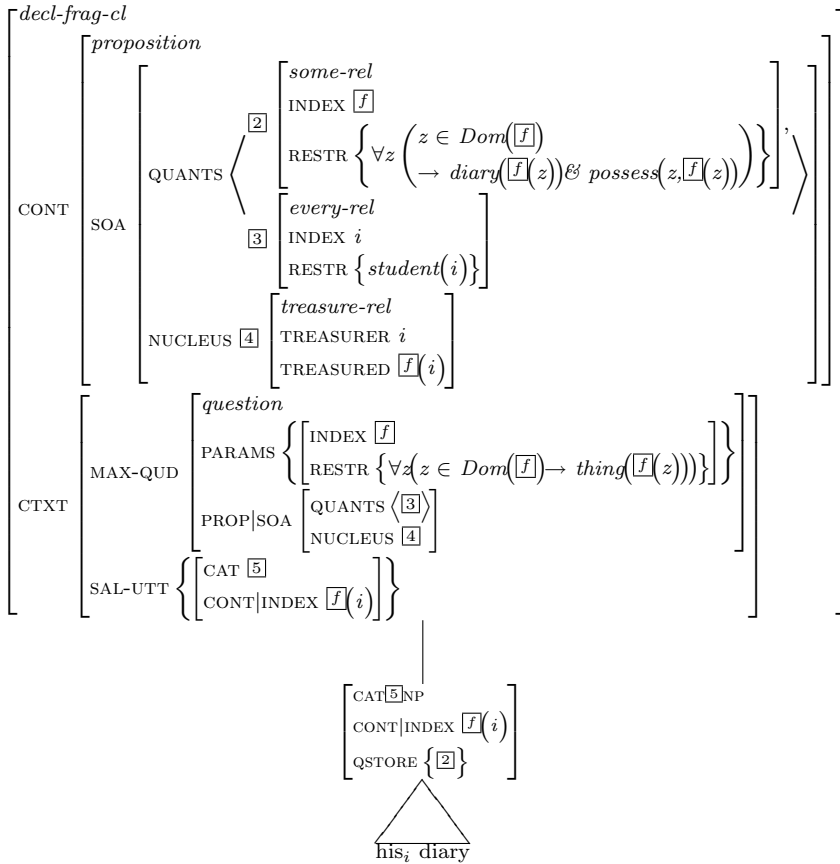
In Yoo's (2005) analysis, the post-copular phrase of SPCs that corresponds to a short answer is represented by a *decl-frag-cl* in which the CTXT (CONTEXT) value involves two features, MAX-QUD and SAL(IENT)-UTT(ERANCE). The MAX-QUD specifies 'the question under discussion,' thus referring to the pre-copular question. On the other hand, the SAL-UTT usually represents the information on the *wh*-phrase. Therefore, in (79), the pre-copular question *what every student treasures*, which will appear in the MAX-QUD value of the short answer, is specified as in (81).

(81) *what every student treasures*

$$\left[\begin{array}{l} \textit{question} \\ \text{PARAMS } \left\{ \left[\begin{array}{l} \text{INDEX } \boxed{f} \\ \text{RESTR } \left\{ \forall z \left(z \in \text{Dom}(\boxed{f}) \rightarrow \textit{thing}(\boxed{f}(z)) \right) \right\} \end{array} \right] \right\} \\ \text{PROP } \left[\begin{array}{l} \textit{proposition} \\ \text{SIT } s \\ \text{SOA } \left[\begin{array}{l} \text{QUANTS } \left\langle \left[\begin{array}{l} \textit{every-rel} \\ \text{INDEX } \boxed{7} \\ \text{RESTR } \left\{ \textit{student}(\boxed{7}) \right\} \end{array} \right] \right\rangle \\ \text{NUCLEUS } \left[\begin{array}{l} \textit{treasure-rel} \\ \text{TREASURER } \boxed{7} \\ \text{TREASURED } \boxed{f}(\boxed{7}) \end{array} \right] \end{array} \right] \end{array} \right]$$

Now following Ginzburg & Sag's (2000, 311) analysis of short answers, the analysis of the SPC pivot *his diary* can be given as in (82).

(82) What every student_i treasures is his_i diary.
S



In this analysis, the functional use of the NP *his diary* is assumed to have a quantifier over a function in its QSTORE, which is indicated by the tag [2] in (82). Consequently, when this quantifier is retrieved at S in the short answer, we have a bound variable reading of the pronoun, as indicated in the CONT value of the S in (82).

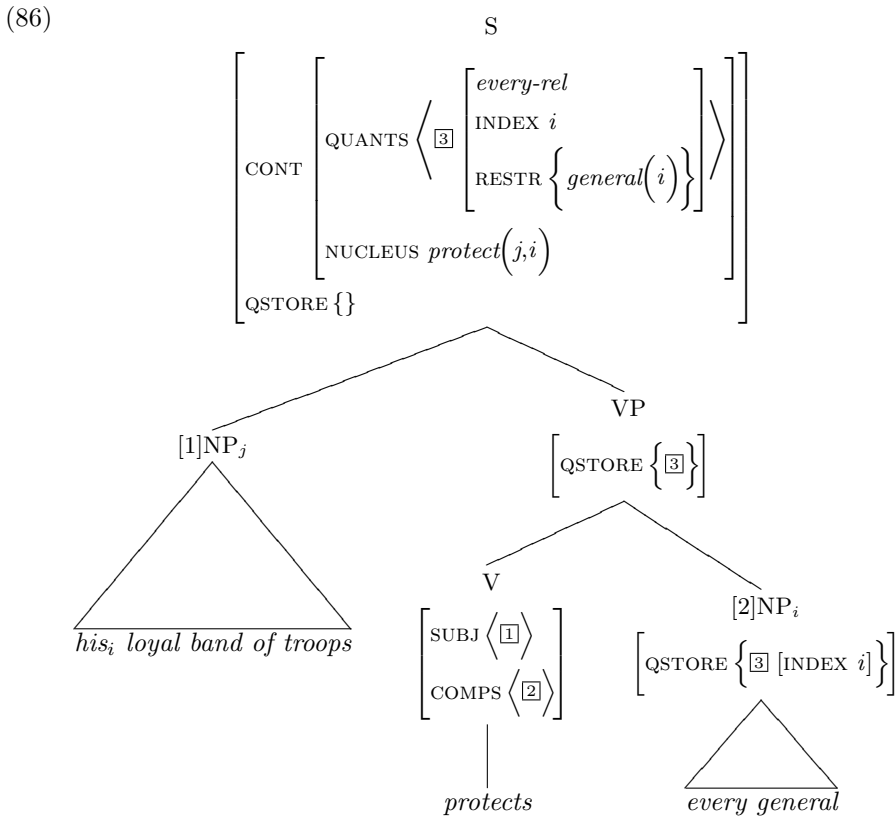
At this point, an important question is how we can explain the contrasts in (67–69). In our view, the (b) examples in (67–69) are degraded because they constitute weak crossover cases, whereas the examples in (a) do not involve a weak crossover configuration. While other kinds of constraints can be imposed on bound variables, we adopt the perspective of Pollard (ms.) on variable binding. Pollard (ms.) proposes the following constraints in (83–85) in order to explain weak crossover examples.

(83) WCO Principle
A constituent X containing a pronoun P cannot *p-command* a constituent Y whose QSTORE contains an operator coindexed with P.

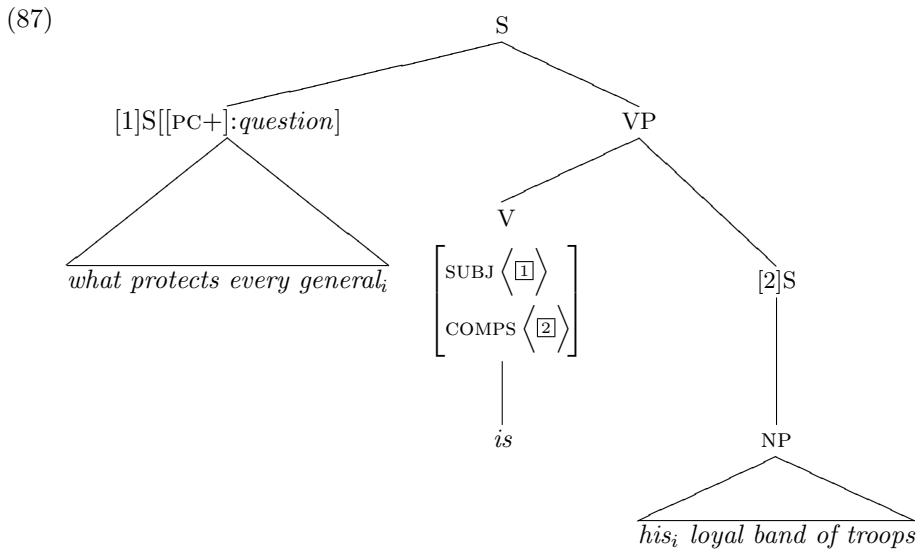
The term “p(rominence)-command” is defined recursively as follows:

- (84) X P-COMMANDS Y iff X locally p-commands Z containing Y.
- (85) Let X and Y be codependents (arguments or adjuncts of the same head). Then X **LOCALLY P-COMMANDS** Y iff
 - a. X is the subject and Y a complement; or
 - b. X is a complement and Y a complement to its right; or
 - c. X is the subject and Y an adjunct to its right.

According to (83), (67b) is correctly predicted to be ungrammatical, because the subject NP *his loyal band of troops* (locally) p-commands the complement NP *every general* whose QSTORE contains an operator coindexed with *his*. Likewise, (68b) and (69b) is ungrammatical, since the subject NP (locally) p-commands the adjunct PP whose QSTORE contains an operator coindexed with *his*. The following diagram illustrates the structure of (67b).



On the contrary, the (a) examples in (67–69) do not violate the WCO Principle, because the constituents containing a pronoun do not p-command the pre-copular *wh*-clauses, since they are neither a subject nor a complement preceding another complement.



Since there is no other constraint in the grammar that prohibits the bound variable reading of the pronouns in the (a) examples in (67–69), such readings are available in our theory. Thus BV anti-connectivity effects in English are accounted for.

Furthermore, it can also be explained why BV connectivity is exhibited in reverse SPCS, TH-clefts, and PPCs as well. Consider (88–90) which is repeated from (33–34).

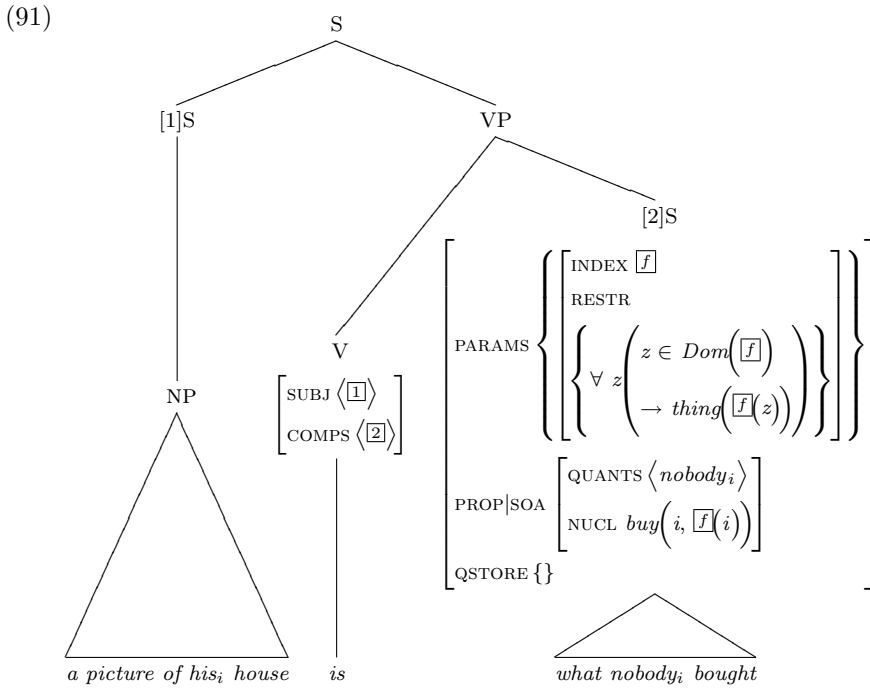
(88) A picture of his house is what nobody bought. (Den Dikken, Meinunger, and Wilder (2000, 43))

(89) The woman who every Englishman admires (the most) is his mother. (Jacobson (1994, 161))

(90) What every student got was a nuisance to him. (Sharvit (1999, 303))
 (For every student x, what x got was a nuisance to x.)

In (90), the complement NP *a nuisance to him* does not p-command the free relative *wh*-clause in the subject position. Accordingly, there is no WCO Principle violation. The same line of account can be provided in (89).

On the other hand, in (88), the subject NP *a picture of his house* that contains a pronoun p-commands the complement *wh*-clause. However, (88) still does not violate the WCO Principle, because the QSTORE of the complement *wh*-clause does not contain an operator that is coindexed with the pronoun. This is a consequence of the functional question analysis of the *wh*-clause in examples like (88) and (79), which requires the retrieval of a quantifier within the *wh*-clause, as shown in (81) and (82). Since the quantifier is already retrieved, the QSTORE of the *wh*-clause does not contain an operator coindexed with the pronoun in question. Consequently, the bound variable reading is predicted to be available in examples

like (88).¹⁰

Therefore, we can see that a functional question analysis of SPC *wh*-clauses described in (81) plays an important role in the interaction with the weak crossover condition based on p-command relations.

7. Conclusion

In this paper, we showed that purely syntactic or semantic accounts of SPC connectivity effects have limitations in explaining a full range of syntactic and non-syntactic connectedness. We have also shown that presence of anti-connectivity effects with respect to BV, BT, and NPI phenomena calls for an elaborate analysis of SPCs that may interact with the syntactic, semantic or pragmatic conditions that are needed for each phenomenon. This paper shows that Yoo's (2005) non-deletion-based, question-answer pair analysis of SPCs can be well combined with a functional question analysis of a SPC *wh*-clause and a theory of operator scope, so that it accounts for various BV (anti-)connectivity effects, based on a non-configurational condition on bound anaphora.

¹⁰ The detailed analysis of reverse SPCs should receive more careful examination. However, without any crucial evidence for fundamental differences between the two, we assume that the basic structure of reverse SPCs is the same as that of ordinary ones, except for the reverse order of elements in the ARG-ST of the copula.

<References>

- Akmajian, A. 1970a. *Aspects of the Grammar of Focus in English*. Ph.D. thesis, MIT.
- Akmajian, A. 1970b. On Deriving Cleft Sentences from Pseudo-cleft Sentences. *Linguistic Inquiry* 1, 149–168.
- Bošković, Ž. 1997. Pseudoclefts. *Studia Linguistica* 51, 235–277.
- Cecchetto, C. 2000. Connectivity and Anti-connectivity in Pseudoclefts. *NELS* 30, 137–151.
- Cecchetto, C. 2001. Syntactic or Semantic Reconstruction? Evidence from Pseudoclefts and Clitic Left Dislocation. In Cecchetto et al. (eds.), *Semantic Interfaces*. CSLI Publications, pp. 90–144.
- Chierchia, G. 1993. Questions with Quantifiers. *Natural Language Semantics* 1, 181–234.
- Culicover, P. 1977. Some Observations Concerning Pseudo-clefts. *Linguistic Analysis* 3, 347–375.
- Culicover, P. W. and R. Jackendoff. 2005. *Simpler Syntax*. Oxford University Press.
- Den Dikken, M., A. Meinunger, and C. Wilder. 2000. Pseudoclefts and Ellipsis. *Studia Linguistica* 54, 41–89.
- Engdahl, E. 1986. *Constituent Questions*. Kluwer, Dordrecht.
- Giannakidou, A. 1998. *Polarity Sensitivity as (Non)Veridical Dependency*. John Benjamins, Amsterdam.
- Giannakidou, A. 2002. Licensing and Sensitivity in Polarity Items: From Downward Entailment to (Non)veridicality. *CLS* 39.
- Ginzburg, J. and I. A. Sag. 2000. *Interrogative Investigation*. CSLI Publications.
- Green, G. 1971. Notes on Clefts and Other Related Matters. *Studies in the Linguistic Sciences* 1, 1–7.
- Grozinsky, Y. and T. Reinhart. 1993. The Innateness of Binding and Coreference. *Linguistic Inquiry* 24, 69–101.
- Heller, D. 2002. On the Relations of Connectivity and Specificational Pseudoclefts. *Natural Language Semantics* 10.4, 243–284.
- Heycock and Kroch. 1999. Pseudocleft Connectedness: Implications for the LF Interface Level. *Linguistic Inquiry* 30, 365–397.
- Heycock and Kroch. 2002. Topic, Focus, and Syntactic Representations. *WCCFL* 21, 101–125.
- Higgins, F. R. 1979. *The Pseudo-Cleft Construction in English*. Garland Press.
- Hoeksema, J. 2000. Negative Polarity Items: Triggering, Scope and C-command. In H. Laurence and Y. Kato (eds.), *Negation and Polarity, Semantic and Syntactic Perspective*. Oxford University Press, pp. 123–154.
- Iatridou, S. and S. Varlokosta. 1998. Pseudoclefts Crosslinguistically. *Natural Language Semantics* 6, 3–28.
- Jacobson, P. 1994. Binding Connectivity in Copular Sentences. *SALT IV*, 161–178.

- Lasnik, H. and T. Stowell. 1991. Weakest Crossover. *Linguistic Inquiry* 22, 687–720.
- Meinunger, A. 1998. A Monoclausal Structure for (Pseudo-)cleft Sentences. *NELS* 28, 283–298.
- Partee, B. 1986. Ambiguous Pseudoclefts with Unambiguous *BE*. *NELS* 16, 354–366.
- Pollard, C. ms. Linear and Hierarchical Factors in Weak Crossover. Unpublished manuscript, Ohio State University.
- Pollard, C. and I. Sag. 1992. Anaphors in English and the Scope of the Binding Theory. *Linguistic Inquiry* 23, 261–303.
- Pollard, C. and I. Sag. 1994. *Head-Driven Phrase Structure Grammar*. University of Chicago Press, and Stanford: CSLI Publications, Chicago.
- Ross, H. 1985. The Source of Pseudocleft Sentences. Handout of talk given at New York University, November 1985.
- Ross, H. 1997. That is the Question. Paper presented at the University of Pennsylvania.
- Ross, J. R. 1972. Act. In Davison et al. (eds.), *Semantics of Natural Language*. Reidel, pp. 70–126.
- Schlenker, P. 1998. Pseudocleft Connectivity and the Structure of Noun Phrases. Master's thesis, MIT.
- Schlenker, P. 2003. Clausal Equations (A Note on the Connectivity Problem). *Natural Language and Linguistic Theory* 21, 157–214.
- Sharvit, Y. 1999. Connectivity in Specificational Sentences. *Natural Language Semantics* 7, 299–339.
- van Riemsdijk, H. 2000. Free Relatives. In *Syncom: Case 44*.
- Williams, E. 1994. *Thematic Structure in Syntax*. MIT Press, Cambridge, Mass.
- Yoo, E. J. 1998. Cardinality Noun Phrases, *Wh*-Questions, and Scope Ambiguity. *Language Research* 34.4, 809–836.
- Yoo, E. J. 2005. Pseudocleft Sentences in English. *Korean Journal of Linguistics* 30, 115–147.

Submitted on: November 1, 2006

Accepted on: December 7, 2006