ON THE STRUCTURE AND INTERPRETATION OF ANTECEDENT-CONTAINED DELETION IN ENGLISH

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The purpose of this paper is to make a proposal for Antecedent-Contained Deletion under the copy theory of movement (cf. Chomsky (1995)). Although the puzzles this construction poses have been discussed in Fox (2002) and Chomsky (2004), problems still remain to be solved. The proposal is to base-generate the head of the relative clause within the antecedent VP, while base-generating the relative clause containing the deletion site in an adjoined position of the antecedent VP. This paper pays special attention to the tricky construction in which the relative clause containing the ACD site is contained within the antecedent VP at surface structure, and explains this construction under McCawley’s (1982) theory of discontinuous constituent structure.*

Keywords: Antecedent-Contained Deletion, Late Merger, Afterthought, the Split Relative Clause Account, discontinuous constituent structure

1. Introduction

Antecedent-Contained Deletion (henceforth, ACD), first discussed in Bouton (1970), is a special case of VP ellipsis, in that the ellipsis site is contained in an argument of the antecedent VP at surface structure. This is shown in (2), and the problem ACD raises can be seen from the contrast between (1) and (2).

(1) a. John likes Mary, and I do, too.
   b. John [VP likes Mary], and I do [VP e], too.
   c. John [VP likes Mary], and I do [VP <like Mary>], too.

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(2) a. John likes every boy Mary does.
   b. John \[ VP \text{likes every boy Mary does} \ [VP e] \].
   c. John \[ VP \text{likes every boy Mary does} \ [VP <\text{likes every boy Mary does} [VP e]>] \].
   d. John \[ VP \text{likes every boy Mary does} \ [VP \text{likes every boy Mary does} [VP <\text{likes every boy Mary does} [VP e]>]] \].

(1a) is an example of ordinary VP ellipsis. That is, as there is no containment relation between the antecedent VP and the elided one ((1b)), the antecedent VP can be copied into the ellipsis site at LF level ((1c)). On the other hand, in the ACD case ((2a)), the elided VP is contained in the argument of the antecedent VP every boy ((2b)). The analysis given in (2b) causes a problem: Every time the antecedent VP is copied into the ellipsis site for interpretation, the elided VP, a part of the antecedent VP, is also copied ((2c, d)), thus resulting in an infinite uninterpretable structure (this is called the regress problem).

If the above observation were correct, the intuition of English native speakers would never be correctly captured, as ACD is interpreted without any problem. This means that this paradox is problematic and appropriate analyses should be developed to describe and explain it.

There are two possibilities from the perspective of syntax to explain the apparent problems. Firstly, the elided VP may be base-generated in the antecedent VP, and somehow moves out of it at some level (cf. Sag (1976), May (1985), Hornstein (1994), among many others). Secondly, the elided VP may be base-generated outside the antecedent VP. That is to say, ACD does not exist in the first place (cf. Fox (2002) and Chomsky (2004)).

In this paper, after reviewing three leading previous studies I would like to present a new proposal which I name the Split Relative Clause Account. Specifically, this proposal is a development of Chomsky (2004) in the sense that it follows Chomsky’s (2004) intuition of the analysis of ACD, and defines the structure of ACD explicitly on the basis of empirical data. To be more specific, I pursue the possibility of generating the relative clause containing the ACD site at an adjoined position of the antecedent VP with the result that it becomes structurally separated from the head it modifies. Furthermore, unlike Fox (2002), which relies heavily on the assumption of Quantifier Raising (henceforth, QR), the current proposal does not make such an assumption, and thus is immune to the theoretical problems brought about by it.

This paper is organized as follows. In section 2, a detailed introduction will be given with regard to three previous accounts, i.e. May’s (1985) QR
Account, Fox’s (2002) Late Merger Account, and Chomsky’s (2004) After-thought Account. Concretely, in 2.1, some evidence in favor of the QR Account will be provided together with a discussion of its problems. 2.2 and 2.3 review Fox (2002) and Chomsky (2004), respectively, which assume the copy theory of movement. Section 3 explicates my proposal in detail. Section 4 explains the data. Finally section 5 makes a summary of this paper.

2. Previous Studies

In this section, I review May (1985), Fox (2002) and Chomsky (2004). The first one represents the kind of ACD repair via movement. Then Fox (2002) and Chomsky (2004) differ from the first proposal, as they are developed under the copy theory of movement, while the former is based on the trace theory of movement.

2.1. The QR Account (May (1985))

May (1985) argues for a linguistic level LF that is derived syntactically from surface structure, and in which semantic relations such as scope are transparently represented. In the case of ACD, although there seems to be containment relation on the surface, it is eliminated at LF level via a syntactic operation called QR, a type of A’-movement which adjoins a quantificational constituent to a maximal dominating node (TP or VP). Therefore the paradox can be resolved, as is illustrated in (3).

(3)  a. John likes every boy Mary does [e].
    b. [TP [DP every boy Mary does [VP e]]; [TP John [VP likes t_i]]]
    c. [TP [DP every boy Mary does [VP likes t_i]]; [TP John [VP likes t_i]]]

As shown in (3b), the QP every boy Mary does moves via QR to an adjunction site of TP, leaving a trace t_i at the base position. After movement the QP containing the ACD site is outside the antecedent VP, eliminating the containment relation between the antecedent VP and the elided VP. Under the trace theory of movement, the trace t_i is interpreted as a variable bound by the quantifier every boy. In (3c) the antecedent VP is copied into the null place of ACD, thus obtaining the correct interpretation of (3a).

Although the QR Account is assumed to be able to settle the ACD paradox in general, there is a theoretical problem for this account in the context of the Minimalist Program (henceforth, MP). Let us recall the points of MP relevant to the discussion here:
(4) “In this conception there is no LF: Rather, the computation maps LA to \(<\text{PHON, SEM}\>) piece by piece, cyclically. There are, therefore, no LF properties and no interpretation of LF, strictly speaking, though \(\Phi\) and \(\Sigma\) interpret units that are part of something like LF in a noncyclic conception.” (Chomsky (2004: 107))

(5) “uninterpretable features are the mechanism for displacement, perhaps even an optimal mechanism.” (Chomsky (2004: 116))

With regard to (4), if LF is eliminated, the assumption of QR, an operation assumed to operate at LF, will accordingly be undermined. This means that the explanation of the ACD paradox should lie outside the QR solution if we adopt the framework of MP. And what is implied from (5) is that movement is never optional, as it is motivated by the need to check uninterpretable features. It is generally assumed, however, that there is no feature checking operation in QR. As a result of these considerations, the movement of QR has no motivation and, if possible, should be dispensed with in the syntactic derivation.

2.2. The Late Merger Account (Fox (2002))

Fox (2002) develops a solution based on the assumption that the relative clause containing the elided VP is not base-generated within the VP, but is later merged. Via this derivation, the seeming confliction with the copy theory of movement is obviated. I review this proposal in what follows.

Before entering into the details, let me first lay out how the standard resolutions of ACD repair come into conflict when confronted with the copy theory of movement. Observe (6).

\[
\begin{array}{c}
\text{every boy Mary does } [e] \\
\text{John } \llbracket \text{VP likes } \left(\text{every boy Mary does } [e]\right) \rrbracket
\end{array}
\]

Fox points out that the standard resolutions of ACD bear the assumption that traces are semantically impoverished in their representations with the result that after the elided VP moves out of the antecedent VP at LF, the relation of containment will not exist. However, under the copy theory of movement, traces are copies of their antecedents, as in (6), and therefore the copy of the elided VP is still contained within the antecedent VP after (any kind of) movement.

On the other hand, it is well known that VP ellipsis is possible only if the elided VP bears some resemblance to an antecedent VP. This is called
the Identity Condition of VP Ellipsis (henceforth, ICVPE).\footnote{In this paper I assume syntactic identity.} In the case of ACD, if the copy of the moved VP remains in the antecedent VP, then any operation of movement aiming to eliminate the containment relation between the antecedent VP and the elided VP will become meaningless. This implies that ICVPE will not be met, and the standard analyses of ACD will not yield the correct interpretation of ACD.

Along this line Fox (2002) develops a novel account. Concretely, the DP acting as the head of an adjunct relative clause first moves out of the antecedent VP via rightward QR (covert or overt), and is later merged with a relative clause containing the elided VP. The derivation is illustrated in (7).

\begin{align*}
\text{(7)} \quad [[\text{VP John likes every boy}] \text{DP movement} \\
[[\text{VP John likes every boy}] \text{every boy}] \text{adjunct merger} \\
[[\text{VP John likes every boy}] \text{every boy that Mary does <likes boy>}] \\
\text{(Fox (2002: 76))}
\end{align*}

In Fox’s view, under the copy theory of movement, the only way to explain ACD is to assume that the elided VP is base-generated outside the antecedent VP. By assuming so, the containment relation between the antecedent VP and the elided VP will disappear, and thus no movement operation will be necessary. As a result, the conflict of movement-copy style operation with the copy theory of movement will not arise in the first place. However, this account still relies on QR, and if we admit this analysis, we must admit concurrently that all DPs that can act as the head of a relative clause are quantificational.

2.3. The Afterthought Account (Chomsky (2004))

Here, I will focus on describing the facets of Chomsky (2004) that are relevant to the current discussion. Chomsky (2004) first reviews the theory of late merger operation for adjuncts developed by Fox and Nissenbaum (1999), and points out a series of problems, which are also relevant to the Late Merger Account for ACD exploited in Fox (2002). Consider (8) and (9). (8) is for adjunct extraposition, and (9) is for ACD. The derivations of both constructions are identical with the object raised to the right by QR followed by late merger of an adjunct.

\begin{align*}
\text{(8)} \quad \text{a. We saw [DP a painting] yesterday [ADJ from the museum].} \\
\text{b. I gave him [DP a painting] yesterday [ADJ from John’s collection].} \\
\text{(9) John likes [DP every boy] [ADJ Mary does <likes boy>].} \\
\text{(Chomsky (2004: 121))}
\end{align*}
As Chomsky claims, there are a number of problems with this analysis. One is that the derivation in terms of late merger is countercyclic. It is also unclear why QR is to the right; a covert operation should have no ordering properties.

Chomsky then puts forth the Afterthought Account, which is supported by the fact that “similar expressions are generated independently, namely, those that introduce qualifications or afterthoughts.”

(10)  
(a) We saw [DP a painting] yesterday, (that is,) a painting (one) [ADJ from the museum].  
(b) I gave him [DP a painting] yesterday, (more precisely,) a painting (one) [ADJ from John’s collection].

(Chomsky (2004: 121))

(11) John likes every boy (that is, more accurately …) every boy Mary likes.

(Chomsky (2004: 122))

The DPs in the adjoined phrase, a painting in (10a, b) and every boy in (11), are destressed phonetically and can undergo ellipsis in the normal way, yielding (8a, b) and (9), respectively.

As Chomsky admits, “this discussion only scratches the surface.” The detailed derivation for the afterthought structure is not explicated.

3. An Alternative Approach: the Split Relative Clause Account

3.1. Outline of the Proposal

At this stage the vision of the alternative proposal should be almost clear; it is supposed to meet the following requirements:

(12) The alternative proposal should:
   a. circumvent the regress problem
   b. not resort to QR
   c. articulate the structure
   d. yield the correct interpretation

A possible question may be asked as to why the regress problem is so vital for the theory. That is, if we can make a proposal to avoid the regress problem, why can such a proposal not be made to obviate, say Condition C violation? I would like to suggest that the regress problem is the most serious violation of interpretation; if it is violated, there is no way to compensate for it. On the other hand, a violation caused by Condition C is a purely syntactic violation; as the following example illustrates, a Condition C effect only causes syntactic illness, but the sentence is interpretable after all if we reverse the elements that cause this.

(i)  
(a) *He, loves John’s mother.  
(b) John, loves his mother.
In particular, (12a) and (12d) are requirements from semantics; (12b) and (12c) are requirements from syntax, which also imply that the proposed structure should harmonize with the copy theory of movement, avoid a countercyclic derivation and cover the facts we know about ACD.

The proposal here is called the Split Relative Clause Account. The name is self-evident: I assume a split structure for a relative clause. More specifically, I claim that the relative clause in ACD is base-generated separately from the head it modifies. To put it even more clearly, following Fox (2002) and Cresti (2000), I assume that relative clauses are both head external and head internal. As the structure in (13) depicts, the external head is base-generated within the antecedent v*P, and the relative clause containing the ACD site is base-generated as an adjunct of v*P. Since the elements deleted by ACD are base-generated out of the antecedent v*P, the regress problem does not arise in the first place, thus satisfying (12a). (12b) is also met as movement operation is not assumed at all, suggesting that QR is not involved. As for (12c, d), I will deal with them in 3.2 and 3.3, respectively.

\[(13) \quad \text{John likes every boy Mary does.} \]  
\[ (= (2a)) \]

\[
\begin{align*}
\text{TP} & \\
\text{John} & \\
\text{T} & \\
v*P_{\text{et}} & \\
v*P_A_{\text{et}} & \\
(\text{John}) & \\
v* & \\
\text{VP}_{\text{et}} & \\
\text{likes} & \\
\text{every boy}_1 & \\
\text{boy}_2 & \\
\text{Mary does} & \\
\text{v*P}_E & \\
\text{elided v*P} & \\
\end{align*}
\]

(\(v*P_A\): antecedent v*P; v*P_E: elided v*P)

Two assumptions are indispensable for yielding the structure in (13). One is of what is elided in VP ellipsis, and the other is of the structure of relative clauses. I lay out the assumptions in the two subsections of 3.2.

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3 Strictly speaking, the relative clause containing the ACD site is base-generated at an adjoined position of v*P_A within the same phase.
A point needed to be noted is that two steps are involved in the formation of ACD. The first step is the formation of a normal relative clause, which is shown as a crossed line on the two boys in CP. The second step is the VP ellipsis of the verb likes, as it is identical with the one in \( v^*P_A \). This process is marked by a double crossed line on likes.

3.2. The Structure of ACD

3.2.1. The Elided Category in VP Ellipsis: \( v^*P \)

I will assume that what is elided in VP ellipsis is the category \( v^*P \). This is first insightfully discussed in Johnson (2004). Here I just review the discussion, on which the following discussion is built.

As is well-known, certain transitives (causatives) can alternate with intransitives (unaccusatives):

(14) a. This can freeze. Please freeze this.
    b. Bill melted the copper vase, and the magnesium vase melted, too.
    c. Maria still tried to break the vase even though it wouldn’t break.

(Merchant (2007: 6))

As Johnson stresses, such alternations are not found under VP ellipsis.

(15) a. This can freeze. *Please do. (Johnson (2004: 7))
    b. *Bill melted the copper vase, and the magnesium vase did, too. (Sag (1976: 160))
    c. *Maria still tried to break the vase even though it wouldn’t.

(Houser, Mikkelsen and Toosarvandani (2007))

The account Johnson gives for these cases makes sense on the more articulated structure only if \( vP \), not VP, elides; since on this articulated hypothesis, the head of transitives (causatives) \( v_{trans} \) is lexically differentiated from that of intransitives (unaccusatives) \( v_{unacc} \), the examples in (15) will be ruled out. Take (15a) for example. The boxed antecedent \( vP_A \) in (16a) will not license the deletion of \( vP_E \) in (16b).

(16) a. *Please do
    b. *Please do

\[
\text{TP} \quad \text{TP}
\]
\[
\text{TP} \quad \text{TP}
\]
\[
\text{T'} \quad \text{T'}
\]
\[
\text{T'} \quad \text{T'}
\]
\[
\text{can} \quad \text{do}
\]
\[
\text{can} \quad \text{do}
\]
\[
\text{this}_1 \quad \text{this}_1
\]
\[
\text{this}_1 \quad \text{this}_1
\]
\[
\text{v}_{unacc} \quad \text{v}_{trans}
\]
\[
\text{v}_{unacc} \quad \text{v}_{trans}
\]
\[
\text{VP} \quad \text{VP}
\]
\[
\text{VP} \quad \text{VP}
\]
\[
\text{freeze this} \quad \text{freeze this}
\]
\[
\text{freeze this} \quad \text{freeze this}
\]
Based on this observation, Johnson concludes that what is elided in “VP ellipsis” is in fact vP. Now, we will apply this to the analysis of ACD. Since the verb in ACD is invariably a transitive verb, the vP in ACD then should be a v*P. This explains, as the structure in (13) shows, why the relative clause containing ACD is base-generated at an adjunct site of v*P.

3.2.2. The Interpretation of Relative Clauses in ACD

Like Fox (2002), I also assume that the relative clause in ACD is both head external and head internal. This is called the matching structure of relative clauses in the literature. This structure is illustrated in (17).

(17) The Matching Structure

\[
\text{[DP every [boy] [CP [OP boy] that [TP Mary likes [OP boy]]]]}
\]

Here the relation between the internal head and the copy is one of movement, while the external head is generated independently of the relative clause. In terms of the semantic composition of the matching structure, Fox (2002) assumes an ad hoc means of not interpreting the copy in the external head of CP: “The NP in [Spec, CP] is not interpreted but that movement turns the relative clause into a predicate that combines with the CP-external NP by Predicate Modification.”

Meanwhile, another possibility of composition is discussed in Cresti (2000). Specifically, Cresti assumes that the silent determiner/null operator in the RC gap generates a Heimian indefinite δ, i.e. a free variable restricted by the copy boy at the tail of the chain (cf. Cresti (2000: 155)). This is shown in (18) and (19).

(18) a. [DP every [boy] [CP [OP boy] that [TP Mary likes [OP boy]]]]
   b. [DP every [boy] [CP [\lambda x \text{boy} that [TP Mary likes [δ \text{boy}]]]]]
   where \( \llbracket \delta \rrbracket = \lambda P\lambda Q[P(x) \land Q(x)] \)

(19) \( \llbracket \text{CP} \rrbracket = \lambda x[\text{boy(x)} \land \text{likes (x)}(\text{Mary})] \)

This is the analysis of relative clauses I will adopt, and by this composition rule of relative clauses, we can finally obtain the type et for the CP (via Functional Application).\(^5\)

---

\(^4\) Predicate Modification: If \( \alpha \) is a branching node and \( \{\beta, \gamma\} \) the set of its daughters, then, for any assignment \( a \), if \( \llbracket \beta \rrbracket^a \) and \( \llbracket \gamma \rrbracket^a \) are both functions of type et, then \( \llbracket \alpha \rrbracket^a = \lambda x \in D. \llbracket \beta \rrbracket^a(x) = \llbracket \gamma \rrbracket^a(x) = 1. \) (Heim and Kratzer (1998: 95))

\(^5\) Functional Application: If \( \alpha \) is a branching node and \( \{\beta, \gamma\} \) the set of its daughters, then, for any assignment \( a \), if \( \llbracket \beta \rrbracket^a \) is a function whose domain contains \( \llbracket \gamma \rrbracket^a \), then \( \llbracket \alpha \rrbracket^a = \llbracket \beta \rrbracket^a(\llbracket \gamma \rrbracket^a) \). (Heim and Kratzer (1998: 95))
One may argue that there should be other possibilities for the structure of a relative clause. There may be, but I will say that in ACD configuration only the matching structure is allowed. The reason is as follows.

It should be rather clear to us that the idiosyncrasy of ACD lies in the following points. As required by ICVPE, objects of the antecedent VP and the elided VP must be identical. And unlike normal VP ellipsis, where the objects of the verb phrases are generated independently, the two objects in ACD are generated within the same sentence. However, the relationship between the two copies must not be a movement given the copy theory of movement. Therefore, if the two copies cannot be linked directly by any movement operation, and if we prefer to avoid identifying the two copies by ad hoc stipulations that define them as identical, the only way to relate them is to resort to a third element which correlates both of them. This is, as I would like to indicate, the work done by the internal head of the relative clause.

Finally let us see how ellipsis is licensed in ACD given ICVPE. This is spelt out in (20)–(22).

(20) \[\text{every boy}_1 \ [\text{Mary does } [e]] \iff \text{every boy}_1 \ [\text{CP } \text{boy}_2 \ [\text{TP Mary does } [v^*_{PE} \text{likes boy}_2]]]\]

(21) \[\text{boy}_1 = \text{boy}_2 \text{ (via identity), boy}_3 = \text{boy}_2 \text{ (via movement)} \Rightarrow \text{boy}_1 = \text{boy}_2 = \text{boy}_3\]

(22) \[v^*_{PA} = \text{“likes boy}_1,” \ v^*_{PE} = \text{“likes boy}_3” \iff v^*_{PA} = v^*_{PE} \Rightarrow v^*_{PE} \text{ is elided via PF ellipsis}\]

I will assume that the ellipsis here is a PF ellipsis. The reason is that as we can see in (13), in [Spec, \[v^*_{PA}\]] there is the subject John based on the VPISH (VP Internal Subject Hypothesis). If an LF ellipsis is assumed here, the copy of the subject John will be copied into \[v^*_{PE}\].

### 3.3. The Interpretation of ACD

Now let us see the semantic composition of ACD. Consider (13) with all the necessary semantic types marked. For the purpose of the discussion here, I will just ignore the interpretation of \(v^*\) and T.

(23) \[
\begin{align*}
[\text{CP}] &= \lambda z. [\text{boy}_2(z) \& \text{likes}(z)(\text{Mary})] \\
[\text{every boy}_1] &= \lambda f \in D_{e,c} \left[\lambda x \in D_e. \text{ for all } y \in D_e \text{ such that for any } \text{boy}_1, f(y)(x) = 1\right] \\
[v^*_{PA}] &= [\text{VP}] = [\text{likes every boy}_1] = \lambda x \in D_e. \text{ for all } y \in D_e \text{ such that } y \text{ is any } \text{boy}_1, x \text{ likes } y
\end{align*}
\]

Meanwhile, we have \([\text{boy}_1] = [\text{boy}_2]\). This means that we may assume
here that the interpretations of $\left[ \text{boy}_1 \right]$ and $\left[ \text{boy}_2 \right]$ are conformed to $\left[ \text{boy} \right]$ for expository purposes. Therefore, we can rewrite $\left[ \text{CP} \right]$ and $\left[ v^* P_A \right]$ as:

$\left[ \text{CP} \right] = \lambda z. \left[ \text{boy}(z) \& \text{likes}(z)(\text{Mary}) \right]$

$\left[ v^* P_A \right] = \lambda x \in D_e. \text{ for all } y \in D_e \text{ such that } y \text{ is any boy, } x \text{ likes } y$

To avoid confusion, I deliberately defined the variable in the local composition of CP as $z$, the variable for the object $\text{boy}_1$ in $v^* P_A$ as $y$ and the one for the subject John in $[\text{Spec, TP}]$ as $x$. Because $\left[ \text{boy}_1 \right] = \left[ \text{boy}_2 \right] = \left[ \text{boy} \right]$, no matter what the variable is, $(y$ or $z)$, the value obtained should always be identical. Therefore, in (25) and (26) I use the variable $y$ for expository purposes. Consequently, we can calculate $v^* P$ by Predicate Modification. Then by further composition, we finally obtain the expected interpretation (26) for (13).

$\left[ v^* P \right] = \lambda y. \left[ \text{boy}(y) \& \text{likes}(y)(\text{Mary}) \right] = \left[ \text{boy}(y) \& \text{likes}(y)(\text{John}) \right] = 1$

$\left[ \text{TP} \right] = \text{for any boy } y \text{ such that } [\text{John likes } y] = 1 \text{ and } [\text{Mary likes } y] = 1$

In this section I proposed an alternative resolution for ACD, which is based on the idea of “afterthought” of Chomsky (2004) as well as the analysis of Fox (2002). I let the CP of a relative clause attach to $v^* P$, which serves as $v^* P_A$ in ACD configuration. The distinction between my proposal and the above-mentioned two is that while the two previous studies assume that what is outside $v^* P_A$ is the whole DP with the relative clause in ACD configuration, the assumption in my proposal is to split the whole in two parts with the external head base-generated within $v^* P_A$ and the rest base-generated in a position adjoined to $v^* P_A$. I showed that all the requirements presented in (12) were met given this structure.

4. Explaining the Data

In this section I provide additional evidence in support of the Split Relative Clause Account of ACD. The phenomena I will discuss here are the particularly awkward ones in the literature. That is, I argue that the current proposal offers a more elaborate, comprehensive and principled analysis of the theoretically crucial points discussed so far without resorting to operations like QR or other stipulative assumptions.

4.1. NPI and ACD

This set of data, discussed in Merchant (2000), is concerned with the interaction between ACD and NPI. Observe (27).
The italicized items are called minimizers, a kind of NPI, which are assumed in the semantic literature to behave like the weakest of indefinites and undergo no LF movement. This is because they always take narrowest scope with respect to any other operators. Another point of this kind of NPI is that it generally cannot be moved overtly out of their licensing domains, even where such movement is otherwise licit. This is illustrated by the contrasts in (28)–(30).

(28) a. We didn’t hear a single thing.
    b. *A single thing wasn’t heard.
    c. *A single thing, we didn’t hear.

(29) a. There wasn’t a single thing wrong with him.
    b. *A single thing wasn’t wrong with him.

(30) a. There didn’t seem to be a single thing wrong with him.
    b. *A single thing didn’t seem to be wrong with him.

This property leads to another generalization: A minimizer must be in the scope of its licenser, i.e. negation. However, when DPs including NPIs are contained in ACD, we must admit that NPIs must be able to move at least in some way, as long as they remain within the scope of their licensors, and the only adjunction site allowed in this configuration is VP; otherwise, the NPI will locate outside the licensing domain, i.e. the c-command domain of negation, with the result that the sentence will be ruled out semantically. Merchant arrives at the conclusion that although QR is generally assumed to optionally adjoin to TP or VP, a DP including ACD adjoins to only VP at LF when NPIs are involved. Take (27a) for example:

(31) The Supposed LF of (27a)

\[
\begin{array}{c}
\text{TP} \\
\text{DP} \\
\text{that boy} \\
\text{T'} \\
\text{won't} \\
\text{DP}_1 \\
\text{a damn thing [CP OP}_1 [\text{TP I ask him to [VP do } t_4]]] \\
\text{do } t_1
\end{array}
\]
Under the current proposal, however, the explanation falls neatly into place without making any additional assumptions:

(32) \[ [\text{TP that boy [NEG won't [v_P [v_{PA} do a damn thing] [CP damn thing [TP I ask him to [v_{PE} do damn thing]]]]]]] \]

In (32), as the relative clause containing the ACD site is generated in an adjoined position of \( v^*P_A \), and the DP \( a \) damn thing is generated in \( v^*P_A \), all of which are within the domain of NEG, the NPI \( a \) damn is licensed without any extra assumption of movement.

4.2. On Condition C

That the relative clause containing the ACD site is in a higher position than \( v^*P_A \) can be confirmed by the litmus test of Condition C. The relevant data are based on the following observation by Fox (2002).

First, consider the contrast between (33) and (34).

(33) a. You sent him the letter that John expected you would.
   b. You introduced him to everyone John wanted you to.
   c. I reported him to every cop John was afraid I would.

(34) a.??You sent him the letter that John expected you would write.
   b.??You introduced him to everyone John wanted you to meet.
   c.??I reported him to every cop John was afraid of.

(Fox (2002: 84))

A difference in grammaticality is found in these minimal pairs. According to Fox, the judgments are subtle; all speakers seem to allow coreference in the sentences in (33), but they seem to differ on whether or not they allow coreference in the ones in (34). Specifically, while a Condition C violation is obviated in the sentences containing ACD in (33), such a violation is found in similar sentences which lack ACD.\(^6\)

Under the current proposal, a Condition C violation does not arise when an R-expression is within the relative clause CP in ACD configuration. As for the normal ones in (34), since there is no semantic requirement to avoid the regress problem, the relative clause does not have to be separated. Thus the (subtle) ungrammaticality of the sentences in (34) slots into place.

\(^6\) As to the ungrammaticality of (34), Fox (2002) suggests, and I concur, that the difference in grammaticality among speakers is induced by the effect of a general preference: Speakers prefer to parse relative clauses as sisters of the heads they modify, and relative clauses can be parsed differently only when there is evidence that the alternative parse is needed. In (33), for example, it comes from ACD. In (34), by contrast, parsers tend to treat the sentences as involving normal relative clauses.
Other cases concerned with Condition C can also be accounted for by the current proposal. Consider (35).

(35)  a. *Hei bought you every picture that Johni wanted to.
    b. *Hei introduces you to everyone Johni wanted to.

(In Fox (1995: 3))

In these cases, a Condition C effect is observed. We know that the relative clause containing the ACD site is generated in a position adjoined to \( v^*P_A \). Although this position is high enough to avoid the regress problem, it is still below the subject position, which hosts the binder he of John.

4.3. NP-Contained ACD

This kind of sentences is discussed in Kennedy (1997), in which an elided VP is contained in a prepositional complement of \( N^0 \). In (36a) the relative clause containing the ACD site Kollberg did is contained within the prepositional complement on every suspect. Kennedy emphasizes that the correct interpretation of (36a) should be (36b).

(36)  a. Beck read \([DP a report on every suspect Kollberg did [VP e]]\).
    (Kennedy (1997: 680))
    b. Beck read a report on every suspect Kollberg read a report on.
    (Kennedy (1997: 681))

He then argues that only the QR Account can yield such an interpretation, as shown below. In (37a) the quantifier phrase every suspect Kollberg did adjoins to TP as a whole.

(37)  a. \([TP [DP every suspect Kollberg did [VP e]]], [TP Beck [VP read a report on ti]]\)
    b. \([TP [DP every suspect Kollberg did [VP read a report on ti]]], [TP Beck [VP read a report on ti]]\)

Under the current proposal, (36a) bears the structure in (38).

(38)  \([TP Beck [v^*P [i^*PA read a report on every suspect] [CP report on every suspect [TP Kollberg did [i^*PE read report on every suspect]]]]\]

As shown in \( v^*P_E \), if we recover the ellipsis site, the interpretation in (39) should obtain.

(39)  Beck read a report on every suspect Kollberg read.

But the interpretation in (39) and that in (36b) are not identical. Does this difference speak against the solution here? Before answering this question, I would like to suggest that an interpretation like (36b) is not always obtained. An example is from Kennedy (2004) with its interpretation in (40b).
(40)  
a.  Polly visited every town in a country Erik did.
b.  For every \( x \) such that \( x \) is a town and there is a \( y \) such that \( y \) is a country and \( x \) is in \( y \) and Erik visited \( x \), Polly visited \( x \)

(Kennedy (2004: 3))

Following (40b), if we recover the ellipsis site for (40a) in a way similar to (36b), we get (41), which is marginally degraded.

(41) ?Polly visited every town in a country Erik visited every town in.

I would like to claim that the interpretation in (36b) is not unavailable under the current proposal (since (36b) is indeed an appropriate interpretation). Specifically, (36b) becomes available by assuming the following structure. Here the head of the relative clause is not a report on every suspect, but only suspect. Or we can alternatively assume that in this case, read a report on might be considered as a whole verb.

(42) \[
\begin{array}{c}
\text{TP Beck } [v^*P \left[ v^*P_A \text{ read a report on every suspect}\right]] [CP \text{ suspect } [TP \text{ Kollberg did } [v^*P_U \text{ read a report on suspect}]]]]
\end{array}
\]

Why, then, is (42) a proper derivation for (36a) but such a derivation is prohibited in (40a)? One possibility I would like to indicate is that if we apply the same derivation to (40a), that is, to assume that visited every town in is a whole verb, then at the stage of semantically composing this whole verb, the parsing will be ambiguous; in can be parsed as a preposition of the main clause, like visited every town in his spare time, and it can also be parsed as a preposition modifying the noun town, like visited every town in Taxes. That is to say, the elements of visit every town in are not semantically “close” enough to each other to compose a whole verb. Or we can consider the matter from a syntactic viewpoint. We can assume that the above-mentioned two possible interpretations with regard to the preposition in result from two distinct syntactic structures: When it is interpreted as a preposition of the main clause, in is located at a sister position of \( v^*P \), and when it is interpreted as a preposition modifying the noun town, it is located at a sister position of it. Since different syntactic structures lead to different ways of semantic composition, and we do know if a string like visit every town in is a verb phrase, its structure must be unique, I conclude, then, that a string like visit every town in is not preferable because it is ambiguous both syntactically and semantically.

By contrast, in a string like read a report on in (36a), the preposition on is most readily interpreted as a preposition modifying report. Thus the string can be composed into a whole verb without ambiguity. Similar cases to (36a) can be found in Kennedy (1997):
(43)  a. Melander requested copies of most of the tapes Larsson did.
    b. Kollberg took pictures of the same people Beck did.

(Kennedy (1997: 680))

In both sentences, the preposition of is most readily interpreted as the complement of the noun it modifies. These cases, as Kennedy suggests, also have similar interpretations to the one in (36b) after the reconstruction of the ellipsis site:

(44)  a. Melander requested copies of most of the tapes Larsson requested copies of.
    b. Kollberg took pictures of the same people Beck took pictures of.

Under the current proposal, sentences like (36a) and (43a, b) can be interpreted in two ways. One of them is what Kennedy asserts (in the same way as (42)), and the other is the interpretation of only reconstructing the verb into the ellipsis site, which is an appropriate interpretation for this kind of sentences (in the same way as (38)). This is shown in (45).

(45)  a. Melander requested copies of most of the tapes Larsson requested.
    b. Kollberg took pictures of the same people Beck took.

4.4. Tiedeman’s Puzzle

Tiedeman’s puzzle refers to the contrast in grammaticality found in the following examples. Specifically, when ACD modifies the subject of an embedded clause, exemplified by the sentences in (46b) and (47b), the complex sentence is judged ungrammatical; but the complex sentence becomes totally grammatical when it appears at the end of the sentence ((46a) and (47a)).

(46)  a. I expect (that) everyone will visit Mary that you do.
     (Tiedeman (1995: 75))
    b. *I expect (that) everyone you do will visit Mary.
     (Larson and May (1990: 106))

(47)  a. I said that everyone arrived that you did.
    b. *I said that everyone you did arrived.
     (Fox (2002: 77))

Larson and May (1990) claim that the unacceptability of the sentence in (46b) is due to a locality condition on QR (i.e. Clause Boundedness). The answer given in Fox (2002) is that for the regress problem to be resolved, rightward movement of a DP must be followed by late merger of the relative clause that contains the ACD site. In order to justify this kind of derivation in complex sentences, Fox has no choice but to abandon Clause
Boundedness of QR. The derivation in (48) accounts for the grammatical-
ity of the sentence in (46a).

(48) I expect that everyone will visit Mary. \[\text{QR} \]
I [[expect that everyone will visit Mary] everyone]  
I [[expect that everyone will visit Mary] everyone that you do  
<expect one will visit Mary>]

(Fox (2002: 77))

According to Fox, in the first step of the derivation, QR adjoins the quant-
tifier *everyone* to the matrix VP. After QR, ACD is merged at the head
of the chain. The resulting structure is converted to the structure in (49),
which satisfies ICVPE.

(49) every [one \(\lambda x.\) you <expect the one x will visit Mary>]  
\(\lambda y.\) I expect the one y will visit Mary

(Fox (2002: 78))

The sentences in (46b) and (47b), by contrast, cannot be derived in any
way that would satisfy ICVPE. We have seen that ICVPE can be satisfied
only if the relative clause containing the ACD site is added after movement
of the relevant quantifier in Fox’s analysis. Fox concludes that because
movement takes place to the right, the relative clause containing the ACD
site cannot be followed by materials from the antecedent VP. Although this
explanation seems fairly reasonable at first glance, as will be discussed in
the next subsection, the relative clause containing the ACD site does arise
between the materials of the antecedent VP.\(^7\)

Now let us turn back to see how to explain the difference in grammati-
cality between (46a) and (46b) under the current proposal. Let us begin
with the grammatical sentence in (46a). The structure of (46a) is shown in
(50).

(50) \([TP I [v^*P [v^*PA \text{expect that everyone will visit Mary}] [CP everyone  
that [TP you do [v^*PE \text{expect that one will visit Mary}]])]])]

In this structure the relative clause containing the ACD site is adjoined
to \(v^*PA \text{expect that everyone will visit Mary}\), and the head of the relative
clause is the subject of the embedded clause *everyone*.\(^8\) \(^9\) (46a) is derived

\(^7\) Following Fox (2002), I will simply call such structures Sandwiched ACD (hence-
forth, SACD). They are also called Non-right-peripheral ACD in the literature. I will
discuss them in detail in 4.5.

\(^8\) In principle the object of the embedded clause is also a candidate for the head of the
relative clause. In the case of (46a), however, this is impossible because the object *Mary*
is a proper noun, which cannot act as the head of a relative clause.

\(^9\) As will be discussed in detail in the next subsection, the finite embedded clause *that
everyone will visit Mary* is positioned in a lower CP phase. After it is transferred to the
via the formation of the relative clause and VP ellipsis.

Let us turn to the question of why (46b) is unacceptable. Under the current proposal, the relative clause containing the ACD site you do has to be adjoined to the matrix \( \nu^*P \) in order to circumvent the regress problem, and therefore it cannot occur in the position next to the external head everyone, which occupies [Spec, TP] of the embedded clause. The point that makes the current proposal superior to Fox’s proposal is that Fox has to abandon the Clause Boundedness of QR, a controversial topic that is not related to the current proposal.

4.5. SACD

In the last subsection, I mentioned that there are cases where the relative clause containing the ACD site arises inside \( \nu^*P_A \) on the surface, the so-called SACD cases. I list three examples in (51).

(51)  
   a. I [gave a book on linguistics that you did <gave to Mary> to Mary].  
   b. I [gave everyone you did <gave a book on linguistics> a book on linguistics].  
   c. I [wanted the man you did <wanted to come to the party> to come to the party].

(Fox (2002: 88): with slight modifications)

First let us see what Fox says as to why (51a) is grammatical. He explains this kind of data by stipulating yet another “additional rightward movement” of the post-ACD.

(52)  
   \[
   [[\nu P \text{ I gave a book on linguistics to Mary}] \text{QR or HNPS} \\
   [[\nu P \text{ I gave a book on linguistics to Mary}] \text{a book on linguistics}] \text{adjunct merger} \\
   [[\nu P \text{ I gave a book on linguistics to Mary}] \text{a book on linguistics you did <gave to Mary>}] \text{additional movement} \\
   [[[\nu P \text{ I gave a book on linguistics to Mary}] \text{a book on linguistics you did <gave to Mary>}] \text{to Mary}]
   \]

He then makes a precise stipulation about SACD:

PF component, the relative clause CP everyone that you do is adjoined to \( \nu^*P_A \) in the next higher \( \nu^*P \) phase. This kind of derivation is not problematic in view of the phase theory; what is important is that the relative clause must be generated at an adjoined position to the appropriate \( \nu^*P_A \) as the tree diagram in (13) shows. This tree diagram depicts the structure of a simple sentence; in the case of complex sentences like (46a) and (47a), \( \nu^*P_A \) contains embedded clauses.
In SACD constructions the post-ACD material belonging to the antecedent VP is shifted rightward outside the antecedent VP.

(Fox (2002: 89))

There are two problems to this statement. First, as Fox admits himself, the stipulation is not corroborated, and second, it is hard to find a reason for such an additional rightward movement.

Another analysis regarding this structure can be found in Jacobson (1992). The analysis is called a Wrap operation, which is based on the following observation.

(54) John put every book that Bill also did \( \Phi \) on the shelf.

(\( \Phi = \text{put on the shelf} \))

(Jacobson (1998: 80))

Jacobson asserts that (54) is unproblematic in a view of the syntactic combinatorics which includes a Wrap operation; put on the shelf is a single expression (whose meaning is a 2-place relation) into which the object is wrapped.

I found some other sentences containing SACD structure in the literature and cite them in (55).

(55) a. I gave everyone that you did two dollars.
   b. Tommy put everything he could into his mouth.
   c. ?I expect everyone you do to visit Mary.
   d. ?John believed everyone you did to be a genius.\(^\text{10}\)

   (Larson and May (1990: 107))

   e. I consider everyone you do smart/out to lunch.

   (Hornstein (1994: 460))

If Jacobson’s Wrap operation is correct, then every example in (55) should obtain an appropriate representation like the \( \Phi \) in (54):

(56) a. I gave everyone that you did \( \Phi \) two dollars.

   (\( \Phi = \text{gave two dollars} \))

   b. Tommy put everything he could \( \Phi \) into his mouth.

   (\( \Phi = \text{put into his mouth} \))

   c. ?I expect everyone you do \( \Phi \) to visit Mary.

   (\( \Phi = \text{expect to visit Mary} \))

\(^{10}\) According to Larson and May (1990), the acceptability of SACD seems to depend on “the length of the material following the deletion site.” Therefore, the examples in (55a) and (55b) with short material of the matrix clause are judged quite good, while the longer ones in (55c) and (55d) are judged to be “merely awkward at worst.”
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d. ?John believed everyone you did $\Phi$ to be a genius.

\[ \Phi = \text{believed to be a genius} \]
e. I consider everyone you do $\Phi$ smart/out to lunch.

\[ \Phi = \text{consider smart/out to lunch} \]

Note that Jacobson’s theory is in the framework of Categorial Grammar, and the Wrap operation originates from a pure semantic consideration. In what follows I will review a syntactic operation that is similar to the Wrap operation in the sense that some elements are “added to a constituent” without changing the original constituency relation.

McCawley (1982) provides grounds for distinguishing two essentially different types of transformation: transformations that change syntactic relations (relation-changing transformations) and those whose sole syntactic function is to change constituent order (order-changing transformations). In particular, the latter involves no change in constituency and will cause discontinuous structures when nonsisters are permuted. He suggests that the second transformation may include Parenthetical Placement (including placement of nonrestrictive clauses). The following is an exemplification of Parenthetical Placement.

(57) a. Input Tree

\[
\begin{array}{c}
S \\
\downarrow \\
NP \\
\downarrow \\
John \\
\downarrow \\
talked \\
\downarrow \\
about \\
\downarrow \\
politics
\end{array}
\]

b. Output Tree

\[
\begin{array}{c}
S \\
\downarrow \\
NP \\
\downarrow \\
John \\
\downarrow \\
talked \\
\downarrow \\
of course \\
\downarrow \\
about \\
\downarrow \\
politics
\end{array}
\]

(McCawley (1982: 95))

In (57b) the node of the lower S is a discontinuous constituent: It dominates elements (John, talked and about politics) without dominating everything that is between them. The structure in (57b) is established by the following test.

(58) a. John talked, of course, about politics, and Mary did too. (= Mary talked about politics too; ≠Mary talked too; ≠Mary talked, of course, about politics too)

b. *John talked, of course, about politics, and Mary did, you’ll be surprised to hear, about baseball. (by deletion of talk)
c. John talked, of course, about politics, and Mary, you’ll be surprised to hear, did too. (= and Mary, you’ll be surprised to hear, talked about politics too; ≠ and Mary, you’ll be surprised to hear, talked, of course, about politics too)  
(McCawley (1982: 96))

In every case the interpretation of the V’ is talk about politics, but not talk, of course, about politics, nor just talk.

In what follows I would like to apply this idea to SACD. 

To start with, the fact is that in (55c), repeated as (59a) below, the elements that are positioned linearly left and right to the ACD site (expect, everyone and to visit Mary) belong to the same constituent, i.e. the matrix vP. Given the Split Relative Clause Account, I would like to suggest that on the one hand, the relative clause CP locates at a position adjoined to v*PA, which should be preceded by v*PA in view of linear order. The real linear order, however, is in between v*PA, which cannot be captured in a principled way by any account available that assumes that ACD is generated outside v*PA.

To explain this word order, I start by assuming the following sentences to be semantically equivalent.

(59)  a. ?I expect everyone you do to visit Mary.  
      (= (55c))

b. I expect everyone to visit Mary that you do.  

Then if the meanings of (59a) and (59b) are equivalent, I would like to assume that the two sentences with different word orders are associated by a

11 An anonymous reviewer suggests analyzing ACD as involving extraposition. Specifically, in (59b) the complementizer that of the relative clause containing the ACD site seems to be obligatory. This can be explained if we assume extraposition is involved. In fact such an approach is proposed in Baltin (1981). Concretely, Baltin (1981) assumes that extraposition in ACD does not leave traces. But this kind of stipulation is definitely not welcomed by the well-established copy theory of movement.

Next, with regard to why that in (59b) is obligatory, as an anonymous reviewer suggests in later discussions, and I agree, that the complementizer that is obligatory when the relative clause appears in a non-canonical complement position. Consider the following examples:

(i) I visited a man recently who/that/*Φ John mentioned.  
(Larson and May (1990: 105))

(ii) *(That) you visited Mary bothered her father.  
Therefore, the obligation to use that has nothing to do with extraposition. In fact, as a relative clause undergoing extraposition is not positioned in its canonical position, that becomes necessary.
movement operation. Specifically, the base order of (59a) is (59b).\textsuperscript{12} Given this, the relative clause containing the ACD site, which is located at an adjoined position to $v^*P_A$, must not move into $v^*P_A$ directly; a countercyclic movement violation will result from any type of such movement. Excluding the above possibilities, the only possibility left is that in (59a), the structure does no more than to contain a discontinuous constituent:\textsuperscript{13}

\begin{align*}
\text{(60) } & ? I \text{ expect everyone you do to visit Mary.} \\
& (\text{=} (59a)) \\
\end{align*}

\begin{enumerate}
\item a. Input Tree \\
\item b. Output Tree
\end{enumerate}

First we have the continuous base structure (60a). Then the discontinuous tree in (60b) is derived by order-changing transformations that alter ordering but not constituency, and guarantee the semantic equivalence between (59a) and (59b).

If this analysis is appropriate, a question immediately arises: If SACD

\textsuperscript{12} The order of derivation is not invertible. There are three possible considerations with regard to this point. Firstly, under the trace theory of movement, if (59a) is the base order, and (59b) is yielded by applying extraposition to the relative clause containing the ACD site, the ACD site in (59b) is still contained in the antecedent VP. The reason is that extraposition is clause bounded. If the ACD site is still contained in the clause after extraposition, it must also be contained in the antecedent VP. Thus the regress problem cannot be avoided, and the sentence should be ungrammatical, contrary to fact (this point has already been discussed in Tiedeman (1995: 75)). Secondly, even if there are no constraints like Clause Boundedness, under the copy theory of movement, no movement operation will make the ACD site within $v^*P_A$ move out of it. Thirdly, given that the relative clause containing the ACD site is generated at a position adjoined to $v^*P_A$ as is assumed in the current proposal, the word order of (59a) is impossible in the first place, in that the structure of the split relative clause must be realized linearly with the relative clause containing the ACD site follows all the elements of its antecedent.

\textsuperscript{13} What I do here is to adopt the idea of discontinuous constituents to explain SACD, but not to propose a detailed theory for it. Since McCawley (1982), the idea of assuming discontinuous constituents in syntax has been further developed and they are also called ‘multiple dominance’ or ‘graft’ in the literature. The interested reader is referred to Citko (2005) and Gracanin-Yuksek (2007) for details. Also see Kasai (2009) for discussions about their demerits.
includes a discontinuous constituent, why can a sentence like (46b) not bear such a structure? That is, what we have discussed with regard to Tiedeman’s Puzzle should all be grammatical like SACD, contrary to fact. Let us take (46b), repeated as (61) below, for example.

(61) *I expect that everyone you do will visit Mary. (= (46b))

If we apply the discontinuous structure above to (61), we will have the following structure.

(62) a. Input Tree

\[
\begin{array}{ll}
\text{TP} & \text{I} \\
\text{T} & \text{T'}\text{v*P} \\
\text{v*P} & \text{CP} \\
\text{V} & \text{CP that you do}
\end{array}
\]

\begin{itemize}
\item expect
\item that everyone will visit Mary
\end{itemize}

\text{expect that everyone will visit Mary}

b. *Output Tree

\[
\begin{array}{ll}
\text{TP} & \text{I} \\
\text{T} & \text{T'}\text{v*P} \\
\text{v*P} & \text{CP} \\
\text{V} & \text{CP that you do}
\end{array}
\]

\begin{itemize}
\item expect that everyone will visit Mary
\item that you do
\end{itemize}

Before answering the question of why a sentence like (46b) cannot have a discontinuous constituent, I would like to discuss how to capture the discontinuous constituent structure in the framework of MP. McCawley (1982) claims that the only function of order-changing transformations in general is to change word order. But it is not obvious how this kind of movement can be made compatible with the phase theory. Specifically, syntactic derivation in MP is assumed to apply in a phase-by-phase fashion. After a phase is formed, it will be transferred to the LF and PF components. This means that once a phase is transferred, it will be inaccessible to further operations in the syntax. The detailed computations regarding semantics will be done in the LF component and those regarding phonology including word order arrangement will be done in the PF component. That is to say, the work done in the formation of discontinuous constituents is divided in two parts; one is done in narrow syntax, and the other is done in the PF component. To harmonize the two theories, I would like to re-interpret order-changing transformations as follows so that they may

\[14\text{ According to Chomsky’s recent work, phase refers to syntactic units by which the structures are derived, and it includes CP and transitive VP (v*P).}\]
conform to MP.

(63) Order-changing transformations are operations applied in the PF component.

With this assumption in mind, let us consider the difference in grammaticality between (60) and (61). First, as illustrated in (64), after the relative clause containing the ACD site is transferred with the \(v^*P\) phase to the PF component, the relative clause CP is shifted to the order in (60b).\(^{15}\)

\[
(64)
\]

By contrast, the tree diagram of (61) is depicted as follows:

\[
(65)
\]

\(^{15}\) In (64) and (65) the dotted lines represent the order-changing operations applied in the PF component.
Crucially, in this case the relative clause containing the ACD site is permuted into the lower phase 1. Unless otherwise disproved, I propose the following rule in the PF component.

(66) There are no further word order alternations between phases in the PF component.

(66) states that when a phase is transferred to the PF component, the word order of the elements within this phase is determined locally. Given that word order is also determined in a phase-by-phase fashion, an element generated in further operations in the syntax will never change the order that has already been determined, which makes the structure in (65) ungrammatical.

The next question is if the relative clause containing the ACD site appears at the position between expect and that (everyone will visit Mary) in phase 2, the following sentence will be predicted to be acceptable, contrary to fact.16

(67) *I expect that you do that everyone will visit Mary.

I will say that this kind of overgeneration will not occur because in English the ellipsis site is by default positioned after its antecedent. More generally, although the permutation by order-changing transformations makes the word order of a sentence more flexible, it must respect the default word order of English and not generate strings that do not exist. Strictly speaking, the word orders generated by order-changing transformations that are not existent should be ruled out by some other reason. In the current case, the reason is the constraint on the position of ellipsis sites.

In this connection I make the prediction that when a relative clause containing the ACD site is generated within the phase including the appropriate v*Pa and is linearly positioned after an appropriate antecedent, the whole sentence will be ruled in. This prediction is borne out by the following data.

(68)  

a. John promised every manager of his team that Tim did that the project would go smoothly.

b. \[
\text{TP John [v*p [v*Pa promised every manager of his team that the project would go smoothly] [CP manager of his team that [TP Tim did [v*Pe promised manager of his team that the project would go smoothly]]]]]
\]

---

16 An anonymous reviewer suggests that this kind of overgeneration is also applicable to sentences consisting of only one phase, and thus the condition in (66) is too strong. Take (59a) for example:

(i) *I expect you do everyone to visit Mary.
In (68b) the relative clause containing the ACD site that Tim did is positioned in the same phase as the matrix v*P promised every manager of his team that (the project would go smoothly). Then in the PF component the word order of this phase is changed to the one in (68a). Since this alternation only alters the word order in the matrix v*P phase without altering the order of the previously formed phase, i.e. the embedded CP phase, the rule in (66) is not violated, and thus we have the grammaticality of (68a).

I would like to argue that if this analysis is on the right track, the SACD phenomenon provides another convincing piece of evidence for order-changing transformations and thus the existence of discontinuous constituent structures. The reason is that SACD is the crucial case that is highly restricted syntactically and semantically as compared to general adverbial adjuncts and relative clauses, and as long as there are no other competing theories, the current proposal may provide a new type of argument for order-changing transformations.

5. Conclusion

In this paper I developed the Split Relative Clause Account to explain the puzzles posed by ACD. This account is mainly based on two previous studies, i.e. Fox (2002) and Chomsky (2004), which take up the problem of how ACD can be repaired under the copy theory of movement. Specifically, under the copy theory of movement, an identical copy remains in the base position within the antecedent VP, leading to the result that the regress problem cannot be circumvented via movement.

This paper can be considered as a development of Chomsky’s Afterthought Account. Together with certain assumptions about the structure and interpretation of a relative clause and the category of the deleted constituent in VP ellipsis, this account resolved the conflict between the copy theory of movement and ICVPE. I also showed that the proposed structure of ACD can yield the correct interpretation.

This account has some nontrivial advantages. It accounts for the correlation between ACD and NPI, the correlation between ACD and Condition C, NP-Contained ACD, Tiedeman’s puzzle and SACD. I specially focused on the contrast between Tiedeman’s puzzle and SACD, which is the most obscure part of the phenomenon of ACD, and gave a full explanation by conforming the idea of discontinuous constituents proposed by McCawley (1982) to the phase theory.
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