

PRZEMYSŁAW LIGEŻA
University of Silesia

MINIMALIST ACCOUNTS OF ANTECEDENT-CONTAINED DELETION CONSTRUCTIONS

The overriding goal of this paper is to present the most influential minimalist approaches¹ to the resolution of the infinite regress in antecedent-contained deletion constructions. Therefore, the point of departure is the general description of the problem concerning the interpretation of sentences containing antecedent-contained deletion, which occurs at LF (Logical Form), when a null VP is filled with a copy of its antecedent creating at the same time an infinite regress. In the subsequent sections of this paper I strive to give an account of the attempts to resolve ACD by focusing on the theory of Vehicle Change developed by Fiengo and May (1993), the case-based approach proposed by Hornstein (1995) as well as the copy theory of movement by Fox (2002). In the last section of this paper I provide some Chomsky's views (2004) on the direction in which the research on ACD constructions may proceed.

1. Introduction

Antecedent – contained deletion constructions have been an interesting research phenomenon for generative grammarians since about 1970s. The underlying aim of this research was to find out how to resolve an ACD structure simultaneously avoiding the reconstructive regress.² The outset of the investigation of ACD structures can be traced back to Bouton (1970). However, it was May (1985) who presented a detailed analysis of ACD structures, which was based to a certain extent on Sag's (1976) proposal. The distinctive characteristic of ACD constructions is the deletion of the VP as in the following sentence:

¹ Minimalist approach is the approach within the framework of the Minimalist Program, outlined in Chomsky (1995) and Chomsky (2004).

² Reconstructive regress is created when the elided VP is contained within its antecedent, so reconstruction based on its surface form by copying the non-elided VP into the elided VP does not eliminate the VP gap, and therefore the sentence is left uninterpretable.

assumption of the theory of Vehicle Change is that elements that are subject to Principle C will have the option of being submitted to Principle B, but only after reconstruction.³

- (9) a. Mary introduced John₁ to everyone that he₁ wanted her to
 b. *Mary introduced John₁ to everyone that she wanted him₁ to

The pair of sentences provided above appears to be questionable. Sentence (9b) exhibits the non-coreference effect, whereas sentence (9a) does not. The LF representations of both sentences are given below:

- (10) a. everyone that he₁ wanted her to **introduce John₁ to *t***] [Mary introduced John₁ to *t*]
 b. *everyone that she wanted him₁ to **introduce John₁ to *t***] [Mary introduced John₁ to *t*]

In both derivations above, it can be seen that the reconstructed NP John is not free. This means that these derivations violate Principle C of Binding Theory, which says that R-expressions must not be bound and as a result must be free everywhere. However, Fiengo and May (1993) claim that it is Vehicle Change that can be the solution as the sentences contain a proper name, which can be realised as a pronominal correlate (Fiengo 1993: 276).

- (11) a. everyone that he₁ wanted her to **introduce ^PJohn₁ to *t***] [Mary introduced John₁ to *t*]
 b. *everyone that she wanted him₁ to **introduce ^PJohn₁ to *t***] [Mary introduced John₁ to *t*]

The representations given above have been altered and contain a pronominal correlate instead of a proper name so they are no longer subject to Principle C but to Principle B. In sentence (11a) the pronominal correlate is free in its governing category, which observes Binding Theory. The example (11b), however, shows that the pronominal correlate is bound in its governing category and therefore violates Principle B of Binding Theory.

The problematic examples discussed so far refer to the combinations of proper names with pronouns. Nevertheless, it is also worth taking sentences that contain two proper names into account. Such sentences are thought to be subject to non-coreference effects:

- (12) a. Mary gave John whatever John's mother did
 b. Mary gave John's mother whatever John did

³ Principle B of Binding Theory states that pronouns must be free in their binding domains, whereas Principle C states that R-expressions must be free everywhere.

- c. *Mary gave John whatever John did
 d. Mary gave John whatever John wanted her to

Fiengo and May categorise sentences (12a) and (12d) as awkward whereas (12b) and (12c) as conventional. As far as c-command relations are concerned, the set (12a) and (12d) should reveal the non-coreference effects, which is believed to be common for pairings of proper names. Interestingly, they point out that coreference is permitted in both sets of the sentences given above. The LF representations of the above examples alter the previous categorisation and as a result of it sentences (12b) and (12c) turn out to be awkward due to the fact that in these two examples the reconstructed occurrences of the object NP is c-commanded by the subject of the relative clause. The LF representations of the sentences discussed are provided below:

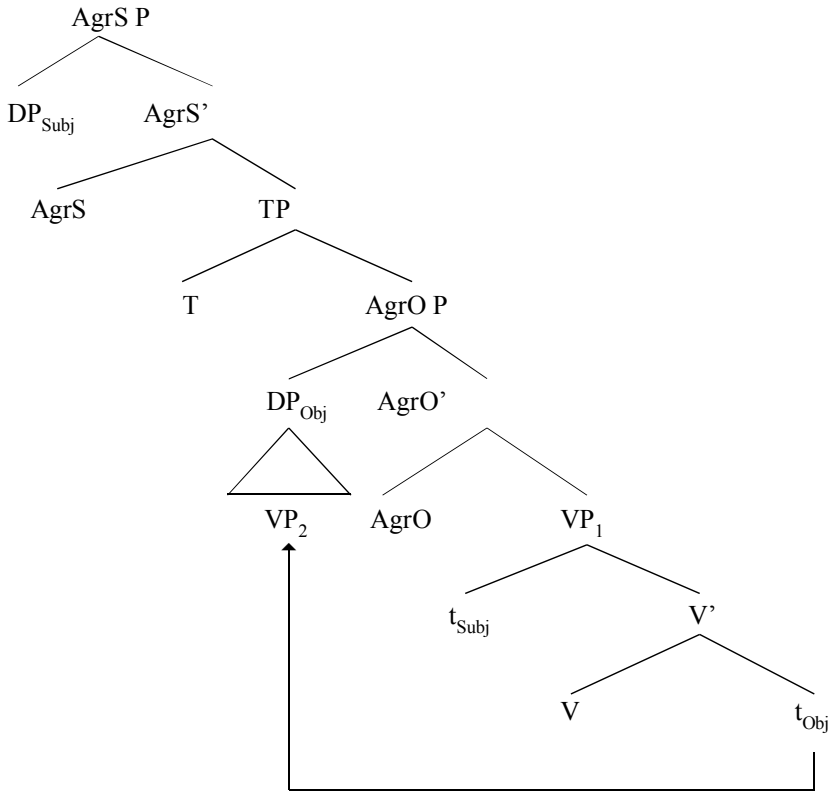
- (13) a. whatever John₁'s mother **gave** ^PJohn₁ *t* [Mary gave John₁ *t*]
 b. whatever John₁ **gave** ^PJohn₁'s mother *t* [Mary gave John₁'s mother *t*]
 c. *whatever John₁ **gave** ^PJohn₁ *t* [Mary gave John₁ *t*]
 d. whatever John₁ wanted her to **give** ^PJohn₁ *t* [Mary gave John₁ *t*]

It can be seen that Vehicle Change is present in the LF representations and therefore sentences (13a), (13b) as well as (13d) include a pronominal correlate that is free. In (13a) the pronominal correlate is not c-commanded by a coindexed element, in (13b) it is free because it is incorporated into NP, whereas in (13d) it is free in the embedded clause, hence all of them are in line with Principle B of Binding Theory. Sentence (13c) is ungrammatical on account of the fact that the pronominal correlate is bound in its governing category.

3. Case-based approach

Another appealing approach to the resolution of the regress problem in ACD constructions is put forward by Hornstein (1995). He claims that the A-movement is the driving force that takes a VP inside a relative clause out from the antecedent that dominates it at SS. Furthermore, A-movement does not prefer reconstruction as it leads to regress problems. Hence, reconstruction does not come into play in A-chains. In order to licit ACD formation, A-movement needs to be mandatory, has to take place at LF and be capable of moving the relative clause out of the dominating VP. All these requirements can be fulfilled in the light of the Minimalist Program by means of marking structural case in the Spec-head environment. In English accusative case is assigned at LF when an object moves out of VP into Spec AgrO (Hornstein 1995: 80). This kind of movement is compulsory as well. The tree diagram below presents the LF representation of a typical sentence containing ACD (Kennedy 1997: 666):

(14)



A structure of a transitive clause is presented below:

(15) $[_{CP} \text{Spec} [_{C'} C [_{AgrSP} \text{Spec} [_{AgrS'} AgrS [_{TP} T [_{AgrOP} \text{Spec} [_{AgrO'} AgrO [_{VP} NP_S V NP_O]]]]]]]$

In the structure above the NP_{Obj} raises to Spec AgrO at LF where it is case marked. This movement is the typical A-movement, which takes place at LF and is obligatory. What is more, the A-movement of NP_{Obj} out of VP at LF enables an ACD structure to avoid any regress problems, for instance:

(16) a. John bought everything that you did [e]
 b. $John_j [T [Agr_{OP} [\text{everything that you did [e]]_i] [AgrO [_{VP} t_j [VP_1 \text{ buy } t_i]]]]]$

If [e] in (16a) is interpreted as the VP_1 in (16b), then a desired ACD construction is obtained.

3.1. The boundedness restriction

The driving force of Movement in the Minimalist Program is economy. We can distinguish between two types of movement: A-movement and A'-movement.⁴ A-movement is more local than A'-movement and therefore in a multiply embedded structure, an expression moves solely to check its features. Once the given features are checked, the expression stops to move any further. This accounts for the fact that an expression cannot A-move to higher and higher Spec Agr_{Os} as in the standard approach (Hornstein 1995: 80). This fact has also one more implication i.e. the interpretation of a null VP in ACD constructions is upwardly bounded. Hornstein (1995) as well as Kennedy (1997) notice that A – movement can account for the boundedness effect discussed by Baltin.⁵ In Baltin's original example given below the restriction of a wh-operator stays in-situ at LF and therefore the clause containing the elided VP must remain in Spec Agr_O of the embedded CP. This fact serves as an explanation why the lower VP remains available as an antecedent (Kennedy 1995: 669).

(17) Who thought that Fred read how many of the books that Bill did

However, according to Hornstein (1995), the reason why the lower VP is available as an antecedent is that the NP *how many books that Bill did* is moved to the Spec Agr_O of the embedded clause. The reason why it does not move any further is that it is constrained by economy because a long A-movement is prohibited. The only VP that the NP object was moved out is the most deeply embedded one. Consequently, the only VP that can be copied in order to prevent from the regress is the most deeply embedded one. VP₂ is banned from being copied into the null VP position as it dominates over the null VP. Therefore, VP₁ remains the only source of the ACD interpretation:

(18) Who [_{VP2} thought [_{CP} that [_{IP} Fred_j [_{AgrOP} [how many of the books that Bill did]_i [_{AgrO} [_{VP} t_j [_{VP1} read t_i]]]]]]]]

⁴ A-movement is a type of movement in which an element moves to an argument position whereas in A'-movement an element moves to a non-argument position.

⁵ It was Baltin (1987) who first noticed the boundedness restriction on ACD, which can be noticed in the examples provided below. Baltin argues that sentence (a) below should be ambiguous with the null VP being interpreted as either VP₁ or VP₂:

- a. Who thought that Fred read how many of the books that Bill did
- b. [_{CP} Who_i [how many books that Bill did [_{VP} e]_j [_{IP} t_i [_{VP1} thought [_{CP} that [_{IP} Fred [_{VP2} read t_i]]]]]]]]
- c. Who thought that Fred read how many of the books that Bill thought that he had read
- d. Who thought that Fred read how many of the books that Bill read

For Baltin the solution to the regress problem effect is the extraposition of the relative clause at SS. As far as the boundedness restriction is concerned, Baltin claims that this can be explained by means of the Right Roof Constraint, which allows the extraposition of the relative clause across only one VP. This explains why the higher of the two VPs cannot be the potential antecedent for the null VP.

3.2. Restructuring verbs

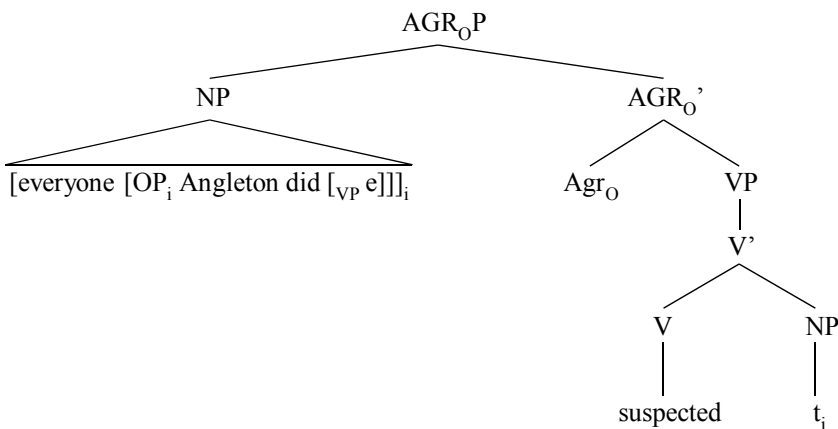
Hornstein (1995) provides a list of restructuring verbs such as *want*, *start*, *used to*, *have to* etc. The distinguishing feature of these verbs is that they do not display boundedness effects. They are also capable of unifying the domains of the embedded and restructuring verbs into one complex (Hornstein 1995: 81). In restructuring contexts, the embedded object escapes from under both the lowest VP as well as the higher one. The benefit that comes out of it is that it allows either VP to be copied into the VP gap within the relative clause without triggering the regress problems.⁶ Kennedy (1997), following Hornstein (1995), provides the following examples:

- (19) Which man has to read which book that you do?
 (20) Which man started to sing which song?
 (21) Which student expects/hopes/hates to visit which city that you do?

Sentences (19) and (20) exhibit both matrix and embedded reading, whereas (21) allows only matrix reading of the embedded ACD.⁷

One of the serious drawbacks of the case-based approach is that it relies a bit on the theory of Vehicle Change developed by Wyngaerd and Zwart (1991), then followed by Fiengo and May (1993). The theory of Vehicle Change by Wyngaerd and Zwart is thought to suffer from an overgeneration and an inability to account for more troublesome cases. It allows LF copying to alter or dispose of certain features. Lasnik (1999) provides a relevant example, given below as well:

- (22)



⁶ For more discussion on restructuring verbs, see (Hornstein 1995).

⁷ For more discussion on restructuring verbs and multiple interpretations/readings as well as a reference to the QR theory from the standpoint of the case-based approach, see Kennedy (1997).

It can be seen in the diagram above that the elided VP escaped from its antecedent *suspected* t_i and can be copied without creating any regress problems. However, t_i is an A-trace due to the movement to the case-licensing position and its copy has to be a variable, otherwise Op_i will be vacuous. Lasnik (1999) goes on to say that Vehicle Change would permit this alteration because it would allow ACD in any configuration (Lasnik 1999: 53). What is more, this kind of theory of Vehicle Change treats ACD as a mere VP ellipsis. Nevertheless, the subject of the subsequent section is devoted to yet another attempt at the resolution of ACD constructions outlined by Fox (2002).

4. The copy theory of movement

One of the most significant features of the copy theory of movement is its attitude to movement itself as it converts movement into a simpler operation, which corresponds to the basic structure building operation Merge. They only differ in one respect i.e. the copy theory of movement takes as input an object that was used as input for an earlier merger and therefore turns Move into Rmerge (Fox 2002: 66).

Assuming that a relative clause can be merged with NP after DP has undergone movement from its base position, structures containing ACD can generate the derivation given below:

- (23) [_{VP} John likes every boy] → DP movement
 [[_{VP} John likes every boy] *every boy*] → adjunct merger
 [[_{VP} John likes every boy] every boy *that Mary does <likes boy>*]

The outset of the derivation in (23) is the rightward movement of every boy, which can be both overt or covert.⁸ Trace Conversion⁹ produces the following structure for both cases above, which observes Parallelism:

- (24) [every boy λx .Mary does <likes the boy x >]
 λx .John likes the boy y

Fox (2002) emphasises that irrespective of the copy theory of movement the resolution of ACD by mere movement is unattainable. He puts forward an idea that ACD

⁸ If the movement is overt, the resolution of ACD entails heavy NP shift. If it is covert, ACD is resolved by means of extraposition (Fox 2002: 76).

⁹ Trace Conversion is indispensable for the transformation of the copy at the tail of the chain into an interpretable construction developed by Move/Rmerge. It consists of two operations:

- (i) variable insertion: (Det) Pred → (Det) [Pred $\lambda y(y=x)$]
 (ii) determiner replacement: (Det)[Pred $\lambda y(y=x)$] → the [Pred $\lambda y(y=x)$]

Trace Conversion allows the interpretation of chains and it has an impact on the representation of chains.

resolution relies on three assumptions. The first of them has to do with Late Merger¹⁰ that needs to take place in order to eliminate antecedent containment. The second assumption refers to the theory of relative clauses. A copy of the head NP inside the relative clause is vital because the elided VP in the relative clause has to include this copy in order to be identical to the antecedent VP. The last assumption underpins Trace Conversion as an indispensable operation because it eradicates particular differences between the element that is moved when a relative clause is formed and the shifted constituent to which the relative clause attaches. Fox (2002) emphasises that the copy theory of movement along with the assumptions provided above can account for a numerous troublesome cases discussed in the literature. One of them that Fox (2002) attempts to resolve has to do with the observation concerning the standard approach to ACD made by Larson and May (1990). There are relevant examples provided below:

- (25) a. *I expect that everyone you do will visit Mary
 b. *I said that everyone you did arrived

Larson and May (1990) consider the sentences above unacceptable due to clause boundedness – a locality condition on QR. However, the examples given below are deemed acceptable:

- (26) a. I expect that everyone will visit Mary that you do
 b. I said that everyone arrived that you did

The analysis of the contrast between the sentences in (25) and (26) from the standpoint of the standard account of ACD is baffling. Nevertheless, the contrast between the sets of the sentences in question vanishes if it is analysed in the light of the copy theory of movement. In order to resolve ACD under Fox's proposal rightward movement of a DP must be followed by late merger of the relative clause that contains ellipsis (Fox 2002: 77). This can be noticed in the derivation presented below:

- (27) I expect that everyone will visit Mary → QR
 I [[expect that everyone will visit Mary] ~~everyone~~] → adjunct merger
 I [[expect that everyone will visit Mary] ~~everyone~~ that you do <expect one will visit Mary>]

The derivation proceeds in the way that first QR adjoins the quantifier *everyone* to the matrix VP. Then, RCE is merged at the head of the chain. Finally, the structure is converted by Trace Conversion to the structure in (28), which also obeys Parallelism:

¹⁰ Fox (2002) defines Late Merger as a mechanism that enables a relative clause to merge with an NP after a DP that contains the NP has been moved. The characteristic feature of Late Merger is that it can interact with both the covert and overt movement to the same extent.

- (28) every [one λx .you <expect the one x will visit Mary>]
 λy .I expect the one y will visit Mary

The significant conclusion that Fox draws from the cases analysed so far is that that the resolution of ACD can be accomplished only if a DP is moved rightward out of the antecedent VP and only if the RCE is adjoined after this movement. Furthermore, Parallelism can be satisfied only if the RCE is adjoined after movement of the particular quantifier and the RCE cannot be followed by material from the antecedent VP because the movement proceeds to the right. This provides an explanation for the contrast between sentences (25) and (26) (Fox 2002: 78). Indeed, the conflict between the standard approach to ACD and the copy theory of movement is resolved by late merger of the RCE. Some more examples are provided below to support this argument:

- (29) a. I visited a city *near the city John did* <visited>
 b. I made an argument *that was very similar to the one/argument you did* <made>
 c. I read a book *that discusses the book you did* <read>

And the derivations of the sentences in (29):

- (30) a. [_{VP} I visited a city] → QR
 [[_{VP} I visited a city] ~~a-city~~] → adjunct merger
 [[_{VP} I visited a city] ~~a-city~~ near the lake that John did <visited lake>]
 b. [a city near the lake λx .John did <visited the lake x>]
 λy .I visited the city y

- (31) a. *I made an argument *that we should adopt the argument you did* <made>
 b. ?I read a book *about the book you did* <read>

Fox (2002) claims that adjuncts can be merged countercyclically but this type of merge is out of the question for complements due to the fact that late merger of complements results in uninterpretable structures. Similar derivations in (30) for the sentences in (29) are inadmissible for the sentences in (31) on account of the fact that the phrase in italics is a complement and cannot be merged countercyclically.¹¹

4.1. Condition C

For Fiengo and May (1994) examples of QR that are needed to resolve ACD affect Condition C. Fox (2002), on the other hand, puts forward an idea that it is not QR that obviates Condition C but rather Late Merger, which is necessary to satisfy Parallelism:

¹¹ For more discussion on baffling examples for the standard account of ACD and their explanation from the standpoint of the copy theory of movement, see (Fox 2002).

- (32) a. You sent him_i the letter that John_i expected you would
 b. You introduced him_i to everyone John_i wanted you to
 c. I reported him_i to every cop John_i was afraid I would

In order to satisfy Parallelism in the sentences in (32) the relative clause needs to be merged with an NP only after rightward movement. The structures below do not violate Condition C:

- (33) a. [the letter λx .John_i expected you would <send him_i the letter x>
 λy .you sent him_i the letter y
 b. [every one λx .John_i wanted you to <introduce him_i to the one x>
 λy .you introduced him_i to the one y
 c. [every cop λx .John_i was afraid I would <report him_i to the cop x>
 λy .you reported him_i to the cop y

What is also worth taking into consideration is the contrast between the following sentences and sentences that do not contain ACD:

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

Fox (2002) emphasises that Fiengo and May (1994) claim that Condition C is obviated only if ACD comes into play. However, Fox goes on to say that all speakers allow coreference in sentences in (32) but not in sentences in (34). Fox argues that the contrast between (32) and (34) is similar to the contrast in (35) and is connected by the general preference against vacuous extraposition (Fox 2002: 84):

- (35) a. I gave him_j a book yesterday that John_j liked
 b. ?? I gave him_j a book that John_j liked yesterday

If there is no evidence that extraposition is needed, the parser, for example, does not choose it. Therefore, extraposition does not take place, which results in the violation of Condition C.

- (36) a. I asked him_i to teach the book about Mary that John_i wanted me to <ask him_i to teach>
 b. *I asked him_i to teach the book about John_i that Mary wanted me to <ask him_i to teach>

In order to resolve ACD in (36), the relative clause has to be merged after QR took place to produce the following structures:

- (37) a. [the book about Mary λx . John_i wanted me to <ask him_i to teach the book
about Mary x>]
 λy .I asked him_i to teach the book
about Mary y
- b. [the book about John_i λx . Mary wanted me to <ask him_i to teach the book about
John_i x>]
 λy .I asked him_i to teach the book
about John_i y

The structures above indicate why the sentence in (36a) observes Condition C. As far as (36b) is concerned, late merger of the relative clause would not help to escape from the violation of Condition C (Fox 2002: 85).

5. The prospects for research on ACD

Chomsky (2004) attempts to question the existence of the ACD phenomenon. His analysis is based on Fox (2002) examples:

- (38) John [_{VP} likes [_{NP} every boy Mary does <likes t>]]

Chomsky (2004) also tries to pinpoint the weak points concerning the copy theory of movement. In the example above there is a violation of the Parallelism requirement. The ACD seems to be resolved by QR. However, this solution is not in accordance with the copy theory of movement, and more importantly, Condition C would be violated if movement left a copy. The solution proposed by Fox (2002) is as follows:

- (39) John [_{VP} likes [_{NP} every boy]]

In the example above the derivation proceeds in the way that QR raises NP to the right and the relative clause is late-merged. The Parallelism requirement is observed and there is no condition C violation (Chomsky 2004: 20). Although the tenets of the copy theory of movement and the results are powerful, there are still some issues that seem to be left unexplained. One of the problems that Chomsky observes is the need of Late Merge. Furthermore, there is a dissociation of Spell-Out of adjunct and host, which is at odds with the principle that says (Chomsky 2004: 17):

- (40) In < α , β >, α is spelled out where β is

What is also problematic for Chomsky in this approach is the direction of QR, which applies to the right. Chomsky argues that a covert operation should not have any ordering properties. Therefore, Chomsky suggests a solution that has to do with expressions similar to expressions that introduce afterthoughts or qualifications. Therefore, he presents the following structure that is based on example (38):

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

According to Chomsky (2004: 19), the same effect can be achieved preventing from the creation of problems connected with late Merge, violation of principle in (40) as well as QR. Finally, he draws a conclusion that “If something like this approach is tenable, then ACD essentially disappears as a phenomenon” (Chomsky 2004: 20).

6. Conclusion

In this paper I have attempted to present an overview of the most significant accounts of antecedent-contained deletion constructions from the standpoint of the Minimalist Program. The first approach discussed was the theory of Vehicle Change developed by Fiengo and May (1993). They pursue a view that only Principle A and B operate at LF under reconstruction due to the operation of Vehicle Change. They dispose of Principle C since they claim that proper names are realised as pronominal correlates at LF and therefore they are not subject to Principle C but rather Principle B. However, this theory seems to work only with pretty straightforward cases. More troublesome examples remain a challenge for this theory. Perhaps the reason behind it stems from the fact that Vehicle Change theory treats ACD as a mere VP ellipsis. Another approach discussed i.e. the case-based approach rests on the assumption that the regress problem can be solved by moving out from a dominating VP at LF via A-movement for case reasons. Thanks to this process, the A-movement that is involved helps to explain why the lowest VP is the potential antecedent for the null VP. The last theory presented, and supposedly, the most promising one is the copy theory of movement. This approach assumes that the resolution of ACD structures by movement itself is unattainable. Therefore, Fox (2002) advocates an idea that Late Merge, the theory concerning relative clauses and Trace Conversion are indispensable for the ACD resolution. This theory is thought to be powerful as it can account for a wealth of baffling examples for the standard approach. Although the copy theory of movement can provide explanation of problematic cases, it still contains some flaws. Definitely, one of them has to do with the rightward movement of an NP, which is a covert operation and hence should have no ordering properties. Finally, some Chomsky’s views concerning the outlook for ACD analysis were provided. Chomsky (2004) puts forward a solution that is based on expressions resembling expressions that introduce afterthoughts or qualifications.

List of abbreviations

- ACD – antecedent-contained deletion
- AP – adjective phrase
- Comp – complementiser

CP	– complementiser phrase
DP	– determiner phrase
IP	– intermediate projection
LF	– logical form
NP	– noun phrase
PP	– prepositional phrase
QNP	– quantified noun phrase
RCE	– relative clause
QR	– quantifier raising
SS	– surface structure
VP	– verb phrase

References

- Baltin, M. 1987. Do antecedent-contained deletions exist? *Linguistic Inquiry* 18: 579–595.
- Bouton, L. 1970. Antecedent-contained pro-forms. In *papers from the Sixth Regional Meeting, Chicago Linguistic Society*. Chicago Linguistic Society, University of Chicago.
- Chomsky, N. 1995. *The Minimalist Program*. Cambridge, Mass.: MIT Press.
- Chomsky, N. 2004. Beyond Explanatory Adequacy. *MIT Occasional Papers in Linguistics* 20.
- Fiengo, R. and R. May. 1994. *Indices and Identity*. Cambridge, Mass: MIT Press.
- Fox, D. 1999b. Reconstruction, binding theory, and the interpretation of chains. *Linguistic Inquiry* 30: 157–196.
- Fox, D. 2002. Antecedent-Contained Deletion and the Copy Theory of Movement. *Linguistic Inquiry* 33: 63–96.
- Harley, H. 2002. WCO, ACD and QR of DPs. *Linguistic Inquiry* 33: 659–664.
- Hornstein, N. 1995. *Logical form: from GB to Minimalism*. Oxford; Cambridge: Blackwell.
- Jacobson, R. 1998. Antecedent contained deletion and pied-piping: Evidence for a variable free semantics. In D. Strolovitch and A. Lawson (eds.) *Proceedings of SALT 8*, 74–91. Ithaca, N.Y.: Cornell University, CLC Publications.
- Kayne, R. 1998. Overt vs. covert movements. *Syntax* 1: 128–191.
- Kennedy, Ch. 1997. Antecedent-contained deletion and the syntax of quantification. *Linguistic Inquiry* 28: 662–688.
- Larson, R. and R. May. 1990. Antecedent containment or vacuous movement: Reply to Baltin. *Linguistic Inquiry* 21: 103–122.
- Lasnik, H. 1999. *Minimalist analysis*. Oxford: Blackwell.
- Ligeza, P. 2007. Certain aspects of antecedent-contained deletion constructions. M.A. thesis, Poznań: Uniwersytet im. Adama Mickiewicza.
- May, R. 1985. *Logical Form*. Cambridge, Mass: MIT Press.
- Merchant, J. 2000. Economy, the copy theory, and antecedent-contained deletion. *Linguistic Inquiry*: 31: 566–575.
- Pesetsky, D. 2000. *Phrasal Movement and its kin*. Cambridge, Mass.: MIT Press.
- Safir, K. 1999. Vehicle change and reconstruction of \bar{A} -chains. *Linguistic Inquiry* 30: 587–620.
- Sag, I. 1976. *Deletion and Logical Form*. Doctoral dissertation, Cambridge, Mass.: MIT Press.
- Takahashi, D. 1993. On antecedent-contained deletion. Ms., University of Connecticut, Storrs.
- Wyngaert, V. and Jan-Wouter Zwart. 1991. Reconstruction and vehicle change. In F. Drijkoningen and A. van Kemenade (eds.) *Linguistics in the Netherlands*.