Connectivity and Anti-Connectivity in Pseudoclefts

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1. Introduction

Specificational pseudoclefts are sentences like (1) in which a *wh* phrase is equated with a phrase that corresponds to the gap in the relative structure (the *pivot*) [2]:

(1)   What John bought was Ulysses.

By connectivity effects I refer to the fact (originally discussed by Higgins 1976) that the pivot behaves as if it occupied the position of the gap in the relative structure according to a variety of tests including Binding Theory, bound variable licensing and Negative Polarity Items (NPIs) licensing.

(2)   *NPI Licensing*
        a. What he didn't buy was any textbook.
        b. He didn't buy any textbook.

(3)   *Bound Variable Licensing*
        a. What [every linguist]$_i$ loves is her$_i$ first syntax class.
        b. [Every linguist]$_i$ loves her$_i$ first syntax class.

[2] In this paper I will disregard predicational pseudoclefts (sentences like *What John bought is disappointing*) since, as extensively discussed in the literature, their pattern with respect to connectivity effects is clearly different from the pattern of specificational pseudoclefts. From now on, I will take the liberty of saying "pseudoclefts" instead of "specificational pseudoclefts".

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(4)   *Binding Theory Principle C*
       a. *What she$_i$ bought was Mary$_i$'s book.
       b. *She$_i$ bought Mary$_i$'s book.

       The presence of connectivity effects is a puzzle because the pivot is not c-commanded by its licenser in (2a) and (3a) and by its illicit binder in (4a). My goal in this paper is twofold: first, I will show that, in a structural context that I will describe shortly, the pivot does *not* behave as if it occupied the position of the gap in the relative structure. This fact, which to the best of my knowledge has never been discussed in any detail, I will call anti-connectivity. Second, I will discuss how anti-connectivity effects constraint the choice of the treatment for connectivity effects.

2.   Three main approaches

2.1   The Movement Approach

Three main approaches have been proposed to treat connectivity effects in pseudoclefts. The first one, which I call movement approach, postulates that the pivot and the position of the gap in the relative clause are linked by the occurrence of syntactic movement. This approach comes in two varieties. The first version assumes that the pivot has moved to its surface position leaving a trace in the position of the gap in the relative structure. Connectivity effects are explained by whatever mechanism explains reconstruction effects in a simple case of *wh*-movement. This explanation is highly problematic because the alleged movement of the pivot has a long list of weird and unexpected properties. For example, it would be an overt case of lowering movement (the target of the movement being not c-commanded by the base position of the pivot) and would occur from within a constituent which is at the same time a subject island and a *wh*-island. Boskovic (1997), who discusses and discharges the first version of the movement approach, offers a different one. He argues that the pivot moves to the position of the gap in the relative clause only at LF and that a pseudocleft sentence and the correspondent uncleft sentence are *literally* identified at this level of representation (this explains connectivity effects). Boskovic argues that his theory does not run into the problems that affect the first version of the movement approach because the LF movement of the pivot does not leave a trace. This is the point in which the assumption that a pseudocleft and the correspondent uncleft sentence are *literally* identified at LF becomes crucial, the intuition being that, since no trace is there, no record remains at LF of what the superficial structure of the sentence was. Boskovic's approach suffers from a major drawback. The anti-connectivity cases that I am going to discuss go against his key assumption that a pseudocleft and the correspondent uncleft sentence are identified at LF. The way in which Boskovic's approach is formulated make anti-connectivity cases not amenable to an explanation. Finally note that distinguishing between canonical and inverse copular sentences (for example by restricting connectivity cases to inverse-

type sentences) does not help: (5)-(6), irrespective of their inverse or canonical character, manifest Principle C connectivity[1]:

(5)   * I genitori di Gianni[i] sono ciò che pro[j] detesta.
        The parents of Gianni are it that (=what) (he) hates
(6)   *Ciò che pro[j] detesta sono i genitori di Gianni[i].
        It that (=what) (he) hates are the parents of Gianni

I conclude that the distinction between canonical and inverse copular sentences is orthogonal to the problem of explaining connectivity. Summarizing, the syntactic approach turns out to be problematic in both of its version.

2.2   The Phonological Deletion Approach

I call phonological deletion approach the analysis originally proposed by Ross in unpublished work and recently reworked by Schlenker (1998) according to which a specificational pseudocleft is a copular sentence in which a question is equated with the corresponding answer. For example, a sentence like (2a) above would have a structure like (7) at Spell-Out and LF with the underlined part deleted at PF:

(7)   What he didn't buy was he didn't buy any textbook

Given this hypothesis, the NPI licensing in (2a) is explained by the same principle that explains it in the uncleft sentence (2b). In fact, the pivot part of sentence (2a), as far as LF is concerned, is identical to the corresponding uncleft sentence (2b). The same type of explanation works for other connectivity cases. The phonological deletion approach does not run into the serious difficulties that affect the syntactic movement approach. It also stresses an important analogies between question-answer pairs and the corresponding pseudocleft sentences, namely the fact that they seem to have identical scope properties (cf. Schlenker 1998). In fact, the parallelism between a question-answer pair and the correspondent pseudocleft sentence is very important and the approach that I am going to assume is aimed to capture it. Nonetheless, this approach raises at least two serious problems. The first is that a pseudocleft sentence does not really have the superficial form that derives from the deletion of a part in a question-answer pair. In English, the difference between the question-answer pair and the pseudocleft sentence reduces to the absence/presence of *do* inversion. In other languages pseudocleft sentences are not even introduced by the *wh* expressions that introduce a question. One case is Italian, the language I will focus on in this paper. In Italian, pseudoclefts can be introduced by the expression *ciò che* (lit. "it that"), as already shown by sentences (5)-(6) above. So the superficial form of certain Italian pseudocleft sentences does not resemble even loosely a question-answer pair (see Alexiadou and Giannakidou 1999 for the case of Greek). The second problem is raised by the anti-connectivity cases that I am going to discuss in this paper. Given the fact that the phonological

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[1] (5) and (6) are Italian sentences. The former is identified as canonical and the latter is identified as inverse by Moro's (1997) diagnostic based on the directionality of agreement.

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deletion approach takes the pivot part of a pseudocleft to be identical (at LF) to the corresponding uncleft sentence, the fact that a pseudocleft and the correspondent uncleft sentence behave differently is hard to explain. Summarizing, the analogy between pseudoclefts and question-answer pairs is real but the phonological deletion takes it too literally.

2.3   The Semantic Approach

Although there are many versions of the semantic approach (see among others Jacobson 1994, Heycock and Kroch 1999 and Sharvit 1999) the idea underlying all of them is that a pseudocleft sentence is a true equative, that is it asserts that the pre and post-copular phrases have the same denotation. Let us focus on a simple case like (1) which receives the interpretation in (8). In giving the representation in (8), I follow Sharvit's analysis (putting aside some irrelevant details):

(8) $[What] = \lambda X [MAX (\lambda y [X(y)])]$
       $[John\ bought\ t] = (\lambda x[John\ bought\ x])$
       $[is] = identity$
       $[Ulysses] = Ulysses$
       $[MAX (\lambda u\Phi)]^g$ is the greatest element in $\{\delta : [\Phi]^g {}^{[u/\delta]} =1\}$ (if there is one)

       $[What\ John\ bought\ t] = \lambda X [MAX (\lambda y [X(y)])]\ (\lambda x[John\ bought\ x])$
       $MAX (\lambda y [\lambda x[John\ bought\ x](y)])$
       $MAX (\lambda y[John\ bought\ y])$
       $[MAX (\lambda y [John\ bought\ y])]^g$ is the greatest element in $\{\delta: [John\ bought\ y]^g {}^{[y/\delta]} =1\}$

       "What John bought is Ulysses" is true if the greatest element in $\{\delta: [John\ bought\ y]^g {}^{[y/\delta]} =1\}$ is "Ulysses". That is, the sentence is true if: *i)* Ulysses $\in \{\delta : [John\ bought\ y]^g {}^{[y/\delta]} =1\}$ and *ii)* for each $\varepsilon \in \{\delta : [John\ bought\ y]^g {}^{[y/\delta]} =1\}$, $\varepsilon \subseteq$ Ulysses

This interpretation captures the fact that a uniqueness presupposition is associated to specificational pseudoclefts (in fact, the *wh* expression receives the same kind of interpretation of the definite article). The semantic approach per se does not explain connectivity (or anti-connectivity) but it can do so when combined with some plausible assumptions that I am going to consider.

3.   Explaining connectivity

3.1   Variable Binding Connectivity

Following Jacobson (1994) and Sharvit (1999), I will argue that variable binding connectivity in pseudoclefts is due to the same semantic mechanism that is responsible for functional reading in *wh* questions (and relative clauses).

Remember that the problem with a sentence like (3a) is the fact that variable binding obtains even if the binder *every linguist* does not c-command its bindee *her*. There are good reasons to believe that this reading does not result from LF scoping of the quantifier to a position in which it c-commands the pronoun (for example, QR is known to be local). Therefore, in (3a) we seem to have a genuine case of variable binding without c-command. The explanation proposed by Jacobson (1994) and Sharvit (1999) capitalizes on the fact that (3a) closely resembles the question-answer pair in (9) under the reading schematically represented in (9b). Under this reading, the answer contains a variable which is bound even if it is not c-commanded (in fact the situation in 9 is more extreme than the one in 3a, because binder and bindee are in two different sentences):

(9)   a. What does [every linguist]$_i$ love? Her$_i$ first syntax class

         b. Which function f is such that for every linguist x, x loves f(x)

A question like the one in (9a) is called "functional" because it is a question about a function. The answer part in (9a) points out the relevant function, namely the one that maps every linguist to her first syntax class. We don't need to go into the details of the analysis of functional questions but there is an aspect we have to focus on: in (9b), in the *wh*-trace position, we find a function which applies to an individual variable. In order to represent the fact that the *wh* phrase is associated to both a function and the argument of this function, Chierchia (1993) assumes that in the LF representation of sentences like (9) the *wh* trace is doubly indexed. One index (which corresponds to the function) is bound by the *wh* phrase while the other index (which corresponds to the argument of the function) is bound by a suitable antecedent (in 10, the quantificational expression *every linguist*):

(10)   What$_j$ does [every linguist]$_i$ love t$_j^i$? Her first syntax class

The argument index on the *wh* trace (the index i on t$_j^i$) is licensed as any other index is, for example c-command by an adequate antecedent is required. This implementation allows Chierchia to explain the distribution of functional readings[2]. Notice that the functional reading is impossible in sentences like (11):

(11)   Who saw [everyone]$_i$? *Her$_i$ mother.

The fact that the functional reading is possible in (10), but not in (11), is easily explained under Chierchia's assumption: in (10) the argument index of the *wh* trace is properly c-commanded by the quantificational expression *every linguist*. In (11), on the other hand, the argument index is only bound if the quantifier *everyone* crosses over the *wh* trace (as shown in 12). But this creates a WCO configuration which rules out the functional reading:

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[2] Pair-list readings can be seen as a special case of functional readings (intuitively, giving a pair list is giving an extensional definition of a function). Chierchia's account carries over to pair-list readings too.

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(12)   *Who$_j$ [everyone]$_i$ t$_j^i$ saw t$_i$?

This account for question-answer pairs can carry over to pseudoclefts. Variable binding without c-command is possible if the *wh* phrase leaves a doubly indexed trace: a simplified LF for sentence (3a) that can trigger the functional reading is given in (13):

(13)   What$_j$ [every linguist]$_i$ loves t$_j^i$ is her$_i$ first syntax class.

Assigning an interpretation to the LF in (13) is straightforward under the semantic approach sketched in paragraph 2.3: the sentence denotes the equation between the unique function the maps every linguist to what she loves and the function that maps every linguist to her first syntax class (see Sharvit 1999 for detailed discussion). Notice that this treatment for variable binding connectivity in pseudoclefts makes a prediction. If variable binding is due to the fact that the *wh*-phrase leaves a doubly indexed trace, WCO effects should interfere with variable binding connectivity in pseudoclefts (as they do with functional questions). I will now show that this is the case. Let us start with (14a) in which variable binding is possible (as it is in the corresponding uncleft sentence 14b). This follows from the approach under consideration because the doubly indexed trace t$_j^i$ is properly c-commanded both by the *wh* phrase and by the quantifier *every general*, as shown in (14c), which is a simplified LF representation for the relative clause in (14a):

(14)   a. Ciò che [ogni generale]$_i$ difese fu il suo$_i$ battaglione.

         It that (=what) every general defended was his battalion
       b. [Ogni generale]$_i$ difese il suo$_i$ battaglione.

         Every general defended his battalion
       c. [CP [what]$_j$ [IP [every general]$_i$ ...... [VP t$_j$ defended t$_j^i$]]]

(15a) is very different from (14a) because it has the typical status of WCO violations (exactly like the corresponding uncleft sentence 15b). The WCO effect in (15a) is due to the fact that in (15c), which is a simplified LF representation of the relative clause in (15a), the doubly indexed trace t$_j^i$ is crossed over by the quantifier *every general* (in 15c, following the VP internal subject hypothesis, I have located the *wh* trace in Spec,VP while the position of the quantifier after QR is identified for simplicity with some site in the immediate IP periphery):

(15)   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]$_i$.
       c. His battalion defended every general

[CP [what]$_j$ ..... [every general]$_i$ [IP ..... [VP t$_j^i$ defended t$_i$]]]

Although the approach that links variable binding connectivity in pseudoclefts and functional readings in *wh* questions makes the right prediction, the minimal pair in (14)-(15) does not allow us to discriminate between this approach and other approaches that can attribute the presence of WCO effects in (15a) to whatever factor triggers WCO effects in the uncleffed sentence (15b). A striking example that supports the approach I am pursuing is the following case of *anti*-connectivity:

(16) a. Ciò che sfilava 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$_j^i$ ....]]]

The pattern in (16), which goes against the generalization according to which the pivot behaves as if it occupied the position of the gap in the relative clause, can be naturally explained from the point of view that I am adopting. (16b) is a standard case of WCO configuration. As for (16a), in which variable binding is possible, I stick to the VP internal subject hypothesis and I also assume that the locative PP *behind every general* is placed somewhere outside the VP (further details are irrelevant for our purposes). It follows that a possible LF configuration for the relative clause in (16a) is (16c). In (16c) no WCO configuration is present, because the doubly indexed trace in Spec,VP is not crossed over by the VP-peripheral quantifier *every general*. Summarizing, the approach based on the idea that variable binding connectivity is a by-product of the functional interpretation for *wh* questions not only predicts the possibility of connectivity effects but also explains an interesting case of anti-connectivity.

3.2   Binding Theory Connectivity

If variable binding connectivity is the by-product of one independently needed interpretative procedure, what about Binding Theory connectivity, illustrated in (4) above? Currently, the most standard view on Binding Theory is that it applies at LF (cf. Chomsky 1995). If Binding Theory really holds at LF, we have a problem because the pivot at LF (or in any other point of the derivation) is not c-commanded by the material in the relative clause. However, the alternative approach to Binding Theory proposed by Reinhart (1983), Grodzinsky and Reinhart (1993) and Reinhart and Reuland (1993) has the potential of explaining Binding Theory connectivity when combined with the approach to variable binding connectivity that I have argued for in paragraph 3.1. In this paper, I cannot develop a complete analysis but I will deal with the most difficult case only, namely Principle C (see Sharvit 1999 for a more complete discussion). In Reinhart's (1983) and Grodzinsky and Reinhart's (1993) theory, the reading of *He likes John* which is commonly excluded by Principle C is ruled out by two

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different grammatical conditions. First, binding in the strictest sense must be excluded. This is done by introducing a condition that basically states that a Referential Expression cannot be a bound variable (this is the closest counterpart of Principle C that one finds in the system). Second, accidental coreference, namely the case in which *he* receives index i, *John* receives index j but i and j receive the same denotation under the relevant assignment, must be excluded. Accidental coreference is blocked by the following condition:

(17) Rule-I
     NP A cannot corefer with NP B if replacing A with C, C a variable bound by B, yields an indistinguishable interpretation

Rule-I rules out accidental coreference in *He likes John* because *John* can be replaced by a variable bound by *he* and the same interpretation obtains (this happens in the sentence *he likes himself*). Let us now switch to Principle C connectivity exemplified by the sentence (4a), that is *What she$_i$ bought was Mary$_i$'s book*. In (4a) *Mary* cannot be bound by the pronoun *she* because, as an R-expression, it cannot be a bound variable (in addition other reasons converge to exclude this binding configuration). So, the only possible source for the reading traditionally excluded by Principle C might be accidental coreference. Rule-I states that coreference is blocked if *Mary* in (4a) can be replaced by a variable bound by *she*, with no change in meaning. So, we can explain Principle C connectivity if we can show that such replacement can take place and results in an indistinguishable interpretation. It's easy to show that this is the case. A relevant sentence is *What she bought was her book* under the reading according to which someone bought her own book[3]. In a nutshell, in the theory proposed by Reinhart (1983) and Grodzinsky and Reinhart (1993) coreference is possible if variable binding is not. Since variable binding is allowed in pseudoclefts in the relevant configuration, it is expected that coreference is not. Let us move to a fine prediction of the analysis I am considering. We have seen one case of anti-connectivity in the domain of variable binding, namely (16a). If it is true that Principle C connectivity and variable binding are tightly linked (via Rule-I), one expects to observe an anti-connectivity effect structurally similar to (16a) even in the domain of Principle C. This prediction is borne out by Italian sentences like (18)[4]:

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[3] One might object that this reading does not necessarily result from variable binding of the pronoun *her* in the pivot, because accidental coreference between *she* and *her* results in the very same reading. However, in a sentence like *what every woman bought was her book* the bound reading of the pronoun *her* is still available and can only be attributed to variable binding (accidental coreference is impossible for the trivial reason that *every woman* is not a referential expression at all).

[4] The pattern in (18) resembles the pattern in (i)-(ii):

(i)   ?? I suoi$_i$ occhi verdi sono l'orgoglio di Maria$_i$.
       Her green eyes are the pride of Maria
(ii)   L'orgoglio di Maria$_i$ sono i suoi$_i$ occhi verdi.
       The pride of Maria are her green eyes

(18) a. *Chi lo$_i$ vide è la sorella di Gianni$_i$.

   Who him saw is the sister of Gianni

   b. La sorella di Gianni$_i$ lo$_i$ vide.

   The sister of Gianni him saw

   c. [CP [who]$_j$ [IP ......him$_i$ saw [VP t$_j^i$ ....]]]

The clitic pronoun *lo* and the R-expression *Gianni* cannot refer to the same individual in pseudocleft sentence (18a) but they can in the corresponding uncleffed sentence (18b). The Principle C connectivity in (18a) follows straightforwardly from my approach that assigns the LF representation (18c) to the relative clause in (18a). In (18c) the doubly indexed trace of the subject *wh* phrase is in Spec,VP and the clitic pronoun occupies a position which is VP external. No WCO configuration is present because the argument index of *wh* trace is bound by the clitic *lo*[5]. Therefore, (18c) is a configuration that can license a bound variable interpretation for a pronoun in a position internal to the pivot. This is confirmed by (19) in which the pronoun *sua* is coreferential with the clitic *lo*:

(19) Chi lo$_i$ vide è sua$_i$ sorella

   Who him saw is his sister

   'It is his sister who saw him'

Hence, by the moment in which Rule-I applies, the R-expression *Gianni* sits in (18a) in a configuration in which it can be replaced by a variable bound by the pronoun *lo*, what blocks coreference between them. In fact, the anti-connectivity effect in (18a) is the counterpart in the domain of Principle C connectivity of the anti-connectivity effect in (16a). As such, it introduces clear evidence in favor of the analysis that reduces Principle C connectivity to variable binding connectivity.

4.   Quantifiers in Pseudocleft Sentences

4.1   Introduction

In this section I study the scope configurations that arise between a seemingly quantificational expression in the pivot and another quantificational expression which is contained within the relative clause.   Since I am assuming that pseudoclets are true equatives, if the pivot is quantificational (that is of type

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(ii) is a plain case of WCO configuration if the phrase containing the proper name *Maria* moves at LF, say for focus reasons. However, I doubt that the degraded status of (18a) is a simple case of WCO effects. For example, my judgment is that the bound reading improves only partially if one inverts the order of the two phrases that surround the copula in (18a). I tentatively conclude that the bound reading in (18a) might be redundantly excluded both by the factor that I point out in the text and by the factor that rules out the bound reading in (i)).

[5] Notice that, even if one adopts a movement analysis for clitics, the movement of *lo* cannot trigger a WCO violation because it is an instance of A movement and A movement does not trigger WCO effects. That clitic movement in Romance is a case of A movement is uncontroversially assumed in the literature based (among other things) on the observation that it triggers object agreement on the past participle.

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$<<e,t>t>$) the equation is between two expressions of type $<<e,t>t>$. For example, a sentence like (20a), which is judged acceptable by many speakers, should receive the interpretation in (20b) in which the variable P is of type $<<e,t>t>$.

(20)   a. Chi Gianni ha difeso bene è stato ogni politico corrotto.
          Who John has defended well was every corrupted politician
       b. MAX $\lambda P(P$ (λy[has defended well (Gianni,y)]) = every corrupted
       politician

Note that in (20b) the MAX operator ranges over generalized quantifiers. Adopting this kind of analysis is possible (cf. Dayal 1996) but it's clear that it requires complicating the semantics of pseudoclefts significantly. In addition, some speakers do not accept (20a) and, as observed by Heycock and Kroch (1999), there are quantifiers that every speaker judges awkward in the position of the pivot (this class includes modified numerals *like at most three, less than four, between two and five* etc.) For these reasons, in this paper I will explore an alternative view that on the one hand does not require complicating the semantics of pseudoclefts in the way illustrated in (20b) and on the other hand explains for free why certain quantifiers cannot be pivots: I will argue that what appears to be a quantificational pivot in fact is not quantificational.

4.2   The Interpretation of Indefinites

In this paragraph, I introduce background information which is necessary for the analysis of indefinite pivots. Indefinites display island insensitivity, as originally noted by Fodor and Sag (1982). An illustration of the phenomenon is the pair in (21)-(22):

(21)   If every relative of mine dies, I will inherit a fortune.
(22)   If a relative of mine dies, I will inherit a fortune.

The quantifier *every* cannot escape the adjunct island in (21), that is, the sentence does not have the reading in which *every* takes scope over the conditional (the missing reading states that each relative of mine x has the property that, if x dies, I will inherit a fortune, that is, a single death can be enough for me to become rich). On the other hand, the indefinite *apparently* escapes the adjunct island in (22) because the reading in which it takes scope over the conditional is clearly present (it is the reading that states that, for me to become rich, a certain specific relative of mine, say uncle John, must die). A fairly recent treatment for the exceptional pattern of indefinites with respect to islands consists in assigning to them a choice function interpretation[6]. Mostly for concreteness, I will adopt here Kratzer's (1998) version of the choice function theory of indefinites. A choice function is a function that applies to any non empty set and yields a member of that set. In Kratzer's theory, an indefinite introduces a variable over choice functions which

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[6] The idea was originally proposed by Reinhart (1997) and Winter (1997) and has been later elaborated by many other researchers including Kratzer (1998), Matthewson (1999) and Chierchia (1999). There are significant differences in implementation in these works, though.

remains free at LF. The value to the choice function variable is provided by the context. Let us focus on the reading of (22) in which the indefinite seems to escape the *if*-clause. Under Kratzer's theory, in a given context, a certain value is given to the choice function, that is, a certain function that applies to the set denoted by the restriction of the indefinite determiner (*relative of mine*) is selected and a member of that set (say, uncle John) is picked out. The individual who is picked out is the external argument of the verb *die*, what means that the indefinite is interpreted in situ and no extraction from the island takes place despite of the appearances. Consider now cases in which an indefinite is interpreted as scopally dependent from another quantifier, for example the distributive reading in (23a)[7]:

(23)   a. Every producer likes an actor.

A choice function theory *a la* Kratzer can explain the distributive reading in (23a) if it is supplemented by the hypothesis that the restriction of the choice function can contain an implicit pronoun which is bound by the quantifier *every producer*:

(23)   b. $\forall$ producer(y) [likes(y, ($f_{actor}(y)$))]

In (23a) the choice function can pick out as many individuals as the producers are, because the restriction of the indefinite determiner (the set which is the argument of the choice function) varies from producer to producer. Summarizing, an indefinite which receives a choice function interpretation seems to be within the scope of another quantifier whenever the former contains a (possibly implicit) variable which is bound by the latter.

4.3   The Scope Properties of Indefinite Pivots

When the indefinite receives a choice function interpretation, ultimately it picks out a certain specific individual (the value of the choice function in the context), exactly like a proper name does. So, the semantics of sentence (24) below would be very simplified if the indefinite received a choice function interpretation. In fact, (24) would turn out to be a simple equation between two entities of type *e*.

(24)   Chi hai insultato è un professore severo.
       Who (you) have insulted is a strict professor

Let us assume the simplest semantic analysis and see the consequences of this move. In (25), the pivot interacts with a quantifier within the relative clause:

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[7] In a simple case like (23a) the distributive reading can be associated to the standard quantificational interpretation for the indefinite in which it takes narrow scope. So, the choice function interpretation can do the job but the distributive reading can be expressed by the usual technique as well. However there are cases (the so-called intermediate readings) in which the indefinite must receive a choice function interpretation but nonetheless is scopally dependent from another quantifier. In these cases the treatment described in the text becomes necessary. Cf. references in note 8 for a presentation of the intermediate readings.

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(25) Chi ogni studente prima o poi ha insultato è un professore severo.
      Who every student sooner or later has insulted is a strict professor

The reading which is traditionally associated to the scope configuration $\forall\exists$ is
possible in (25). However, if the indefinite is not a quantifier, this reading cannot
be a genuine case of narrow scope of the indefinite. Let's call it "pseudo narrow
scope reading". The only way to explain the presence of the pseudo narrow scope
reading in (25) is assuming that the restriction of the indefinite article contains an
implicit variable which is bound by the quantifier *every student*. Taking that
assumption, the restriction of the indefinite determiner (the set which is the
argument of the choice function) varies from student to student and the pseudo
narrow scope reading can be derived. There is clear evidence that supports this
analysis. First, we make the prediction that, if we insert an *overt* pronoun in the
indefinite pivot, we should observe that the pseudo narrow scope reading is
contingent on the bound variable reading for the pronoun. One case is (26), which
is identical to (25) but for the fact that the pronoun that I am assuming to be
covertly present in (25) is overtly realized.

(26) Chi ogni studente prima o poi ha insultato è un suo professore severo.
      Who every student sooner or later has insulted is a strict professor of his

This prediction is borne out. The pronoun *suo* can either be a bound variable or a
free variable. However, the pseudo narrow scope reading is only possible if the
pronoun receives the former interpretation. The second prediction has to do with
the fact that, in the system that I have described, a pronoun in the pivot can be a
bound variable only if a doubly indexed trace is licensed in the relative clause. We
have also seen cases in which the bound variable reading is not possible because
licensing a doubly indexed trace creates a WCO configuration. Therefore, we
predict that the pseudo narrow scope reading of the indefinite pivot should become
impossible in similar WCO contexts. This prediction is borne out, too. The
relevant case is given in (27a). In (27b), which is the LF representation for the
relative clause in (27a), the quantifier *every student* has crossed over the doubly
indexed *wh* trace, what blocks the pseudo narrow scope reading:

(27) a. Chi ha controllato ogni studente è un professore severo.
         Who has checked every student is a strict professor

      b. [CP [Who]$_j$ [every student]$_i$ [IP ..... [VP t$_j^i$ .... t$_i$ ....]]]

The case in (27a) is particularly interesting because the unclefted sentence that
corresponds to it, namely (28), has the $\forall\exists$ reading which is missing in (27a).
Therefore (27) and (28) can be seen as a further case of anti-connectivity[8]:

(28) Un professore severo ha controllato ogni studente.
      A strict professor has checked every student

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        [8] The $\forall\exists$ reading is possible in (28) because the quantificational interpretation for the
indefinite is possible in this simple sentence (cf. note 9).

While other approaches to pseudoclefts cannot explain why the parallelism between a pseudocleft sentence and the correspondent unclefted sentence selectively breaks down, my approach ultimately reduces all the cases of anti-connectivity to WCO effects. Summarizing, my move consisting in blocking the quantificational interpretation for the indefinite pivot, which was originally motivated by the need of simplifying the semantics of pseudoclefts, turns out to be explanatory of the interaction between indefinite pivots and other quantifiers in the relative clause (including one case of anti-connectivity).

4.4   Universally Quantified Pivots

In this paragraph, I briefly discuss the status of "universally quantified" pivots. Although a sentence like (20a) above suggests that universal quantifiers, at least to a certain extent, can be pivots, I would like to point out a piece of empirical evidence that suggests that an alternative analysis, that denies that the pivot is a true quantifier, might be right. First notice that sentences like (29) indicate that universally quantified NPs can have a group reading (roughly the sentence means that the class of people that includes everyone met):

(29) Everyone met to discuss the problem

Suppose that the semantics of pseudoclefts allows only the group reading for universally quantified pivots (this would allow us to avoid the MAX operator ranging over generalized quantifiers)[9]. That this might be true is suggested by the pattern in (30)-(33), which has been pointed out to me by Orin Percus (p.c.). Although I am not in a position for fully explaining it, this pattern show that universally quantified pivots behave exactly like group denoting expressions: the distributive reading is possible in (30) and (31) but not in (32) and (33), that is the availability of the distributive reading is not affected at all if the universal quantifier is replaced by a plural NP.

(30) Chi ha scelto un bravo avvocato è stato ogni politico corrotto.
       Who chose a good lawyer was every corrupted politician
(31) Coloro che hanno scelto un bravo avvocato sono stati i politici corrotti.
       Those that chose a good lawyer were the corrupted politicians
(32) Chi un bravo avvocato ha difeso bene è stato ogni politico corrotto.
       Who a good lawyer has defended well was every corrupted politician
(33) Coloro che un bravo avvocato ha difeso bene sono stati i politici corrotti.
       Those that a good lawyer has defended well were the corrupted politicians

Summarizing, there is evidence that suggests that what appears to be a universally quantified pivot is not a true quantifier but can only receive a group reading.

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[9]See Heycock and Kroch (1999) for a similar view. I depart in one respect from their account, though. They claim that a "universally quantified" pivot can never take wide scope over a quantifier inside the relative clause (cf. the discussion of their examples 75 and 76). My example (30) goes against this claim.

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4.5   NPI Pivots

Finally, I would like to introduce a brief remark on NPIs that appear in the position of the pivot (see Sternefeld 1998 for further discussion). Although an NPI can be a pivot in specificational pseudoclefts in English (cf. 2), this is not crosslinguistically true. A language like Italian shows connectivity effect, as we have seen, but never admits an NPI pivot:

(34)   *Ciò che non ha comprato era alcun libro di testo.
         It that (=what) (he) didn't buy was any textbook

A natural speculation for the contrast between English and Italian is the following. The licensing condition on NPIs is twofold. One constraint is semantic in nature and states that an NPI is only allowed in a downward entailing context (that is a context that licenses inferences from a superset to a subset). The other constraint is syntactic in nature and states that an NPI must be locally c-commanded by a downward entailing operator. In most cases these two requirements are satisfied in the same situation. This is not the case in pseudoclefts, though: the semantic constraint is obeyed because "negative" pseudoclefts introduce downward entailing contexts (for example, if *what he didn't buy was any book* is true, *what he didn't buy was any textbook* must be true as well). The syntactic constraint on NPI licensing is not met by an NPI in the position of the pivot because it is *not* c-commanded by the negative operator. The contrast between Italian and English can be explained if the former, but not the latter, requires that both the syntactic and the semantic requirements are met[10].

5.   Conclusion

I have shown that the parallelism between a pseudocleft and the corresponding unclefted sentence systematically breaks down in at least three different contexts, involving variable binding (cf. 16 above), Principle C (cf. 18 above) and scope properties (cf. 27-28 above). My main claim in this paper is that any theory of connectivity that cannot explain when and why connectivity breaks down is missing an important generalization. This is the case with the movement and the phonological deletion approach to connectivity. However, all the anti-connectivity cases that I have described can be attributed to the interference of WCO effects, if one adopts an approach that links connectivity in pseudoclefts and functional readings in questions and relative clauses, as suggested by Jacobson (1994) and Sharvit (1999). Therefore, my paper contributes strong evidence in favor of the latter approach.

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[10] The anti-connectivity case in (i)-(ii) which has been pointed out to me by Orin Percus (p.c.) confirms that the mechanism which is responsible for the licensing of the NPI pivot does not rely on the position of the gap in the relative clause, since that position is not one in which the NPI might sit to begin with:

(i)   What didn't happen to John was anything we could get a good story out of.

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