Adjunction, Condition C, and the Background Adjunct Coreference Principle

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1. Introduction

It is well known that there is an adjunct-argument asymmetry wrt. reconstruction and Condition C (e.g. Chomsky 2001b; Heycock 1995; Lebeaux 1988; Riemsdijk & Williams 1981; Stepanov 2000, 2001). In (1), only the r-expression John within the adjunct that John liked can be coreferential with he; the r-expression Bill induces a Condition C effect.

(1)  
\[ \text{[wh Which [[picture [of Bill]] [that John liked]]] did he}\_{1,2} \text{ buy t}_{wh}? \]  (Chomsky 2001b, 15)

The same fact can be observed in Czech, as demonstrated by example (2).

(2)  
Který obrázek Karla, který měl Jirka rád, si pro\textit{self} koupil?

\[ \text{Which picture of Karel that Jirka liked did he buy?} \]

In the following I argue that it is necessary to distinguish between clausal and non-clausal adjuncts wrt. Condition C. Although both types of adjuncts are merged cyclically, only r-expressions in clausal adjuncts can corefer with the coindexed pronoun because they are embedded in the phase, tripartite quantificational and information structure of the sentence more deeply than the r-expressions in non-clausal adjuncts. The availability of coreference depends on the presuppositional status of the clausal adjunct or the element containing it and on whether the r-expression observes the proposed Background Adjunct Coreference Principle. Then I argue that Condition C must be able to wait until the semantic interface of the highest phase in the sentence and can see the whole derivation.

2. Data

2.1 Non-clausal adnominal adjuncts

It has been observed that there is a correlation between bleeding Condition C, wide scope, and the presuppositional interpretation of the appropriate whP (Fox 1999, 2000; Heycock 1995, Witkoś 2003). However, non-clausal adnominal adjuncts pattern with arguments; they always exhibit a Condition C effect. It makes no difference whether the locative adjunct is embedded in the non-presuppositional wh-phrase (3a), presuppositional (3b), or partitive wh-phrase (3c). And example (4) shows that there is a Condition C effect in both scope cases (many > decide, decide > many).

(3)  
\begin{align*}
\text{a.} & \quad \text{Kolik knížek na Pavlově polici pro}_{1} \text{ přečetl?} \\
& \quad \text{how many books on Pavel’s shelf read} \\
& \quad \text{‘How many books from Pavel’s shelf did he read?’} \\
\text{b.} & \quad \text{Kterou knížku na Pavlově polici pro}_{1} \text{ přečetl?} \\
& \quad \text{which book on Pavel’s shelf read} \\
& \quad \text{‘Which book from Pavel’s shelf did he read?’}
\end{align*}

* I would like to thank the audience at the WCCFL 25 for helpful comments.
c. * Kterou z knížek na Pavlově policí pro přečetl?
   which of books on Pavel’s shelf read
   ‘Which of the books from Pavel’s shelf did he read?’

(4) * Kolik lidí z Pavlova města se pro rozhodl najmout?
   how many people from Pavel’s city self decided hire
   ‘How many people from Pavel’s city did he decide to hire?’

The information-structural status of the element containing the adjunct does not play any role either. It does not matter whether the DP containing the adjunct with the r-expression is topicalized (5a) or scrambled (5b) - that is, backgrounded - the r-expression Pavlově in the locative adjunct always produces a Condition C effect.

(5)  a. * Tu knížku na Pavlově policí pro v pátek přečetl.
    the book on Pavel’s shelf on Friday read
    ‘The book from Pavel’s shelf, he read on Friday.’
   b. * V pátek tu knížku na Pavlově policí pro / on přečetl.
    on Friday the book on Pavel’s shelf he read
    ‘On Friday, he read the book from Pavel’s shelf.’

Not surprisingly, adjuncts with the r-expression in a position c-commanded by the coindexed pronoun violate Condition C, as demonstrated by example (6).

(6) * V pátek pro přečel tu knížku na Pavlově.
    on Friday read the book on Pavel’s shelf
    ‘On Friday, he read the book from Pavel’s shelf.’

Binding Principle A also suggests, as the data above, that non-clausal adnominal adjuncts are merged cyclically, consider sentence (7).

(7) Kolik knížek ze své police pro přečel?
   how many books from self shelf read
   ‘How many books from his shelf did he read?’

2.2 Clausal adnominal adjuncts

In this section I demonstrate that clausal adnominal adjuncts – contrary to the non-clausal adnominal adjuncts - can obviate a Condition C violation.

The contrast in (8) shows that the presuppositional status of the wh-phrase containing the relative clause adjunct is an important factor. In (8a), the clausal adjunct containing the r-expression embedded in the non-presuppositional whP violates Condition C. In contrast, the adjunct in the presuppositional whP in (8b) shows an antireconstruction behavior.

(8)  a. * Kolik argumentů, které Pavel přednesl, pro zuřivě bránil?
    how many arguments which Pavel gave furiously defended
    ‘How many arguments that Pavel gave did he defend like a fury?’
   b. (?)Který argument, který Pavel přednesl, pro zuřivě bránil?
    which argument which Pavel gave furiously defended
    ‘Which argument that Pavel gave did he defend like a fury?’

Information structure of the relative clause itself also plays a role in Condition C. In (9), which minimally differs from (8b), Pavel is focused in the adjunct clause and coreference between Pavel and

1 The overt pronoun *on*, which is the marked case of the subject in comparison with *pro*, demonstrates that scrambled elements can precede the subject as well.
pro is not possible (for English compare Riemsdijk & Williams 1981). Thus, for Pavel to be a possible antecedent of pro, it must be backgrounded, as in (8b).

(9) * Který argument, který přednesl Pavel, pro zuřivě bránil?
which argument which gave Pavel furiously defended
‘Which argument that Pavel gave did he defend like a fury?’

If you take a look at example (10), you can see that the contrast between the backgrounded and focused r-expression can also be found in relative clauses contained in topicalized PPs (modified examples from Witkoš 2003, 77).

(10) a. ? Na Mariinu tetu, kterou si Pavel nepamatuje, pro reagoval s hněvem.
to Marie’s aunt, which self Pavel NEG remembers reacted with anger
‘To Marie’s aunt that Pavel does not remember he reacted with anger.’
b. * Na Mariinu tetu, kterou si nepamatuje Pavel, pro reagoval s hněvem.
to Marie’s aunt, which self Pavel NEG remembers Pavel reacted with anger
‘To Marie’s aunt that Pavel does not remember he reacted with anger.’

However, if the adjunct containing the r-expression is overtly c-commanded by the pronoun, the sentence is bad, compare example (11) with (10a).

(11) * pro reagoval s hněvem na Mariinu tetu, kterou si Pavel nepamatuje.
reacted with anger to Marie’s aunt, which self Pavel NEG remembers
‘He reacted with anger to Marie’s aunt that Pavel does not remember.’

2.3 Non-clausal adverbial adjuncts

It has been argued (Bošković & Lasnik 1999; Nissenbaum 2000; Ochi 1999; discussion in Speas 1990; Stepanov 2001) that adverbial adjuncts can or must be merged acyclically. However, non-clausal adverbial adjuncts seem to always reconstruct and violate Condition C. For example, temporal (12a) and manner (12b) adjuncts produce a Condition C effect independently of the presuppositional status of the wh-word.

(12) a. * O jakých / kterých Pavlových prázdninách pro líbal Marii?
during what / which Pavel’s holidays kissed Marie
‘During what / which holidays of Pavel’s did he kiss Marie?’
b. * Jakým / Kterým Pavlovým způsobem pro líbal Marii?
what / which Pavel’s way kissed Marie
‘In what / which way of Pavel’s did he kiss Marie?’

Example (13) shows that the same results are obtained when the adverbial adjuncts are topicalized.

(13) a. * O Pavlových prázdninách pro líbal Marii.
during Pavel’s holidays kissed Marie
‘During holidays of Pavel’s, he kissed Marie.’
b. * Pavlovým způsobem pro líbal Marii.
Pavel’s way kissed Marie
‘In Pavel’s way, he kissed Marie.’

As in the preceding sections, the r-expression contained in the adjunct c-commanded by the coindexed pronoun produces a Condition C effect; consider (14).

(14) a. * pro líbal Marii o Pavlových prázdninách.
kissed Marie during Pavel’s holidays
‘He kissed Marie during holidays of Pavel’s.’

b. * pro₁ líbal Marii Pavlovým způsobem.
   kissed MarieACC Pavel’s way
   ‘He kissed Marie in Pavel’s way.’

Examples with Principle A reconstruction seem to confirm that non-clausal adverbial adjuncts are merged cyclically in a position c-commanded by the subject, as illustrated in (15).

(15)  a. O svých prázdninách Pavel líbal Marii.
   during self holidays PavelNOM kissed MarieACC
   ‘During his holidays, Pavel kissed Marie.’

b. Tím svým způsobem Pavel líbal Marii.
   the self way PavelNOM kissed MarieACC
   ‘In his own way, Pavel kissed Marie.’

2.4 Clausal adverbial adjuncts

As in the case of clausal adnominal adjuncts, an r-expression in a clausal adverbial adjunct can be coreferential with the pronoun in the matrix clause. However, it is possible only when the adjunct clause is backgrounded (preposed), see (16b). That the temporal adjunct is backgrounded is demonstrated by question (16a) on the assumption that the question-answer correlation helps to determine information structure; see Büring (1997), Drubig (2003), Erteschik-Shir (1997), Meinunger (2000), Sgall, Hajičová & Buráňová (1980).

(16)  a. Co se stalo, než Pavel odjel? (What happened before Pavel left?)

b. Než Pavel odjel, pro₁ políbil Marii.
   before PavelNOM left kissed MarieACC
   ‘Before Pavel left, he kissed Marie.’

Coreference is not possible when the adjunct clause is spelled out in a position c-commanded by the pronoun (17) and depends on the information-structural status of the r-expression (18). The r-expression may not be focused in the adjunct clause, compare (18) with the grammatical (16b).

(17) * pro₁ políbil Marii, než Pavel odjel.
   kissed MarieACC before PavelNOM left
   ‘He kissed Marie before Pavel left.’

(18) * Než odjel Pavel, pro₁ políbil Marii.
   before left PavelNOM kissed MarieACC
   ‘Before Pavel left, he kissed Marie.’

It also holds if the r-expression is not the subject of the adjunct clause. In the grammatical example (19a), the object Pavel is backgrounded in the adjunct and in the ungrammatical (19b), it is focused.

(19)  a. Poté, co Pavla vyhodili z práce, pro₁ začal pít.
   after that PavelACC fired from job began drink
   ‘After Pavel was fired from his job, he began to drink.’

b. * Poté, co vyhodili z práce Pavla, pro₁ začal pít.
   after that fired from job PavelACC began drink
   ‘After Pavel was fired from his job, he began to drink.’

The same also holds for non-subject pronouns in the matrix clause, as illustrated by the pronoun ho in example (20).

(20)  a. Poté, co Pavla vyhodili z práce, táta ho začal bít.
2.5 Interim summary

We have seen that non-clausal adjuncts always produce Condition C effects. Clausal adjuncts containing the r-expression spelled out in a position c-commanded by the coin-indexed pronoun also produce a Condition C effect. In contrast, clausal adjuncts can obviate a Condition C violation under certain conditions. These are determined by the presuppositional status (inherently presuppositional whPs or backgrounded elements) of the clausal adjunct or the element containing it and by the backgrounded information-structural status of the relevant r-expression.

3. Approaches to adjunction and Condition C

3.1 There are three basic approaches to adjunction and Condition C

The late merger approach (e.g. Lebeaux 1988; Nissenbaum 2000; Stepanov 2000, 2001; Fitzpatrick & Groat 2005) is based on the different timing of adjunct merger and argument merger.

The second approach is the cyclic merger analysis (Chomsky 2001b, Rubin 2003). This approach is based on the special status of adjunction merger (a pair-merge operation) and the operation Simpl that makes adjuncts c-command visible where they are spelled out.

The third approach is the embedding analysis (discussion in Riemsdijk & Williams 1981; Huang 1993; Speas 1990; Müller 1995). According to this approach Condition C effects do not arise if the r-expression is ‘sufficiently’ embedded in the syntactic structure.

3.2 Empirical problems

3.2.1 The late merger approach

Since in this approach - no matter whether with derivational c-command (Fitzpatrick & Groat 2005) or not - adjuncts may or must be inserted into the structure acyclically, it predicts that adjuncts can obviate a Principle C violation. However, we have seen that non-clausal adjuncts never obviate Condition C and clausal adjuncts only under certain (regular) conditions.

In addition, Stepanov (2000, 2001), proposing that adjunction follows all non-adjunct mergers, has problems with the fact that adjunction feeds other types of movement (Johnson 2002), as demonstrated in section 2.3.

3.2.2 The cyclic merger approach

According to this approach, all adjuncts are always merged by the pair merger that makes them c-command invisible until spellout. Thus, it cannot differentiate between the behavior of clausal and non-clausal adjuncts.

The next problem is that the operation Simpl, which makes adjuncts c-command visible, applies where the adjunct is spelled out. It predicts that copies of the moved adjunct do not induce a Condition C effect. However, this is not the case, as shown by non-clausal adjuncts and clausal adjuncts within non-presuppositional whPs.

According to Chomsky (2001b), adjuncts are always spelled out where their hosts are. But there are discontinuous DPs in Slavic languages, Latin, German etc., see (21) and Bošković (to appear), Fanselow & Ćavar (2002).

(21) [Z Pavlovy police], pro přečetl dvě knihy t₁.  
from Pavel’s shelf read two books
‘He read two books from Pavel’s shelf.’
4. The proposal
4.1 Basics

Because of the problems above, I will pursue the third approach. In Biskup (2005, 2006) it is shown that phrases moved to the CP phase (scrambled or topicalized) are interpreted as backgrounded and get a specific (epistemic, partitive or generic) interpretation (22). I propose that this is driven by the interface requirement that backgrounded specific elements be linearized and interpreted in the CP phase in scrambling languages like Czech.

(22)

Thus, there is a correlation between the phase structure, tripartite quantificational structure and information structure of the clause (Chomsky 2000, 2001a,b, 2005; Diesing 1992; Partee 1992). At the semantic interface, the vP phase (the elements in the phase) is interpreted as the nuclear scope of the quantificational structure and the domain of information focus. The CP phase is interpreted as the domain of the restrictive clause and the domain of background. This structure can be recursive (Partee 1992, Krifka 1992, Meinunger 2000, Neeleman & Szendröi 2004, Ishihara 2004), see (23).

(23)

4.2 The analysis
4.2.1 Non-clausal adjuncts and adjuncts overtly c-commanded by the pronoun

Given the fact that non-clausal adjuncts always induce a Condition C effect and reconstruct for Principle A, there is no reason to assume that they are merged acyclically.

Adjuncts following the pronoun such as the clausal adjuncts in (11), (17) or the non-clausal adjunct in (6) violate Condition C because they are merged and spelled out within the c-command domain of the pronoun. This is a prototypical case of a Condition C violation.

4.2.2 Clausal adjuncts
4.2.2.1 Backgrounding and presuppositionality

In this subsection, I argue that the backgrounded or presuppositional status of clausal adjuncts (or elements containing them) helps them not to reconstruct and not to violate Condition C.

4.2.2.1.1 (Non-)presuppositional whPs and cyclic merger

I demonstrate by the contrast in (8) that the r-expression in the clausal adjunct merged into the non-persuppositional whP produces a Condition C effect. This fact is accounted for so that the restriction of the wh-phrase with the r-expression reconstructs and therefore it feeds Condition C (e.g. Heycock 1995). This supports the cyclic analysis of clausal adjuncts.
Further support for the cyclic merger analysis is provided by the quantifier bound pronouns. The pro in the relative clause adjunct can be bound by the quantifier každý in (24).

(24) Kolik argumentů, které pro₁ považoval za dobré, každý₁ přednesl?
how many arguments which considered good everybodyNOM gave
‘How many arguments that he considered to be good did everybody give?’

4.2.2.1.2 The place of spellout and application of Condition C

Clausal-adjunct data in section 2.2 and 2.4 show that for coreference to be possible, the r-expression in its overt position may not be c-commanded by the pronoun. In this respect, Chomsky (2001b) is right in that the place of spellout plays an important role in Principle C. The question is why the overt position is so important. As I argued above, the place of spellout of elements is narrowly associated with their interpretation and information-structural status, see again (22) and (23). The look at the grammatical examples with clausal adjuncts in 2.2 and 2.4 (abstracting away from the wh-examples) reveals that the adjuncts or the elements containing them are backgrounded. Since backgrounding implies presuppositionality, the r-expression does not reconstruct and therefore does not induce a Condition C effect. Hence, since Condition C is sensitive to the interpretation, it applies at the semantic interface. And since it also is sensitive to the interpretation of elements moved to the CP phase of the matrix clause, the final Condition C decision must be able to wait until the semantic interface of the highest phase in the sentence.

4.2.2.2 Background Adjunct Coreference Principle

However, presuppositionality is not the only factor that determines whether coreference between the r-expression in the adjunct clause and the pronoun is possible or not. We have seen that the r-expression must be backgrounded in the clausal adjunct, i.e. spelled out in the CP phase, as schematized in (25). Therefore, I propose the Background Adjunct Coreference Principle, as stated in (26).

(25)

\[ \text{CP} \]
\[ \text{pronoun} \]
\[ \text{r-expression} \]

(26) Background Adjunct Coreference Principle
Coreference between an r-expression within an adjunct clause and a pronoun in the matrix clause is possible only if the r-expression is backgrounded in the adjunct clause.

The idea is that r-expressions focused in the adjunct clause cannot be coreferential with the matrix clause pronoun because discourse has a tendency to keep referential continuity (Reinhart, to appear). This means that only ‘old’, ‘known’ (backgrounded) elements are possible antecedents of pronouns.

Then the question arises whether complements can work in the same way. Example (27) shows that they cannot. Although the sentence is an ideal case wrt. coreference - the r-expression is backgrounded in the preposed (backgrounded) complement clause - coreference still is not possible.

(27) * Že Pavel₁ polibil Marii, pro₁ nám řikal včera.
that PavelNOM kissed MarieACC us told yesterday
‘He told us yesterday that Pavel had kissed Marie.’

4.2.3 The derivation cannot forget the preceding phases
Since the appropriate pronoun gets a value at the semantic interface of the matrix clause (from a discourse storage, see discussion in Everaert 2005, Partee 2004, Reuland 2001, Reinhart 2000, to appear) and the derivation is sent to the interfaces phase by phase, the derivation simply cannot forget the preceding phases. Concretely, the piece of information about the ɛ-expression - whether it is interpreted as backgrounded in the adjunct clause - must be accessible in the course of the computation.

The fact that the preceding phases cannot be forgotten and that the application of Condition C must be able to see the whole derivation is also shown in (28).

(28) * pro₁ myslel, že Pavel říkal, že Honza četl knížku z Petrovypolice.
    thought that Pavel said that Honza read a book from Petr’s shelf
    ‘He thought that Pavel said that Honza read a book from Petr’s shelf.’

4.2.4 The difference between clausal and non-clausal adjuncts and embedding

Let us go back to non-clausal adjuncts and the difference between them and clausal adjuncts. In clausal adjuncts, in contrast to non-clausal ones, the ɛ-expression is one level deeper embedded in the phase, quantificational and information structure of the sentence than the coindexed pronoun, see (25). Hence, it is well established in the discourse storage at the semantic interface and accessible as an antecedent. However, the ɛ-expression within non-clausal adjuncts - regardless of whether or not contained in some presuppositional or backgrounded element - is on the same level, it is too local to the pronoun and therefore not established enough in the discourse storage to serve as an antecedent. Given the fact that examples like (29) are grammatical in English and the fact that presuppositionality plays a role in the case of clausal adjuncts in Czech, I argue that in Czech, cases like (29) or e.g. (3b,c) are bad because they violate the (anti)locality requirement on coreference and not Condition C itself.

(29) Which pictures near John₁ does he₁ like most t?

5. Conclusion

I have argued that it is necessary to introduce the distinction between clausal and non-clausal adjuncts wrt. Condition C. It is not the time of adjunction (e.g. Lebeaux 1988) or the type of merger (e.g. Chomsky 2001b) that is relevant wrt. coreference and Condition C in adjunction - both types of adjuncts are merged cyclically - but the degree and type of embedding of the ɛ-expression in the phase, quantificational and information structure of the sentence. The degree of embedding in the structure of the sentence is crucial in the distinction between clausal and non-clausal adjuncts. The type of embedding (Background Adjunct Coreference Principle) is crucial in the distinction between focused and backgrounded ɛ-expressions in the clausal adjunct. Then Condition C effects are induced either by the violation of Condition C itself or by the violation of the Background Adjunct Coreference Principle or by the too local ɛ-expression. I have also argued that Condition C applies at the semantic interface and can see the whole derivation.

References


