

Reconstruction in German restrictive relative clauses

Martin Salzmann
Leiden University

1. Introduction

Principle C effects have proved to be crucial for the syntax of restrictive relative clauses because they are largely absent, contrary to what is found in other types of A'-movement, cf. Munn (1994), Safir (1999), Citko (2001), Sauerland (2003). This absence plays an important role in the evaluation of various analyses of relative clauses and as we will see favors the Matching Analysis over the Head Raising Analysis. This article discusses German data that provide even stronger evidence for the superiority of the Matching Analysis. I will argue in favor of an implementation of the Matching Analysis that combines ingredients from both Citko (2001) and Sauerland (2003). In section two, I will illustrate reconstruction effects in German restrictive relative clauses. Section three discusses a number of problems for the Head Raising Analysis and concludes that it is insufficient. Section four presents a Matching Analysis that avoids these problems.¹

2. Reconstruction in German restrictive relatives²

2.1 Data

The following examples illustrate reconstruction for Principle A,³ variable binding and idiom interpretation.⁴ The part of the external head that is reconstructed is enclosed by brackets,⁵ the reconstruction site is indicated by underline:

- (1) a. das [Gerücht über sich_i], das Peter_i nicht __ ertragen kann
 the rumor about self which Peter not bear can
 'the rumor about himself_i that Peter_i cannot bear'
 b. das [Foto von seiner_i Geliebten], das jeder Mann_i
 the picture of his beloved which every man
 in seiner Brieftasche __ hat
 in his wallet has
 'the picture of his_i beloved that every man_i keeps in his wallet'
 c. die [Rede], die er __ geschwungen hat
 the speech which he swung has
 'the speech he gave'

2.2 Implications of reconstruction

I follow recent work (Bhatt 2002) in assuming that reconstruction effects imply that there is a relative clause-internal representation of the external head. This directly rules out the traditional Head External Analysis where the external head is coindexed with the relative clause operator but is not explicitly represented inside the relative. The remaining options are the Head Raising Analysis (HRA, Bhatt 2002, Bianchi 2004, de Vries 2002) and the Matching Analysis (MA, Citko 2001, Sauerland 2003). The two options are schematically illustrated below:⁶

- (2) a. the [_{XP} [book₂] [_x X° [_{CP} [_{dp} Op/which t₂]₁ C° [John likes t₁]]]]
 b. the [book]_i [_{CP} [Op/which book₁]₁ C° John likes t₁]

The HRA in (2a) follows Bhatt (2002). The external head moves together with the relative operator to Spec, CP. The head NP then subextracts and moves to the specifier of some functional head. In the MA in (2b), the first step is the same. Importantly, however, the external head is related to its relative clause-internal counterpart not by movement but by ellipsis. Importantly, there is a relative clause-internal representation of the external head in both derivations. Given standard assumptions about reconstruction in A'-chains, the Preference Principle (Chomsky 1995) applies and deletes the restriction from the operator position but retains it in the lower copy. The LF for (1a) then looks as follows (ignoring CP-external material):

- (3) [_{CP} [das ~~Gerücht über sich_i]~~₁ Peter_i nicht [x Gerücht über sich_i]₁
 which rumor about self Peter not rumor about self
 ertragen kann]
 bear can

Reconstruction in relative clauses can thus successfully be handled in terms of the Copy Theory and is thus assimilated to reconstruction in other types of A'-movement. So far, both analyses make the same predictions. In the following section, I will discuss data where the HRA makes the wrong predictions.

3. Problems for the HRA

In this section, I will discuss two configurations where it seems that the lower relative clause-internal copy is *not* interpreted. As I will argue in some detail, this is unexpected under the HRA.⁷

3.1 Interpreting only the external head

There are configurations where the external head must not be reconstructed into the relative clause because it contains material that is only licensed relative clause-externally, i.e. in the matrix clause. The first type concerns idiom formation. In the following example, the external head contains an idiomatic NP that must be interpreted together with the matrix verb (Heck 2005: 14, ex. 53):

- (4) Er **schwingt** [**grosse Reden**], die keiner __ hören will.
 he swings grand speeches which no.one hear wants
 'He gives grand speeches no one wants to hear.'

Under the HRA, this is unexpected because reconstruction is the default. If the Preference Principle applied in this case, the idiomatic interpretation would no longer be available because the idiomatic NP would not be adjacent to the idiomatic verb. Such examples are therefore incorrectly predicted to be ungrammatical as the following LF shows, a fact Bhatt (2002: 47f. note 1) concedes:⁸

- (5) §Er **schwingt** [_{XP} [**grosse Reden**]₂], [_{CP} [die [**grosse Reden**]₂]₁
 he swings grand speeches which grand speeches
 keiner [_x **grosse Reden**]₁ hören will]].
 no.one grand speeches hear wants

The second type involves anaphor binding. In the following example, an anaphor inside the external head is bound by an R-expression in the matrix clause:

- (6) Schicken Sie_i uns ein [Foto von sich_i], das __ beweist,
 send you us a picture of self which proves

dass Sie ein wahrer Ferrari-Anhänger sind.
 that you a true Ferrari-fan are
 'Send us a picture of yourself which proves that you are a true Ferrari-fan.'
 (www.vodafone-racing.de/pda/f_fancontest.html)

Since anaphors are subject to Principle A in German, reconstructing the external head into the relative clause would lead to a crash, the anaphor would no longer be in a local relationship with its antecedent and end up unbound. Again, the HRA makes the wrong prediction. One might object at this point that this configuration belongs to one of the cases where the Preference Principle can be overridden. It has been noticed for English that anaphors can also be interpreted in the final landing site of an A'-movement operation. In the following example, the anaphor can be bound by *John*:

- (7) *John*_i wondered [which picture of *himself*_i] I like _i best.

Whatever the precise technical reason (e.g. LF-movement of the anaphor to its antecedent, cf. Munn 1994, Chomsky 1995), one could argue that the same mechanism prevents deletion of the anaphor in the upper copy in (6) so that the anaphor would be correctly bound after all. However, this argument does not go through because the German equivalent of (7) is ungrammatical (cf. Kiss 2001):

- (8) *Hans*_i fragt sich, [_{CP} [welches Foto von **sich*_i/*ihm*_i]_i
 John asks self which picture of self/him
 ich am besten _i mag].
 I the best like

Only a pronoun is acceptable here. This implies that the Preference Principle cannot be overridden in German in this configuration and that the grammaticality of (6) is most plausibly due to interpretation of the external head.^{9, 10}

3.2 Absence of Principle C effects

While reconstruction for anaphor binding was shown to be straightforward in relatives, there are no Principle C effects:

- (9) a. die [Nachforschungen über *Peter*_i], die
 the investigations about Peter which
*er*_i mir lieber __ verschwiegen hätte
 he me.DAT prefer conceal would.have
 'the investigations about *Peter*_i that he_i would have rather concealed from me'

- b. der [Artikel über **Peter**_i], auf den
 the article about Peter on which
er_i am meisten __ stolz ist
 he the most proud is
 ‘the article about Peter_i that he_i is most proud of’

Some speakers are puzzled by such examples when first confronted with them. The coreference is more easy to get if the subject is slightly stressed. This arguably has to do with the somewhat exceptional anaphoric relation in this case, the antecedent is not prominent enough (Bianchi 2004). Once this is taken into account, the sentences are fine.¹¹

Again, this is unexpected under the HRA. If the Preference Principle applies, we expect the offending R-expression to be retained in the lower relative clause-internal copy thereby triggering a Principle C violation as the LF of (9b) shows:

- (10) § der [~~Artikel über Peter~~_i]₂, [_{CP} [auf den [~~Artikel über Peter~~_i]₂]₁
 the article about Peter on which article about Peter
er_i am meisten [auf x Artikel über **Peter**_i]₁ stolz ist
 he the most on article about Peter proud is

One might object (Jan-Wouter Zwart, conference question) that the grammaticality of these cases follows from the fact that the A'-moved phrase does not reconstruct because it takes wide-scope, as argued for certain types of *wh*-movement in Heycock (1995: 558) and Fox (1999):

- (11) a. [Which stories about Diana_i] did she_i most object to __?
 b. * [How many stories about Diana_i] is she_i likely to invent __?

In (11a), the use of *which* implies that the stories questioned are D-linked. Heycock (1995) and Fox (1999) assume that in those cases, the restriction of the *wh*-phrase is interpreted in the operator position. This accounts for the absence of Principle C effects. In (11b), however, a verb of creation is used, which implies that the stories do not exist yet. The amount quantifier *many* therefore must take narrow scope with respect to *likely*. Under the assumption that it is interpreted together with the restriction, the R-expression will end up in the c-command domain of the coreferential pronoun and trigger a Principle C effect. Such an approach predicts a relative clause based on a verb of creation to trigger Principle C effects, a prediction that seems to be borne out:

- (12) * die [vielen Geschichten über Diana_i], die
 the many stories about Diana which
 sie_i wahrscheinlich wieder __ erfindet
 she probably PRT invents
 ‘the many stories about Diana_i that she_i is likely to invent’

Relative clauses would thus be perfectly parallel to *wh*-movement. However, I think that this is not correct. The grammaticality of sentences like (11a) is not so well-established. While it is uncontroversial that (11a) is better than (11b), such sentences are still quite degraded for many speakers. In fact, the ungrammaticality of a sentence like *Which picture of John does he like?* was used in Chomsky (1995) to motivate the Preference Principle. He argues that even though nothing in the restriction of the *wh*-phrase requires reconstruction (i.e. there is no bound variable and no anaphor), the fact that such sentences are ungrammatical shows that there must be reconstruction. The Preference Principle takes care of this.

The problem certainly is to some extent empirical. Most (naïve) speakers consider sentences where the R-expression is contained inside an argument as in (11a) ungrammatical. This is also the position in Bianchi (2004), Citko (2001), Munn (1994) and Sauerland (2003). Others claim that Principle C effects can be absent under certain conditions not necessarily having to do with scope, cf. Fischer (2004), Safir (1999). Safir (1999: 609, ex. 61) provides a representative list, but again, many of those examples are often rejected by native speakers. Importantly, while the status of Principle C effects in *wh*-movement is contested, everybody seems to agree that *wh*-movement contrasts with relativization, where Principle C effects are clearly weaker. The same kind of contrast is also found in German. The *wh*-movement equivalents of (9) are strongly ungrammatical for the speakers I have consulted:

- (13) a. *[Welche Nachforschungen über Peter]_i hätte er_i
 which investigations about Peter had he
 dir lieber —₁ verschwiegen?
 you.DAT preferred concealed
 lit.: 'Which investigations about Peter_i would he_i have preferred to
 conceal from you?'
 b. *[Auf welche Artikel über Peter]_i ist er_i am meisten —₁ stolz?
 on which articles about Peter is he the most proud
 lit.: 'Which articles about Peter_i is he_i most proud of?'

I will take this contrast to be meaningful and will henceforth assume that there are Principle C effects in *wh*-movement but not in relativization.¹²

What about the narrow-scope cases in (11b) and (12)? Most likely, they are independently ruled out because expressions with verbs of creation have been argued to contain an implicit coreferential PRO (the agents of V and N are identical), as admitted in Heycock (1995: 558, note 13) and Fox (1999: 167, note 24).

- (14) * [How many PRO_i stories about Diana_i] is she_i likely to invent ___?

The presence of an implicit PRO inside the moved phrase is sufficient to trigger a Principle C violation, irrespective of whether there is reconstruction or not. The same holds for the relative in (12), where there is a PRO inside the external head. Such cases are therefore irrelevant and do not provide any evidence for reconstruction for Principle C.¹³

The upshot of this discussion is that the absence of Principle C effects in German relatives is real and remains unexplained under the HRA.

4. A Matching Analysis

In this section, I will propose a new implementation of the Matching Analysis which captures the entire reconstruction pattern in German relatives.

4.1 Basic assumptions

The basic derivation is as depicted in (2b). The relative operator moves together with an occurrence of the external head NP to Spec, CP where that NP is PF-deleted under identity with the external head:

- (15) das [**Buch**_i] [_{CP} [das **Buch**_j]₁ er ___₁ mag]
 the book which book he likes
 'the book which he likes'

As for the LF, the Preference Principle applies by default, leading to unrestricted quantification:

- (16) das [**Buch**_i] [_{CP} [das **Buch**_j]₁ er [x **Buch**]₁ mag]
 the book which book he book likes

In addition, the external head and the lower relative clause-internal copy are (exceptionally) deleted if they contain an element with a *positive licensing requirement* which is not licensed in that particular position. By elements with a positive licensing requirement I mean elements like anaphors, bound pronouns and idiom chunks which depend on other elements to be licensed. Importantly, deletion is subject to recoverability. The following two subsections illustrate the two cases of exceptional deletion.

4.2 Reconstruction and non-reconstruction

Let's first discuss the cases in (1) where the external head has to be reconstructed into the relative clause. These examples have one thing in common: their external head contains an element with a positive licensing requirement which, however, is not licensed in that position. The assumptions introduced in the previous subsection derive the correct result: the Preference Principle retains the idiomatic NP only in the lower copy adjacent to the idiomatic verb. Additionally, the external head is deleted because the idiomatic NP is not licensed there. The following LF illustrates this for the idiom example in (1c):

- (17) die [~~Rede~~]_j, [_{CP} [die ~~Rede~~]_j]₁ er [x Rede]₁ geschwungen hat]
 the speech which speech he speech swung has

The deletion of the external head is allowed because its content is recoverable from the lower relative clause-internal copy. The same applies to the cases with variable binding and anaphor binding in (1a–b).¹⁴

The converse case is represented by the examples in (4) and (6) where only the external head may be interpreted. Here, the problematic copy is the lower relative clause-internal one as it contains an element with a positive licensing requirement that is not licensed there: the idiomatic NP is not adjacent to the idiomatic verb and the anaphor is too distant from its antecedent. This is where the assumptions about deletion become relevant again: the lower copy is exceptionally deleted while the external head is retained. Nothing forces its deletion in this case. This derives the correct result as the following LF for the idiom case in (4) shows:

- (18) Er schwingt [**grosse Reden**]_j, [_{CP} [die [~~grosse Reden~~]_j]₁ keiner
 he swings grand speeches which grand speeches no.one
 [x ~~grosse Reden~~]₁ hören will].
 grand speeches hear wants

The content of the deleted copy can be recovered from the external head.¹⁵ Since the external head is retained, it can form part of an idiom with the matrix verb.

4.3 Absence of Principle C effects

As for the absence of Principle C effects (9), I would like to adopt an idea by Sauerland (2003): he argues that since a MA involves an ellipsis operation between the external head and its representation in Spec, CP we can expect specific properties of ellipsis to surface. The crucial property in the current context

is that ellipsis allows certain mismatches between antecedent and the elided constituent. For instance, an R-expression can correspond to a personal pronoun. Consider the following pair:

- (19) a. *John likes **Mary**_p, and she_i does, too.
 b. John likes **Mary**_p, and she_i knows that I do, too.

In both cases, the antecedent *like Mary* is the same, so that both sentences are expected to be ungrammatical, contrary to fact. Embedding should not affect Principle C effects. The contrast follows, however, if the ellipsis site contains a personal pronoun instead since Principle B is sensitive to embedding:

- (20) a. *John likes **Mary**_p, and she_i does (*like her*_i), too.
 b. John likes **Mary**_p, and she_i knows that I do (*like her*_i), too.

(20a) is still out due to Principle B. (20b), however, is impeccable. Fiengo & May (1994) handle this mismatch by a mechanism called “Vehicle Change”, which turns an R-expression into a personal pronoun in an ellipsis site. Importantly, this process can be used to explain the absence of Principle C effects in relatives: an R-expression inside the external head corresponds to a pronoun in the occurrence in Spec, CP. This is illustrated in the LF of (9b):

- (21) der [Artikel über **Peter**_i]_p [_{CP} auf [den ~~Artikel über **ihn**_i]~~]_i]₁
 the article about Peter on which article about him
er_i am meisten [x Artikel über **ihn**_i]₁ stolz ist
 he the most article about him proud is

This relative clause is correctly predicted to be equivalent to a simple sentence with a coreferential pronoun inside the picture NP because — as in English — anaphors and pronouns are in free variation inside picture NPs, cf. Kiss (2001):

- (22) **Er**_i ist am meisten stolz auf diesen Artikel über **ihn**_i.
 he is the most proud on this article about him
 ‘He_i is most proud of this article about him_i.’

4.4 Lack of correlation

While Vehicle Change derives the desired result, the absence of Principle C effects could still have a different source. What is needed is explicit evidence that there is reconstruction in these cases and that the R-expression really corresponds to a pronoun. I will provide such evidence in this subsection (for more evidence see Salzmann 2006).

Principle C effects are also absent in English relatives, cf. Citko (2001), Munn (1994), Safir (1999) and Sauerland (2003):

- (23) The [relative of **John**_i] that **he**_i likes ___ lives far away.

Crucially, Principle C effects re-emerge if reconstruction is forced for variable binding or scope reconstruction, cf. Fox (1999) and Sauerland (2003: 213ff.):

- (24) a. *The [letters by **John**_i to her_j] that **he**_i told every girl_j to burn ___ were published.
b. *I visited all the [relatives of **Mary**'s_i] that **she**_i said there are ___ left.

This has been taken as evidence for the HRA: once reconstruction is necessary, we get a copy of the external head in the c-command domain of the coreferential pronoun and a Principle C effect ensues. However, this is not the case in German (first observed in Heck 2005) as the following example shows:¹⁶

- (25) das [Buch von **Peter**_i über *ihr*_j Leben],
the book of Peter about her life
das **er**_i *jeder* *Schauspieler*_jin ___ sandte
which he every.DAT actress sent
lit.: 'the book by Peter_i about her_j life that he_i sent every actress_j'

This argues against the HRA and in favor of a MA with Vehicle Change:

- (26) das [~~Buch von **Peter**_i über *ihr*_j Leben~~]_j,
the book of Peter about her life
[_{CP} das [~~Buch von **ihm**_i über *ihr*_j Leben~~]]_i **er**_i
which book of him about her life he
jeder *Schauspieler*_jin [x Buch von **ihm**_i über *ihr*_j Leben]_i sandte
every actress book of him about her life sent

Again, the sentence corresponds to the following base sentence:

- (27) **Er**_i sandte *jeder* *Schauspieler*_jin [ein Buch von **ihm**_i über *ihr*_j Leben].
he sent every actress a book by him about her life
'He_i sent every actress a book by him_i about her life.'

5. Conclusion

I have shown that the reconstruction pattern in German relatives cannot be accounted for by the HRA alone because there are cases where it incorrectly predicts reconstruction, as in (4), (6) and (9). I have proposed a Matching Analysis that handles both cases of reconstruction and non-reconstruction.

Cases where only the external head is interpreted follow from specific assumptions about deletion in relative clauses. The absence of Principle C effects is due to Vehicle Change that relates R-expressions to personal pronouns. The fact that Principle C effects do not re-emerge if reconstruction is independently required (25) provides direct evidence for Vehicle Change. The analysis proposed here thus captures the entire reconstruction pattern and is therefore superior to previous approaches.

Notes

1. I would like to thank the audience at the TIN-dag 2006 for helpful discussion, especially Mark de Vries and Jan-Wouter Zwart, and the two anonymous reviewers whose corrections and suggestions have lead to substantial improvement of the paper. The research reported on here is presented in much more detail in Chapter 2 of Salzmann (2006).
2. Non-restrictive relative clauses, which are normally thought not to allow reconstruction, are not addressed here and probably require a different analysis. See Heck (2005) for some interesting discussion.
3. Picture-NP anaphors in German are subject to the Binding Theory and do not allow for logophoric use, cf. Kiss (2001). Furthermore, interference by an implicit coreferential PRO can be ruled out due to the noun *Gerücht* 'rumor', cf. Salzmann (2006). Consequently, the example in the text does provide evidence for reconstruction.
4. The idiomatic expression *eine Rede schwingen* lit. 'swing a speech' means 'give a speech'.
5. As in other languages, only the external NP is reconstructed, cf. Bhatt (2002).
6. Movement dependencies are indicated by number indices while coreference relations are indicated by means of letter indices. This is necessary to keep the HRA and the MA apart. PF-deleted constituents like the NP in Spec, CP of (2b) appear in outline. LF-deletion will be indicated by means of strike-through.
7. The HRA has also been subject to general criticism because it involves movement steps that are poorly motivated and violate well-established constraints of grammar. I will not discuss these aspects here, the reader is referred to Borsley (1997), Heck (2005) and Salzmann (2006). See Bianchi (2000) and de Vries (2002) for replies and improvements of the HRA that avoid some of these problems.
8. I use the symbol "S" for a representation that predicts the wrong grammaticality, both when it wrongly predicts a sentence to be bad and when it incorrectly predicts it to be well-formed.
9. Things are actually slightly more complex, at least under Bhatt's version of the HRA where the head noun moves from the relative operator phrase to the spec of some functional head, cf. (2a). If the higher position counts as CP-external and nominal (as Bhatt 2002 claims) binding an anaphor in the final landing site might perhaps also be possible in

German. However, since the nature of the head X is left unclear, this explanation remains spurious. Furthermore, it is not available under Bianchi's (2004) or de Vries' (2002) versions where the external head occupies a relative clause- and thus CP-internal position.

10. One of the reviewers questions the validity of the argument advanced here. He argues that reconstruction is in principle optional and is only forced if the dislocated phrase contains an element (e.g. an anaphor) that can only be interpreted in the reconstructed position. This is a very contested issue that would require much more discussion than space constraints allow. To a large extent it depends on the Principle C facts discussed in the next subsection. If Principle C effects are systematic in A'-movement, as claimed below, reconstruction must be obligatory because R-expressions have no special, e.g. anaphoric property, that would independently force reconstruction. Consequently, the Preference Principle applies by default. There are some well-defined cases like (7) where the Preference Principle can be overridden, but as discussed in the text and in footnote 9, this does not work for German. Ambiguous relative clauses with anaphors that can be bound both relative clause-internally and relative clause-externally (Kayne 1994: 87, ex. 8 and de Vries 2002: 82, ex. 26) therefore also do not provide any evidence that reconstruction is optional. Rather, as I will argue in Section 4, deletion operations in relativization are subject to certain interpretive constraints that eventually lead to a pattern that is quite close to optionality.

11. Bianchi (2004) thus reaches a different conclusion than Bianchi (1999: 109ff.) where Condition C effects are taken to be the default in Italian. She observes that they are obviated when the coreferential subject pronoun is of the strong, i.e. overt type but not if a small *pro* is used. One of the anonymous reviewers has correctly pointed out that there is a certain tendency to use a focus particle (e.g. *selbst*, 'self') in German as well in these cases. Whether this type of focus has a general ameliorating effect on Principle C violations is a question I have to leave for further research.

12. Henderson (2005) comes to the opposite conclusion for English and argues that the MA is unnecessary.

13. As pointed out in Heycock (1995: 558, note 15), the PRO-problem can be circumvented by embedding the verb of creation more deeply. But as argued in Salzmann (2006) such examples are still independently degraded due to constituency problems so that they do not provide evidence for reconstruction.

14. Scope reconstruction and the low construal of superlative adjectives (Bhatt 2002), which are not discussed here, probably require extra assumptions in this system. See Salzmann (2006) for discussion.

15. Recoverability thus works both ways. My proposal is very similar to the one in Citko (2001) in that deletion can exceptionally affect an occurrence of a given NP that is not part of the same chain. If the external head does not contain an element with a positive licensing requirement it is retained together with the lower CP-internal copy.

16. Safir (1999: 613, note 22) questions the correlation. In Salzmann (2006) it is shown that many of the English examples used in the discussion are unacceptable for independent reasons. Taken together, this suggests that English is not so different from German and that a MA might work as well.

References

- Bhatt, Rajesh. 2002. "The Raising Analysis of Relative Clauses: Evidence from Adjectival Modification". *Natural Language Semantics* 40.43–90.
- Bianchi, Valentina. 1999. *Consequences of Antisymmetry*. Berlin: Mouton de Gruyter.
- Bianchi, Valentina. 2000. "The Raising Analysis of Relative Clauses: A Reply to Borsley". *Linguistic Inquiry* 31:1.123–140.
- Bianchi, Valentina. 2004. "Resumptive Relatives and LF Chains". *The cartography of syntactic structures. Volume 2* ed. by Luigi Rizzi, 76–114. Oxford: Oxford University Press.
- Borsley, Robert D. 1997. "Relative clauses and the theory of phrase structure". *Linguistic Inquiry* 28.629–647.
- Chomsky, Noam. 1995. *The Minimalist Program*. Cambridge, Mass: MIT Press.
- Citko, Barbara. 2001. "Deletion under Identity in relative clauses". *NELS* 31.131–145.
- Fiengo, Robert & Robert May. 1994. *Indices and identity*. Cambridge, Mass: MIT Press.
- Fischer, Silke. 2004. Towards an Optimal Theory of Reflexivization. Ph.D. Dissertation, University of Tübingen.
- Fox, Danny. 1999. "Reconstruction, Binding Theory, and the interpretation of chains". *Linguistic Inquiry* 30:2.157–196.
- Heck, Fabian. 2005. Gegen Kopfanhebung in deutschen Relativsätzen. Paper presented at the Generative Grammatik des Südens, 7.5.2006 Tübingen.
- Henderson, Brent. 2005. Matching and Raising unified. Ms. University of Illinois.
- Heycock, Caroline. 1995. "Asymmetries in Reconstruction". *Linguistic Inquiry* 26:4.547–570.
- Kayne, Richard S. 1994. *The antisymmetry of syntax*. Cambridge, MA.: MIT Press.
- Kiss, Tibor. 2001. Anaphora and exemptness. A comparative treatment of anaphoric binding in German and English. Ms. University of Bochum.
- Munn, Alan. 1994. "A Minimalist Account of Reconstruction Asymmetries". *NELS* 24.397–410.
- Safir, Ken. 1999. "Vehicle Change and Reconstruction in A'-chains". *Linguistic Inquiry* 30:4.587–620.
- Salzmann, Martin. 2006. *Resumptive prolepsis. A study in indirect A'-dependencies*. Utrecht: LOT (LOT dissertation series 136).
- Sauerland, Uli. 2003. "Unpronounced Heads in relative Clauses". *The interfaces* ed. by K. Schwabe & S. Winkler, 205–226. Amsterdam/Philadelphia: John Benjamins.
- Vries, Mark de. 2002. *The Syntax of Relativization*. Utrecht: LOT (LOT dissertation series 53).