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**The Position of Relative Clauses
in German**

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Introduction

This work focuses on two different aspects concerning the position of German relative clauses: adjacency and discontinuity with the antecedent noun phrase. Adjacency means that the relative clause is located straight after the antecedent, while discontinuity means that the relative clause is located/moved far away from the noun phrase it refers to. Discontinuity between antecedent and relative clause in German is very frequent with respect to other languages and, in a verb second language with OV-type like German, requires necessarily the lexicalization of the *Nachfeld* of the matrix clause. So, as well as post-verbal sentential complements or adjunction in German, the extraposition of restrictive relative clauses is another typical case of *Nachfeld* realization in German, which is not compulsory. While adjacency in German is allowed for every relative clause within all three fields of the matrix clause (*Vorfeld*, *Mittelfeld* and *Nachfeld*), discontinuity is subject to restrictions. The aim of this work is to outline these restrictions and to provide an explanation of the grammaticality or ungrammaticality of each case of discontinuity (*Mittelfeld-Nachfeld*, *Vorfeld-Nachfeld* and *Vorfeld-Mittelfeld*). Restrictions regarding this common word order phenomenon in German depend in the first place on the difference between restrictive and non-restrictive relative clauses; for each of the two typologies of relative clauses, every position of relative clause with respect to its antecedent will be taken into account. The first results on discontinuity with respect to these two kinds of subordinate sentences are based on the syntactic evidence that relative clauses in German are assigned two different syntactic derivations. This work will provide evidence of the fact that what has been called Head Raising Analysis (Kayne, 1994) and Matching Analysis (Sauerland, 1998) are actually suitable derivations for the German language, the former for restrictive relative clauses and the latter for non-

restrictive relative clauses. Since the two types of relative clauses are assigned two different syntactic derivations, it is easy to assume that they also behave differently with respect to some of the usual syntactic operations as well as extraposition, which is the main focus of this work. One major difference arose by the following analysis is the fact that a restrictive relative clause can be extraposed when the antecedent is located in the first field of the main clause, hence at the beginning. Our hypothesis is that, in order to achieve a complete study of this particular case, we need to research another level of analysis and investigate the background structure of the main clause as well as its influence on an extraposed subordinate clause. Data will show that the focus and background structure of the antecedent is what allows extraposition at long distance. This kind of informational structure will also play a role for some marginal cases of extraposition with the antecedent located in the middle of the main sentence, in particular when there is ambiguity in the semantic reference of the relative clause.

This work is mainly devoted to the syntactic aspects and restrictions of relative clauses and the related phenomenon of extraposition, which are topics of chapter one, two and three. Chapter four deals with cases of extraposition where the syntactic analysis is not enough and phonological and discourse-related aspects have to be taken into account. In the conclusion we will summarize the main findings of this work and it will try to present the set or rules for extraposing German relative clauses in a simple manner, which can eventually be implemented for a lesson on German relative clauses to advanced L2 students.

More specifically chapter one provides an overview of previous literature on relative clauses in general and on the differences between restrictive and non-restrictive relative clauses. Moreover, it presents different theories of the word order phenomenon of extraposition regarding German relative clauses. Aim of this first chapter is to show that German relative clauses

must be analysed independently from English relative clauses and that conclusions on extraposition that have been drawn from previous studies on the basis of English examples are not directly suitable for the German language as well. Chapter one will also bring evidence to the fact that, despite preliminary assumptions on the difference between types of relative clauses, non-restrictive relative clauses are often ignored as if assumption on the behaviour of restrictive relative clauses could tacitly work out also for them. One of our main goal of this work is to demonstrate that this is not the case. Restrictive and non-restrictive relative clauses behave differently because they have different syntactic status.

Chapter two describes the different behaviour of relative clauses in German and, in particular, their position with respect to the own antecedent from a syntactic point of view. Data originally collected with a questionnaire shows clear restrictions on the position of relative clauses with respect to discontinuity. First of all we confirm with examples that the lexicalization of the field after the right verbal bracket of the main clause is required in order to allow grammaticality of discontinuity between relative clause and antecedent. Secondly we have a look at single cases of discontinuity. If the relative clause is located in the *Nachfeld* and the antecedent in the *Mittelfeld* or in the *Vorfeld*, restrictions depend on the nature of the relative clause (restrictive and non-restrictive relative clauses). Chapter two and chapter three will deal further with these syntactic differences between restrictive and non-restrictive relative clauses and we will try to provide a suitable derivation for both kinds of clauses which account for their differences with respect to some of the common syntactic operations, relationships and conclusions drawn on previous literature. Descriptive differences between restrictive and non-restrictive are very common but what hasn't been discussed is the different status of these two syntactic structures. Since the first chapter gave an overview analysis of the major findings and hypothesis on relative clauses with minor comments on the suitability of the hypotheses

found in the literature, chapter three will advance a theory on this matter. In particular we claim that restrictive and non-restrictive relative clauses are attached to the main clause in two different ways, as complement or adjunction. Chapter three shows that restrictive relative clauses are complement of the external lexical head D° while non-restrictive relative clauses are adjuncted on a much higher level of the sentence, that is the entire NP or DP of the antecedent.

Chapter four investigates the interaction between syntactic and discourse-related restrictions on extraposition. It provides evidence that what has been claimed to be syntactic requirements for discontinuity is not enough to explain all the ungrammatical examples of extraposed relative clauses. Data shows that the discourse functions within the antecedent noun phrase, in the first place of the determiner, play an important role for this phenomenon. This chapter deals at the beginning with the concept of focus and accent in German and then with the focus/background structure of sentences and of potential antecedents NP/DP. This chapter tries to examine the interaction of these discourse related aspects with the data collected on the extraposition of relative clauses. Examples provided in this chapter are always embedded in a specific question-answer context and they show that accent on the determiner is what influences the possibility of extraposing.

Data collection

This work will present a number of examples to provide sufficient evidence about the possible position of relative clauses with respect to their antecedent. The examples provided were gathered with four questionnaires, which were sent per email or given face-to-face to a group of 2 until 20 people. People had to give a grammatical evaluation of the sentence they were reading. We realize at the beginning that the position of relative clauses with respect to the antecedent has actually always been untied from

normative grammatical rules or from a particular grammatical pattern. So we supposed that there might be some language pattern of rules regarding the different properties of relative clauses, which govern their behaviour. A list of variables was prepared before collecting data in order to build examples of relative clauses which were potentially relevant for the purpose of this work: Examples with different (a) types of relative clause; (b) types of antecedent; (c) cases of the antecedent; (d) positions of the antecedent within the matrix clause.

Data has been collected always with closed-ended questionnaires. Every sentence on the form had boxes for the informants to tick accordingly to their perception of the syntactic structure provided. Every sentence could be grammatical (OK), ungrammatical (*) or doubt (?). Native speakers had only to judge single sentences on the basis of this criterion without making comments. Cases of uncertainty were rare because the informants were reading the sentences and intonation or context were not given. They were therefore free, if necessary, to find the suitable situation for the proposed example in order to justify the given syntax.

The first survey amongst German native speakers aimed at confirming the possibility of adjacent relative clauses and, in particular, at making sure that the hypothesis that adjacency is always grammatical was confirmed. The list of examples includes minimal pair of adjacent restrictive and non-restrictive relative clauses with masculine, feminine and neutral antecedents; nominative, accusative, dative and genitive antecedents and nominative, accusative, dative and genitive relative pronouns in every order. There is no doubt that adjacency is not affected by any of these elements but for the sake of completeness, this list was judged by two reliable informants. Here a sample of the first questionnaire.

(1)

Ant	RelPr	RESTRICTIVE RELATIVE CLAUSES	
A	N	Den Mann, der gut singen kann, kenne ich seit zwei	OK

		Jahren	
N	Prep	Der Mann, auf den du dich beziehst, hat ein Lied geschrieben	OK
		(...)	
		NON-RESTRICTIVE RELATIVE CLAUSES	
A	N	Seinen Vater, der gut singen kann, kenne ich seit zwei Jahren	OK
N	Prep	Hans, auf den du dich gerade beziehst, hat ein Lied geschrieben	OK

Our second goal was to examine which of the listed variables could affect the possibility of moving the relative clause far away from the antecedent. The variables taken into account were the morphological case of the antecedent and the morphological case of the relative pronoun. With the second questionnaire, informants were in fact asked to judge the grammaticality of extraposed relative clauses with all four morphological cases of relative pronoun, including relative pronoun with prepositions and all four cases of antecedent. Data showed that these two aspects do not provide any explanation for the difference between adjacency and discontinuity. The possibility of extraposition does not depend on the morphological case of the antecedent or of the relative clause. Sentences were always given both restrictive and non-restrictive (see following sample from the second questionnaire).

(2)

A	N	Ich habe den Mann vor zwei Jahren kennengelernt, der gut singen kann	OK
A	Prep	Gestern habe ich den Mann kennengelernt, auf den du dich beziehst	OK
		(...)	
A	N	Ich habe seinen Vater kennengelernt, der übrigens gut singen kann.	OK
A	Prep	Ich habe gerade Hans kennengelernt, von dem du übrigens gestern gesprochen hast.	OK

Disregarding of the general assumption one can make about the adjacent position of a German relative clause it was important to submit to the

informants also trivial examples of adjacency or discontinuity forced us to investigate also. The lack of normative grammars dealing with this aspect forced us to check whether some or all variables were relevant for our hypothesis on relative clause position. Judgments on the grammaticality of the sentences by native speakers proved this wrong.

The disadvantages of these two first questionnaires were that informants were asked to judge a long list of similar sentences with minor differences and the risk was that they would lose track of the language feeling during the process of evaluation. This risk was reduced by giving the participants blocks of sentences, rather than a single long list of examples. This kind of survey was however necessary at the beginning in order to narrow down the possible restrictions and channel the hypothesis on the right directions. The advantage of using a questionnaire to collect these data was that the target group was accurately built including people with a sufficient level of literacy who were not necessarily expert of linguistics. It was in fact important to include a major number of “non expert” in order to have spontaneous evaluation not spoiled by conjectures or “sneaking suspicions”. The majority of informants were students or ex students from the University of Mainz and the University of Tübingen, who did not necessarily take exams of linguistics or languages. While filling the questionnaire there were looking for the right answers to give, as if they were a right answer amongst the three possibilities. This conveys authenticity to their judgment on the provided sentences.

The third questionnaire was prepared in the second part of the survey in order to test a second group of variables. In this questionnaire the informants were asked to judge grammaticality of relative clauses referring to antecedents in different positions of the matrix clause. This questionnaire provided interesting differences between adjacency and discontinuity and it was in fact used as basis for formulating the major hypothesis. Data

collection and results of our analysis will be given in extend form in Chapter two.

(3)

Mit dem Professor haben die Studenten gesprochen, die die Prüfung nicht bestanden haben	OK
Mit dem Professor hat Karin gesprochen, die übrigens die Prüfung nicht bestanden hat.	OK
(...)	
Studenten haben mit dem Professor gesprochen, die die Prüfung nicht bestanden haben	OK
Karin hat mit dem Professor gesprochen, die die Prüfung nicht bestanden hat.	*

As far as syntactic restrictions are concerned informants were not provided with any context in the questionnaire. Informants were free to read sentences with the favourite intonational contour. Interestingly they tend to look for an intonational contour, which was able to justify the grammaticality of the sentence. As we said before informants were trying to do the right thing and to answer correctly so they considered all possible intonational patterns until they found the suitable pattern supporting the syntax. Since we realize context was actually relevant we found that an other survey was due.

The last questionnaire aimed at investigating discourse related restrictions and it required the presentation of sentences within a specific context in order to avoid the possibility that informants looked for the right intonational and found out a suitable situation to justify the particular sentence with extraposition. It was necessarily to confine informants to read a sentence with the required intonation in order to investigate the interchangeable dependency of extraposition from informational structure, so a specific context was provided in form of questions.

(4)

Question: Welche Bilder hast du gekauft?	
Die Bilder habe ich gekauft, die auf dem Tisch liegen	OK
Die Bilder von Mary habe ich gekauft, die auf dem Tisch liegen	*
Question: Welche Bilder von Mary hast du gekauft?	OK
Ich habe die Bilder von Mary gekauft, die auf dem Tisch liegen	OK
Die Bilder von Mary habe ich gekauft, die auf dem Tisch liegen	OK

This way of collecting data was the best way to check all possible positions of relative clauses, especially comparing minimal pairs, which allow us to make the best comparison and to find out relevant variables. Although this kind of questionnaire does not include spontaneous utterances the sentences chosen were kept as simple as possible because they do not have to sound odd for the informants that read them. Informants had to give an evaluation on the grammaticality of the sentence as spontaneous as possible. This was also preserved by the fact that participants were involved in this collection without knowing the exact purpose of the questionnaire. Information on the type of relative clause or relative pronoun were not given in the list of sentences, as shown in the example above. They also knew the survey was about the use of relative clause in German.

Chapter 1

The linguistic properties of relative clauses

1.1 Introduction: Relative clauses

1.1.1 Relative clauses in German

Relative clauses in general can be defined as modifying clauses. From a syntactic point of view the prototypical relative clause construction consists of a head and a modifying part. The referent of the head is involved in the situation expressed both by the main clause and by the modifying clause. A much deeper definition of this kind of subordinate clause is however impossible without mentioning some of its properties and cross-linguistic differences. In general relative clause constructions are known to show a various number of typological variations across the languages of the world (Keenan, 1985; Lehmann, 1986) according to parameters which involve the position of the relative clause with respect to the referent phrase, the strategy for joining the relative clause to the main clause and the semantic difference between defining and non-defining constructions. As far as the referent is concerned, which is often referred as “head”, cross-linguistically there are post and pre-nominal relative clauses as well as internally and externally headed relative clauses. For example English, German, French and Italian relative clauses follow the head noun externally; Turkish and Japanese relative clauses precede their head noun externally (McCawley, 1972: 205) but there are also languages, like Diegueño, where the head noun is within the relative clause (Keenan 1985: 162). A brief overview on the relativization system according to these aspects will be given in the chapter about restrictive relative clauses. Moreover relative clause can be introduced

both by a relative pronoun which agrees with the head noun in gender, number, definiteness, animacy etc. or by a relative complementizer (Kayne, 1976; Cinque, 1978). The semantic distinction within the group of relative clauses refers to the possibility of constraining the domain of relativization, hence the set given by the head noun. The following semantic types of clausal modification are usually distinguished. (a) The so-called restrictive relative clauses modify a nominal phrase whose semantic function consists in establishing a set of entities referred to as the domain of relativization (Keenan and Comrie, 1977; Keenan, 1985); the relative clause identifies a certain subset of this domain. For example, in (1) the domain of relativization is established by the modified noun *der Hund*, whereas the relative clause, indicated here with square brackets, restricts this semantic domain by specifying which dog is meant. Since the restrictive relative clause narrows the concept associated with the modified noun, it serves the purpose of identifying the entity.

(1)

Der Hund, [den du siehst], gehört zu Karin

The dog that/which you see belongs to Karin

By contrast, (b) non-restrictive (or appositive) relative clauses do not serve for identification and do not restrict the reference of the nominal phrase they modify. An example in (2).

(2)

Karin, [die eine gute Lehrerin ist], arbeitet in einer neuen Schule.

Karin, who is a good teacher, works in a new school

In (2) the speaker assumes that the addressee can identify the referent of the modified noun *Karin*. The purpose of the relative clause is to provide further background information about the entity whose reference is independently established.

Restrictive relative clauses are cross-linguistically more common than non-restrictive ones: there are no languages with only non-restrictive relative

clauses, but the reverse is true (Comrie, 1999). In some languages, restrictive and non-restrictive relative clauses have a consistently different surface structure but most languages, like German, do not show significant distinctions in the surface expression of restrictive and non-restrictive headed relatives, although they may differ prosodically. Non-restrictive relative clauses normally involve an intonational break, as is also typical of appositions and parentheticals (see chapter four). In fact both kinds of relative clauses in the German language take the same position with respect to head and are both postnominal with verb end construction. Thus, as already noticed by Keenan (1985:143-144) there is a general cross-linguistic tendency in favour of postnominal relative clauses over the prenominal ones. A second criterion of classification, which is represented in the same way in German in the two kinds of relative clauses, is the use of the relative pronoun. The pronoun is co-referential with the head nominal, it is syntactically marked to reflect the role of the head nominal in the relative clause and it is located in the left periphery of the relative clause. Relative pronouns are case-marked to encode the role of the head noun in the relative clause and may agree with head noun in other features like number and gender. Moreover the same hierarchy of relativized grammatical functions, introduced by Keenan & Comrie (1977), is exactly the same for restrictive and non-restrictive relative clauses in German. Both kinds of clauses can relativize subjects, direct objects, indirect objects, oblique arguments, possessors, and objects of comparison.

1.1.2 Relative clauses in other languages

In English the relative pronoun *that* is reserved for restrictive relative clauses and can refer to any kind of antecedent, both [+personal] and [-personal]. *That* introducing restrictive relative clauses can be omitted if it is not the subject of the clause (3a). For non-restrictive relative clauses one

cannot use the personal pronoun *that* but only the personal-marked pronoun *which/who* (3b), which, unlike *that* can be preceded by preposition (3c).

(3)

- a. The book (that) I was reading was very interesting
- b. Sportsmen, who pay attention to their diet, are not usually over-weight.
- c. The chair on which I sat down collapsed

In a non-restrictive relative clause (3b) commas are usually required before and after the relative clause, while *that* is never preceded by punctuation (3a, c). Relative clauses can also be introduced by relative adverbs (4), which relativizes place, time and cause (where, when, why). This relative adverbs are typical of Germanic languages and they are to found also in German (worauf, wonach, woher, wofür).

(4)

Let's go to a country where the sun always shines.

In French, near the usual simple relative pronoun *que*, there is the complex form *lequel* for non-restrictive relative clauses (4b). This form corresponds to the French interrogative pronoun, exactly like in English *which/who* have the same form as the English interrogative pronoun. The different between English and French with respect to relative pronouns is that the restrictive relative pronoun *que* has also a subject form (*qui*), while subject relative pronoun in English is either always *that* or it can be elided. As far as prepositions are concerned *que*, like *that* cannot combine with prepositions unlike *qui* and *quoi*, which can be preceded by any prepositions (6a). The only relative adverb in French is *où*, which relativizes places.

As far as relativization, French and Italian share a similar strategy because near the equivalent of the Italian relative pronoun *che* for any gender, number and case (there is no difference for nominative like in French *qui*) it is possible to use also *il quale*, *la quale*, *i quali* as subject of the relative construction (5c) (In French also for non-subject position, (5b). For indirect objects Italian uses both a preposition followed by *quale* or the relativizing

element *cui*. The analysis carried on by Donati (1995) shows that Spanish shares some analogies with French and Italian but if it is not really possible to talk about a real relativization strategies of romance languages in the sense of Kayne (1976) and Cinque (1978). The Spanish *que*, for example, can be preceded by a preposition or/and an article (6a) and it is also able to relativize a infinite relative clause (7a). This is not the case for *che* in Italian (7b) and *que* in French (6a).

(5)

- a. J'ai parlé avec son père et sa mère, que je connaissais déjà.
- b. J'ai parlé avec son père et sa mère, lesquels je connaissais déjà.
- c. Ho parlato con suo padre e sua padra che conoscevo già
- d. *Ho parlato con suo padre e sua padre i quali conoscevo già

(6)

- a. *Je connais le trian avec que tu voyages
- b. Conozco el tren con que vas a viajar

(7)

- a. Quedan varios puntos que tratar
- b. *Rimangono vari punti che trattare

The binary system in the strategy of joining the relative clause with the matrix clause seems to be very common cross-linguistically. Also the system of Cimbrian relative clauses has two different complementizers borrowed respectively from the two major language influences: the Germanic *bo* for restrictive relative clauses (wh-word) and romance *ke* for both restrictive and non-restrictive relative clauses (Bildese, Padovan & Tomaselli, 2012). Although the etymology of the two elements is attested Cimbrian uses the German complementizer in a different way with respect to usual wh-words. *Bo* is confined to the restrictive use in Cimbrian, while wh-pronouns in English are both for restrictive and non-restrictive relative clauses. *Ke*, on the other hand, reflects the use of the Italian *che* because it can be used for both kinds of relative clauses.

This overview on the different relativizing strategies across languages is extremely interesting and at the same time misleading because of the big inhomogeneity and crossed patterns. There is no homogenous pattern related to the different properties of relative clauses listed so far. The difference between restrictive and non-restrictive relative clause, the case of the relative pronoun within the relative clause or the status of pronoun and complementizer of the relativizing element are never crucial for the choice of one or the other relativizing strategy. This is one of the reason why it is so difficult to define the role of relative pronouns or, let's say relative elements, under a theoretical point of view. One also needs to fall back on empirical evidence and lists of usages in order to account for a general definition of the phenomenon of relativization, although it is broadly known that it is to be found in every spoken language.

In German there are two kinds of relative pronouns which, alike other languages, are used for every kind of relative clause (*der, die, das* and *welcher, welche, welches*). Even though in other languages the *wh-words* are used with a different distribution, these two types of relative clauses differ only for stylistic reasons. The most common relative pronoun is homonymous with the definite article *der, die das*, but with distinctive forms in the genitive case (*dessen, deren*) and in the dative plural (*denen*). It is not clear however whether this pronoun can be historically related to the English *that* or to *wh-words*. Restrictive and non-restrictive relative clauses in German are also both marked with commas so there is no graphic or syntactic way of distinguishing them at first glance like in other languages.

1.2 The syntax of restrictive and non-restrictive relative clauses

As we have seen a relative clause can be semantically restrictive and non restrictive. There are obvious similarities but also substantial differences

between the two. The literature offers a wealth of divergent proposals to distinguish them in term of syntactic connection between relative clause and antecedent, clause type of the relative (main and subordinate) and syntactic status of the non-restrictive relative (paratactic or hypotactic) but none of these are then taken into consideration once the behaviour of relative clause with respect to the main sentences is taken into consideration on the basis of empirical evidence. We want to summarize here some of the main hypotheses concerning first of all non-restrictive relative clauses (in particular those, which account for a non syntactic or non subordinate relationship with main clause) and then restrictive relative clauses.

1.2.1 The syntax of non-restrictive relative clauses

There are many theories debated in the literature, which syntactically separate non-restrictive relative clauses from their restrictive counterpart. It is easier to account for these hypotheses when analysing non-restrictive relative clauses on their own and without referring to the similarities they have with their restrictive counterpart. Sometimes it is even difficult to disambiguate the two types and this support the idea that these two structures might not be so distant from each other after all. Sentence (8) in fact, can have both a restrictive reading (only the 50-year-old-Hans amongst the many people called Hans, that I know) and a non-restrictive reading (the hearer knows already which Hans the relative clause refers to, I only add information about his age).

(8)

Der Hans, der 50 Jahre alt ist, geht schon in Rente.

The Hans(,) that/who is 50 years old(,) retires already

Theories on non-restrictive relative clauses can however be summarized in two main groups:

- Non-restrictive relative clauses are actually very similar to apposition with nominal antecedent (Sopher, 1971, Burton-Roberts, 1975). What characterizes an apposition is on one hand the fact that the antecedent and the apposition have the same syntactic role within the sentence and, on the other hand, that they are co-referent. In (9a) the nominal phrases *meine beste Freundin* is considered to be apposition to Karin, which is the antecedent. This is also the case for non-restrictive relative clauses like in (9b):

(9)

- a. Karin, meine beste Freundin, arbeitet für H&M

Karin, my best friend, works for H&M

- b. Karin, der übrigens schon immer meine Freundin gewesen ist, arbeitet für H&M

Karin, who has always been my best friend, works for H&M.

In this case the non-restrictive relative clauses seem not to have main clause characteristics and look more like anaphora across discourse or like parenthetical constructions, which are structurally detached from the matrix clause (Fabb, 1989, Burton-Roberts, 1999 and Huddleston/Pullman, 2002) or like coordinated clauses (Ross, 1967; Emonds, 1979 and Stuurman, 1983; DeVries, 2002, 2006).

In fact, since non-restrictive relative clauses are apparently not crucial for the interpretation of the nominal they modify, they also don't need to be computed with it and are therefore more independent with respect to their restrictive sisters (Del Gobbo, 2007). If we look at potential nominal phrases modified by non-restrictive relative clauses we see that they can be proper names (10a), definite descriptions and specific names (since Smith 1964). On the other side they cannot modify quantified NPs (10b) (Ross, 1967, Rodman, 1976, Mc Cawley, 1981).

(10)

- a. John, der spät war, kam mit Mary auf die Party. (only non-restrictive reading)

John that was late came to the party with Mary

b. *Jeder Professor, den wir übrigens eingeladen haben, war spät.

c. Jeder Professor, den wir eingeladen haben, war spät.

Every professor we invited was late

Restrictive relative clauses are in complementary distribution when proper names and quantified NPs are involved (10 a,c) and such a system of potential antecedents would correctly derive the hypothesis that non-restrictive relative clauses are discourse anaphors.

(11)

a. John ist mit Mary gekommen. Er war spät

John came with Mary. He was late

b. *Jeder Professor war spät. Er wurde eingeladen

Every professor was late. He was invited.

We see that there is a close parallelism between the non-restrictive relative clause in sentence (10a) and the sequence of sentences in a discourse like (11a). Since we have the same grammatical judgment on (10c) and (11b) this clause may, according to Del Gobbo (2007), qualify as an instance of anaphora across discourse. This hypothesis is however not supported by the behaviour of other quantifiers. When other quantifiers are taken into consideration the parallelism between independent sentences and non-restrictive relative clauses break down and a certain level of syntactic integration must again be considered.

(12)

a. Wenige Studenten, die übrigens spät waren, kamen auf die Party mit den Eltern.

Few students, who by the way were late, came to the party with their parents

b. Wenige Studenten kamen auf die Party mit den Eltern. Sie waren spät.

Few students came to the party with their parents. They were late

c. Wenige Studenten kamen auf die Party. Sie waren spät

Few students came to the party. They were late.

The interpretation of the non-restrictive relative pronoun differs from the interpretation the referential pronoun receives in (12b) or even (12c) for that matter. In the first case the reference is of course ambiguous because anaphoric reference with „Studenten“ is blocked by the presence of another potential reference „Eltern“. In case of (12c) the difference is much smaller. Here the referential pronoun *Sie* is ambiguous because it can refer to the generic Students or more precisely only to those Students that come to the party. In (12a) the relative pronoun *die* can only mean *Studenten* and is interpreted generically. This difference supports the idea that non-restrictive relative clauses are, even if slightly, integrated in the syntax of the matrix clause and cannot be completely detached from the matrix clause like many assume (Fabb, 1989, Burton-Roberts, 1999 and Huddleston/Pullman, 2002; Del Gobbo, 200). The relationship between non-restrictive relative clauses and main clause has been claimed to be also a coordinative relation. DeVries (2006) argues for example that non-restrictive relative clauses, which are often referred as non-restrictive relative clauses, and apposition can be put together as a class of coordination of specification. This theory was not well accepted because coordination means that the order in which the antecedent and the relative clause appear is not relevant for the interpretation and this cannot be the case for any type of relative clause.

- Hypothesis involving syntactic integration are mostly about adjunction. There are mainly two competing approaches to the analysis of integrated non-restrictive relative clauses, which differ according to their view on where in the structure, the modified nominal originates. By contrast with restrictive relative clauses, non-restrictive relative clauses are said not to be interpreted within the scope of the determiner and are placed higher than restrictive. This is the reason why their integration is oft a point of discussion. On one hand, Jackendoff (1977), Persanowski (1980) and Zifonun/Hoffman/Strecker (1997) proposes adjunction to the nominal phrase DP where non-restrictive relative clauses are actually interpreted.

Ross (1967), Emonds (1979) and McCawley (1988) proposes instead a much higher attachment in the tree to the matrix clause always involving adjunction to the main clause. The main reason why many linguistics suggest that non-restrictive relative clauses are attached higher than restrictive relative clauses is that alike restrictive relative clauses, non-restrictive relative clauses can have antecedents of any category.

(13)

- a. Sheila was beautiful, which was too bad. (Ross 1969,357)
- b. Joe debated in high school, which Chuck did too. (Thompson 1971,84)
- c. She was fond of her boy, which Theobald never was. (Jespersen 1949, 124)

This is true for all languages (Jackendoff, 1977). Since this work focuses in particular on the German language, the issue on the point of attachment of non-restrictive relative clauses will be discussed further in chapter three on the basis of German examples in order to investigate how this affect the possible position of German relative clauses, aim of this work. In chapter two the issue of right adjunction will also be addressed.

1.2.2 The syntax of restrictive relative clauses

Providing a unified approach to various relativization strategies has been traditionally a big challenge. Cross-linguistically restrictive relative clauses can have many different structures and behave remarkably differently with respect to some operations like reconstruction effects, extraction, island or, more important for the sake of this analysis, long-distance relations. So one can argue for the existence of different strategies to derive relative constructions in Universal Grammar where each specific language only chooses a subset of the available structures.

“A relative clause [restrictive relative clause] is a subordinate clause which delimits the reference of a NP by specifying the role of the referent of that NP in a situation described by the RC” (Andrews, 2004:1) Under the

definition proposed by Andrews (2004) fall different kinds of relativizing structure which are present cross-linguistically and also within the same language. Relativization is a complex system which includes (a) headed and not headed relative clauses (free relatives); amongst the headed relative clauses there are (b) head-internal and head external relative clauses; (c) head-external relative clauses can be post or prenominal. This classification, however, is suitable only for restrictive relative clauses although this is oft omitted as if restrictive relative clauses would not belong to standard.

Differently from non-restrictive relative clauses, syntactic integration of restrictive relative clauses has never been doubt, the point of the discussion being another: all the approaches to headed relatives developed in the generative tradition have been confronted with two basic issue. The first has to do with the type of connection between the two sentences because the head seems to play a double role in the overall structure of the sentence. On one hand the head is the constituent of the matrix clause and bears the case assigned by the matrix clause predicate satisfying its selection requirements. On the other hand the relative “head” is also able to satisfy requirements of the predicate internal to the relative clause.

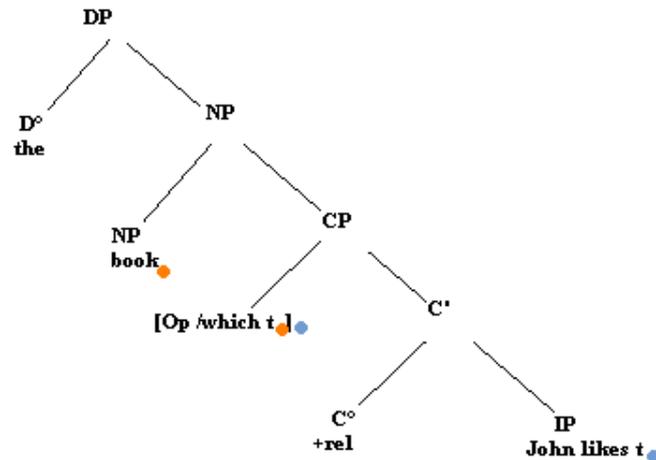
Although this issue on the structure of relative clauses has been systematically and deeply investigated, the debate is still divided into three major hypotheses, which have been surveyed under an historical point of view by Bianchi (2002).

Before providing with the three main hypotheses we would like to point out that they do not refer explicitly to restrictive relative clauses although they only analyse them, as if restrictive clauses were the only standard type of relative clause. Empirical evidences given to support these analyses, are in fact all examples of restrictive relative clauses. This issue will be discussed again referring in particular to the German language.

(A)According to the raising analysis proposed by Kayne (1994) the relative clause (more precisely the restrictive relative clause) is a syntactic

complement of the determiner head of the DP rather than an adjunct, like it was postulated from previous literature.

(14)



Evidence in support of the raising analysis come mainly from two areas, the binding of variables and the interpretation of idioms which will be discussed in chapter two. The advantage of Kayne's approach is that it provides a unified analysis for external and internal relative clauses. Both relativization strategies are given essentially the same structure and differ only according to the kind of movement (overt/covert) of the head. An internally headed relative clause has a covert movement of the internal head, while externally headed clauses have an overt movement of the head to the specifier of the CP. This approach was criticised by Borsley 1997 because it did not meet the requirement of the other types of relative clauses. This limit was investigated later by Cecchetto & Donati (2010) who proposed a slight modification in the way the head is triggered to move to be able to extend the raising analysis also to free relatives, reduced relatives and pseudo relatives. These constructions are particular cases of restrictive relative clauses. Free relative clauses (15a) for example, can be analysed as restrictive relative clause (15b) without a covert external head; reduced relatives (15c) as subject restrictive relative clauses built with passive verbs in the form of past participle or present participle (in English). Pseudo-

relatives have been identified as non-restrictive relative clauses with a VP or IP-antecedent, which according to the language, can have a particular status. According to Graffi (1980) pseudorelatives are special type of non-restrictive relative clauses with a perceptive verb in the main clause (15d)

(15)

a. I like what I see

b. I like the things that I see

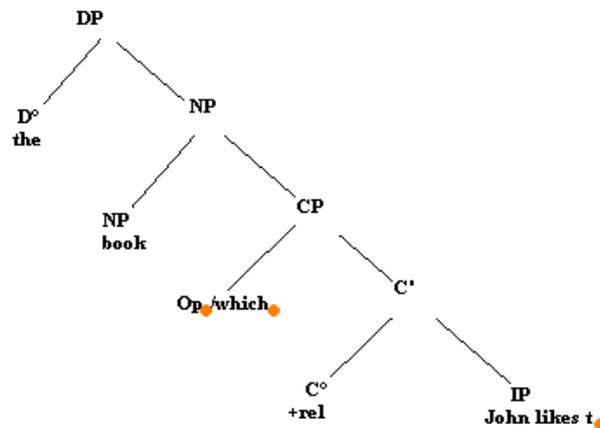
c. The philosopher admired by Marx (Donati & Cecchetto, 2010: 21)

d. Ho visto Maria che usciva dal cinema (Graffi, 1980: 117)

According to Donati & Cecchetto (2010) the head of relative clauses undergoes a particular kind of movement “which has the property of relabeling the structure it merges with” and this should account for all different kinds of restrictive relative clauses. To conclude, the raising analysis proposed by Kayne (1994), extended by Bianchi (1999) and then implemented by Cecchetto & Donati (2010) amongst others has many merits, the first being that it is able to provide a simple explanation of the dual nature of the “head” which acts as constituent both for the relative clause and for the matrix clause. Although the literature speaks about relative clauses in general non-restrictive relative clauses are not included in this pattern; in fact non-restrictive relative clauses can have any kind of antecedent, they are attached higher to a XP projection and are much less integrated in the syntax of the matrix clause (more in chapter three).

(B) In contrast Chomsky (1977) suggests that relativization, together with other constructions such as clefts, comparatives and topicalization are derived via wh-movement. This means that it is the relative pronoun, not the head of the relative clause, which moves to spec C and leaves a trace in the gap position. The relative pronoun and the gap are interpreted via a predication rule or agreement relation (Chomsky, 1977; Jackendoff, 1977; Safir, 1986; Browning 1987).

(16)



An analysis which does not take the internal head into account seems however to contradict binding theories. The head of the relative clauses behaves as if it was or it would leave a trace in its lower position within the relative clause, like the head raising analysis demonstrates. From this derivation we would expect that a reflexive pronoun is c-commanded by its nominal expression within the same sentence (17a).

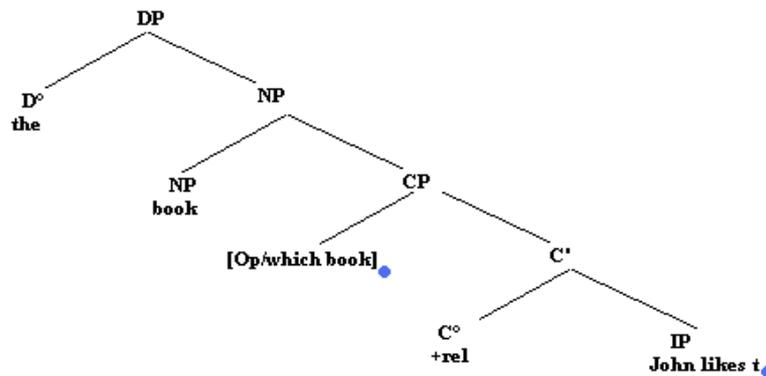
(17)

- a. The portrait of himself_i that John_i painted is extremely flattering
- b. *The portrait of him_i that John_i has is favorable
- c. *The portrait of John that he painted is extremely unflattering

This sentence is accepted only under the assumption that the internal head raises in a higher position within the relative clause where the reflexive pronoun is still c-commanded from the nominal head it refers to. The same argument is supported by examples like (17b) and (17c). According to the binding theories a pronoun must be free, hence not c-commanded within the same simple sentence and referential expressions must not be c-commanded.

(C) The idea of interpreting the head under identity is the starting point of another less pursued theories on restrictive relative clauses, which is called matching analysis. According to this theory the relative clause has an internal head, which is deleted by identity with the external head.

(18)



In contrast to the previous approach there is no movement chain involving the two head but only an elision mechanism that deletes the internal element which is identical to its external antecedents (Chomsky, 1965; Cinque, 1978 and Sauerland, 2003 and Hulsey and Sauerland, 2006). Evidence supporting this idea will be given in chapter two, when we will be dealing with non-restrictive relative clauses specifically.

This overview on the major discussions on the structure of relative clauses shows that the position where NP is interpreted is still ambiguous. The head raising and the matching analysis are the most plausible analyses because it is important to interpret the head or its trace internally. In the head raising analysis the internal interpretation is the only interpretation (19). In the matching analysis the NP can be interpreted outside the relative clause but there is also an identical NP within the relative clause, which can be interpreted (20).

(19) HRA

The λx . that John read the x book

The x book = “ the λx , ($x = y$ and book(y))”

(20) MA

The book λx . That John read the x book

The question is: which of the two analyses is the most suitable for relative clauses? Is it possible to have both of them? The question will be addressed again in chapter referring specifically to the German language.

The overview on major literature findings about the syntax relative clauses was useful in order to lay the ground for discussion on the possible position of relative clauses in general and more specifically on extraposition, which is the syntactic operation mainly involved in this issue.

1.3 Extraposition

As we have already mentioned literature on extraposition of relative clauses have been concerning mainly restrictive relative clauses. Since in the literature there is little explicit reference to the difference between extraposition of restrictive and non-restrictive relative clauses (as if extraposition of non restrictive relative clause did not exist). Literature has been concerned about comparing this kind of operation with other kinds of sentential extraposition like extraposition of subordinate clauses in general or extraposition of complement clauses (Fuss, 2008). On one hand extraposition of relative clauses has been claimed not be a purely syntactic operation (Inaba, 2007) but rather a post-syntactic movement. On the other hand extraposition has been described as a purely syntactic movement, both rightward and leftward. In this chapter we will report different analysis on extraposition of relative clauses in general and then we will deal more specifically with the case of German relative clauses. Even though extraposition in German is a far more identifiable phenomenon due to the presence of a clear verbal boundary on the right side of the main clause, investigation on extraposition in English have come to far more specific conclusions. Since the discussion on English extraposition has been very flourishing, we cannot afford not to mention at least some of the hypothesis on extraposition in this language. In fact in the generative tradition this

phenomenon has been for the first time discussed by Ross (1967/1969) in term of transformation. Since Ross (1967), the discussion on extraposition of relative clauses has been focusing on the contrast between extraposition as base-generated structure (section 1.3.1) and extraposition as syntactic movement (see section 1.3.2). These are, as a matter of fact, the two major alternative hypothesis on extraposition on which the most reasonable arguments and proves have been discussed. Section 1.3.3 deals with extraposition as phonological operation, which as we will see, does not necessarily exclude syntactic operation.

1.3.1 Extraposition as movement

An intuitive and traditional analysis of extraposition regards the possibility that a relative clause has its base position near its head N and it moves then towards right. This can be on one hand a syntactic movement that takes place before spelling out, influencing the syntactic aspects of the constituents involved (Baltin: 1982, 1983, 1984; Emonds: 1976; Reinhart: 1980, 1983; Müller: 1995; Buring & Hartmann: 1996, 1997, 1998) or, on the other side, a phonological operation which has therefore relevant structural and configuration effects (Rochemont, 1985; Chomsky, 1986; Truckenbrodt, 1995; Selkirk, 1986). This last movement analysis requires that the relative clause moves (Baltin, 1981 for subject related relative clause) from its base position and then attaches to another higher projection. Amongst proponents of the movement account there is still no agreeemtn on which is the landing site of the relative clause. Buring & Hartmann (1996) propose that the relative clause is adjoined to IP. Fanselow & Felix (1993) claim that relative clause extracted from a subject NP are adjoined to IP, the relative clauses extracted from an object NP are VP-adjoined. Other authors (Franzier & Clifton, 1996) argue that VP adjoined relative clauses can modify both, subjects and objects, whereas IP-adjoined relative clauses can

only modify the subject. We will not pursue this debate since it does not take into account the different types of relative clauses but we will mention here the major argument against the movement analysis.

The most prominent argument against the movement analysis is the fact that extraposition does not behave like any other well-known movement operation. For example extraposition in English does not respect island restrictions like wh-movement. This is however not enough to convey the idea that extraposition is not a movement. Extraposition for example respects locality conditions which are however different from the restrictions of a movement like wh-movement. Culicover & Rochemont (1990) and Kiss (2005) try to formulate locality conditions, which are specific of extraposition in order to support movement analysis.

What is interesting is that independently of the analysis, supporting the issue of locality for relative clause is very important and relevant. For a movement analysis the locality conditions are a way of understanding how far the extraposition can go, for the basis analysis the locality conditions can help understanding how the relative clause can modify within the category it is attached to.

If we consider the movement analysis we need to accept that the movement taking place, is of a different kind of movement with respect to the well-known movement, like wh-movement. We cannot expect that extraposition undergoes the same rules as any other movements alone for the fact that movement goes in the opposite directions. What matters is that the movement, disregarding of the direction, respects locality, as it is the result of the presence of a trace in the place where an element is base generated.

1.3.2 Extraposition as basis-generation

The relative clause is, according to Culicover & Rochemont, 1990, 1997; Wiltschko, 1997; Kiss, 2001, 2005) already generated in its extraposed

position. In other word, the relative clause is in a position, from where it can c-command its nominal head. Arguments in favour of this analysis involves the comparison with left-movement like wh-movement and topicalization. Culicover & Rochemont (1990:23f) for English and Müller (1995:216ff) and Kiss (2005:286f) for German show that extraposition is, on one side, more limited and, on the other side, less limited than usual movement towards left. If extraposed relative clauses moved, this movement would be the only rightward movement permitted in the universal grammar.

The most prominent analysis, which assumes basis generation of relative clauses in the extraposed position is Kayne’s analysis (1994) supported also by Zwart (2000). Kayne (1994) thinks that the rightward movement and the adjunctions to the right are a violation of the LCA analysis, proposed by him. The “extraposed” relative clause is in the base position and the head noun base generates together with the relative clause outside the right verbal bracket of the sentence and then moves to the left in a higher position. Kayne (1994: 124f) assumes also that the relative clause builds a single constituent with its antecedent. The relative clause is in Spec of the CP in a complement position of the head D, as illustrated here:

(21)

[_{DP} D [_{CP} [the very man]_i [_{C'} that [_{IP} ...*t*_i...]]]

Also Wilder (1995) and Hintehölzl (2000) present a hypothesis that goes along with LCA. According to them there is no movement involved but an extinction of one of the two copy: The original copy in the “extraposed” position and the other copy within the sentence (22).

(22)

We talked [_{PP} about the claim ~~that Mary will hire Peter~~] yesterday [_{PP} ~~about the claim~~ that Mary will hire Peter]

Both analyses assume at the beginning, that the entire DP (or PP), which includes the relative clause, base-generates in the position called

“extraposed”. A fundamental problem of this analysis is the fact that not every DP in German or English can be thought to be base generated after the right verbal bracket on the first place. A clear case is the subject position: assuming that subjects are generated there, would involve many other movement operations in order to acquire the desired representation of a normal sentence. Especially in German this argument is very difficult to accept because it would imply that the antecedent DP from which the extraposition takes place is base generated in the *Nachfeld* of the matrix clause. So the base structure of (23a) would be (23b).

(23)

a. weil jeder kein Bier mehr trinken will [der schon mal Apfelwein probiert hat]
because-everyone-no-Beer-more-drink-will [that-already-apple-wine-tried-has]

b. weil ___ kein Bier mehr trinken will [jeder [der schon Apfelwein probiert hat]]

(Inaba, 2007)

As well as the problem of having the subject (which is the most frequent relativized element) in the *Nachfeld*, it is also difficult to accept the basis generation of a DP when we think about the OV-Basis structure of the German language. This hypothesis of basis generation proposed Kayne (1994) and Wilder (1995) has been discussed also by Buring & Hartmann (1997b), Rochemont & Culicover (1997), Borsley (1997), Koster (2000b), Fox (2000), DeVries (2002) and Baltin (2006) for German (see also paragraph 1.3.4 on extraposition in the German language).

Another particular analysis, which shares with Kayne the assumption that the relative clause is in its base position within the *Nachfeld* is the analysis developed by Haider (for example 1994, 1995, 1997, 2000). He supports the base generation analysis arguing however that the “extraposed” relative clause does not build a constituent together with the antecedent, and that the antecedent does not base generate in the *Nachfeld* of the clause together with its relativization (see also paragraph 1.3.4). This would be similar to

the hypothesis described at the beginning of this section according to which the relative clause is a base generated adjunction.

1.3.3 Extraposition as phonological operation

We mentioned before that as well as syntactic analysis for extraposition, this phenomenon can also be seen as a phonological operation. This idea is based on the fact that extraposition of relative clause is not mandatory but optional. Chomsky (1986b:40f) suggests on the basis of English examples “that extraposition is indeed a PF rule” by proofing that the usual restrictions occurring with movement operations do not apply. Truckenbrodt (1995) supports the phonological analysis and writes that “extraposition from NP will take XP at least as far as out of a phonological constituent of the same category π ” according to the following schema

(24)

$[\pi \dots XP \dots] \quad [\pi \dots t_i \dots][\pi XP_i]$

$[\pi_{Der} \text{Peter hat zwei Bücher } t_i][\text{so sagt jedenfalls Maria}] \quad [\pi_{\text{auf einen Tisch gelegt}}][\pi_{\text{die er am Dienstag aus Italien mitgebracht hat}}]_i$

Peter has put two books, so says Maria, on the table, which he brought from Italy in Tuesday

XP is a syntactic category that is moved through extraposition to a prosodic category π (phonological phrase or intonational phrase). Truckenbrodt (1995:514) suggests that this is the reason why there cannot be extraposition if the movement is too short or too long. This of course provides a right expectation for the grammaticality of the sentence (24) but is too vague under a syntactic point of view, to be considered a valid analysis. He provides no detailed explanation of what is intended as short or long movement.

The prosodic explanation for the extraposition of relative clauses in German is not well supported in the literature, even though we are inclined to believe

that as well as syntactic restrictions for this word order phenomenon there are other kinds of factors which influence it. These factors will be discussed further in chapter four.

1.3.4 Extraposition of relative clauses in German

In this section we will analyse the above-mentioned hypothesis of extraposition with particular reference to the German language. In particular we will focus on the debate on the different status of German extraposition which can be seen as a syntactic operation or as stylistic operation. Müller (1995b: 221) investigates extraposition as stylistic operation claiming very clearly that “a PF-related approach runs into problems given evidence to the effect that extraposition has syntactic consequences”, first of all as far as binding is concerned.

Kiss (2005: 323), on the other hand, observes that extraposition, like scrambling, is only integrated with semantic interpretation and gives the following example, which he claims, has no locality restrictions and therefore syntactic consequences.

(25)

- a. Wir haben niemandem_i die Frage *t* gestellt [auf die er_i sich vorbereitet hatte].
- b. *Wir haben die Frage *t* niemandem_i gestellt [auf die er_i sich vorbereitet hatte]
- c. Wir haben die Frage *t* neimandem gestellt [die jeder erwartet hatte].

We didn't make the question to anyone that was ready to hear it.

The contrast between (25a) and (25b) is clear and seems to support Kiss's idea. If we look at more data comparing the same sentence with or without extraposition we see that the same grammaticality judgement occurs in case of scrambling and adjacency.

(26)

- a. Wir haben niemandem_i die Frage [auf die er_i sich vorbereitet hatte] gestellt.
- b. *Wir haben die Frage [auf die er_i sich vorbereitet hatte] niemandem_i gestellt

From the contrast between (25) and (26) of our corpus we see however that the conclusion of Kiss (2005) is actually drawn from inappropriate examples. Sentence (26b) is ungrammatical exactly like (25b) and extraposition is therefore not the syntactic operation leading to ungrammaticality. Extraposition is in fact not able to modify the co-reference relationship applying with adjacency. Discontinuity does not influence binding relations or configuration structure of the elements because the relative clause is interpreted in the base position where the trace is left.

Also Fanselow (1987:203) supports this idea with other interesting data involving extraposition at long distance, hence with antecedent in the *Vorfeld*.

(27)

a. Jeder [der nur ein bisschen Verständins für Marias_i Lage hat] wurde ihr_i in dieser Situation beistehen.

b. Jeder wurde ihr_i in dieser Situation beistehen [der nur ein bisschen Verständins für Marias_i Lage hat]

Everyone, who understands a bit Maria's situation, would support her.

Data in (27) supports the movement analysis of the relative clause, giving that its base position is near the antecedent within the main sentence. It seems that hypothesis on the base-generation of extraposed relative clauses supported by Kiss (2005) as we have seen, as well as Wildner (1995) and Haider (1997), lack empirical evidence. As we have seen, the relative clause is always interpreted as if it was within the main clause, straight after the noun phrase it refers to. In a theoretical approach of basis generation a trace where the relative clause can be reconstructed would be missing. If the base-generation analysis is odd, as we have seen, it means that the movement towards right should be considered more appropriate than it is actually been considered by minimalist theories and by the antisymmetrical approach (Kayne, 1994), which ban *a priori* any movement or adjunction to the right.

Evidence against this assumption are required in order to defend the rightward movement which we think it is suitable for a specific kind of relative clauses, hence the restrictive ones. According to LCA an extraposed element is the result of a movement to the left of every other constituent. What is “extraposed” is actually the only part of the sentence that remains *in situ* while the others raise in the position where they are actually pronounced. As far as German is concerned, this would mean that every order NP – V implied the raising of the verb argument in the preverbal position where it receives case, while the constituents or clause after the verb are actually in their base position. A discrediting argument is of course the necessary proliferation of functional heads as landing sites of all the material that has to raise. Moreover, the different behaviour of post-verbal phrase and phrasal complements with respect to their isle condition (Büring & Hartmann, 1996:184) and of course, as we have already seen, the impossibility of deriving binding relations, co-reference and reconstruction effects which characterize extraposed phrasal complements (Haider 1993: 3; Büring & Hartmann, 1997: 189). The assumption by Rochemont & Culivocer (1997) that “the question whether rightward movement exists or not [...] is not an empirical one” seems not to be appropriate if we look at the C principle effects with relative extraposed clauses proposed by Büring & Hartmann (1996).

(28)

a. *Es hat ihr_i jemand [eine Geschichte t₁] erzählt, [CP die Ina_i ängstigte]₁

It-has-her-someone-[a-story]-told, [that Ina scared.]

b. Es hat ihr_i jemand [eine Geschichte t₁] erzählt, [CP die sie ängstigte]₁

It-has-her-someone-[a-story]-told, -[that-her-scared.]

c. Es hat ihr_i jemand gesagt [dem Ina_i blind vertraut] (Büring & Hartmann, 1996:189-192)

It-has-her-someone-said, [that-Ina-blindly-trust.]

(28b) is a grammatical example of extraposition of an object relativization while (28a) is not because of the presence of the R expression *Ina*. This derivation obeys nothing more than the assumptions of the movement analysis on A' movements: an extraposed relative clause is c-commanded by the pronominal indirect object and has to respect the binding relation with it. If we assumed the LCA analysis, the grammatical judgement should be reversed and (28a) should be grammatical.

The same conclusion can be drawn from examples (29) where a pronoun in the extraposed clause is bound by a NP quantifier that c-commands it in the matrix clause. The quantifier in the extraposed clause can be bound to the pronoun only if it originates lower than NP. This derivation would not be possible under the base generation assumptions of the LCA analysis where the NP raises upwards and the preverbal argument consequently always c-commands the extraposed clause.

(29)

- a. Weil wir jedem_i [NP die Daten t_i] gegeben haben [CP die er_i braucht]_i
because-we-everyone-[the-data]-given-have-[that-he-needs.]
- b. *weil [ein Mann t_i] jedes Datum_i kennt [CP der es_i braucht]_i (Büring & Hartmann, 1997a: 64)
because-[a-man]-every-piece-of-data-knows-[that-it-needs.]
- c. Weil wir jedem_i die Daten [CP die er_i braucht] gegeben haben.
because-we-everyone-the-data-[that-he-needs]-given-have.
- d. *weil ein Mann [CP der es_i braucht]_i jedes Datum_i kennt.
because-a-man-[that-it-needs]-every-data-knows.

These are some arguments that enable to consider the existence of rightward movements and discard the the idea that extraposition is a bare stylistic operation, which has nothing to do with syntactic operation. Extraposition as movement will be also the topic of chapter two as far as restrictive relative clauses are concerned.

Extraposition in English has been pointed out to be an operation, which affects features of the LF representation (Culicover & Rochemont 1990:29). Extraposed sentences are able to influence the co-reference relationship of a counterpart without extraposition.

(30)

- a. I showed every book to the professor [that wrote a review of it]
- b. * I showed every book to the professor t yesterday that wrote a review of it
- c. I showed every book to the professor t yesterday [that wrote a review of Barriers]

This is a big difference with our evidence in German where a grammatical extraposition does not affect co-reference with elements of the matrix clause. This is because, as we have seen, the relative clause in German is interpreted within its base position in the matrix clause near its antecedent. The same sentences translated in German are perfectly fine both with not-extraposed and extraposed relative clause and they preserve the required co-reference.

(31)

- a. Ich habe jedes Buch dem Professor [der eine Rezension darüber geschrieben hat] gezeigt
- b. Ich habe jedes Buch dem Professor t gezeigt [der eine Rezension darüber geschrieben hat.

Surprisingly the difficulty in interpretation caused by extraposition in English is not relevant in German. According to Buring & Hartmann (1997b: 17) “it is the D-structure rather than S-structure position of the extraposed clauses which is decisive for its properties with respect to variable binding and co-reference” German extraposed relative clause is always interpreted as if it was in its base position within the main clause. Unlike what has been broadly assumed in the literature, the above-mentioned data shows that extraposition in two different Germanic languages like English and German needs also to be analysed separately,

because two separate operations are involved. Moreover, under a statistic and general point of view extraposition is far more productive in German than in English (Birkner, 2008) as well as being far more definite because it involves the realization of the *Nachfeld*. English has always been the starting point for analysis on relative clauses and some authors assumed without giving any German examples that extraposition of relative clauses in both languages is similar (Müller, 1995b; Kiss, 2005:330 and Wiltschko, 1997:380).

We have seen so far that extraposition is more likely to be an optional syntactic rightward movement which in German does not affect the interpretation of variables or similar. The syntactic character of this movement is clear; what must be clarified now is whether this movement can be considered also post syntactic. Post syntactic means on one side that extraposition takes place after all other syntactic operations have taken place and, on the other side (but we have already excluded it), that the operation influences always the semantic interpretation of the sentence. Some post syntactic arguments on extraposition of RC in German were claimed to be the following: (a) Extraposition in German, as well as in English, is an optional operation; (b) Extraposition aims at the next possible *Nachfeld* of the sentence; (b) Extraposition cannot skip a linear NP that could be a potential antecedent of the relative clause.

The optionality of extraposition (a) is a very important aspect. Even in cases where relativization of one of the second element of a comparison is extraposed and extraposition is far more natural than adjacency within the middle field, this phenomenon remains optional and a non-extraposed relative clauses are perfectly fine. This is a big difference with what is referred as extraposition of sentential complement in German. The lexicalization of the *Nachfeld* through sentential complement in German is compulsory. This is a fact pointed out by Eisenberg (1999:415) although the majority of the literature (Fanselow, 1987: Kap 6; Grewendorf, 1988: cap

13.3; Buring & Hartmann, 1997b; Koster, 2000, Lutz & Pafel, 1995) do not agree with the distinction denigrating relative clause extraposition to a stylistic operation because of its optionality. They treat the two kinds of extraposition in a parallel way. Also Haider in many of his works (in particular 1993a: 175) says that “relative and object clause”, when extraposed, take the same position in the topological sense. Moreover there are many other syntactic operations, which are considered to be optional, like scrambling for example.

What we mention in (b) is not necessarily an argument for defining extraposition of relative clauses a non-syntactic operation. In order to account for the lexicalization of the first possible place in the *Nachfeld*, extraposition needs to be considered the last syntactic operation, which takes place. In this case it might be useful to take into account linear rules of the language rather than configuration rules. If we admit that there is a post syntactic component in extraposition in German it means that there are idiosyncratic language-specific characteristics involved. A linear model of analysis, which is very useful for the analysis of syntactic phenomenon involving extraposition, is the German topological approach (Höhle, 1986, Grewendorf, 1988). German has, in comparison to English, a clear right bracket after which an element is considered extraposed. So the presence of this bracket and of a separated sentential construction in German are conceptually very important for this analysis because they provide a definite starting point to analysis movements. The topological model has however some limits regarding, for example, the linear order within the middle field. In fact it is not able to provide right explanations for (c). The topological approach tends to generalize on a sentential level and when the generalization is too complex it loses abstraction and ends up in a list of singles cases (Grewendorf, 1988:25). We won't need to take the topological model so far that its problematic aspects arise but we will make use of it for cataloguing empirical data.

The actual reason why a syntactic approach might not be enough for accounting for extraposition and a post syntactic analysis would be more appropriate is the fact that in some cases extraposition of relative clauses in German is triggered by the focus trait. We will see in chapter four that phonology interacts with syntax in the possibility of extraposing relative clauses in German too. Erteschik-Shir & Strahov (2004) have a similar opinion, because they observed that scrambling is a phonological and syntactic operation. We will see in chapter four how this applies in German as far as extraposition at long distance of restrictive relative clauses is concerned.

1.4 Conclusion

A good suggestion to account for both syntactic and discourse-related restrictions on extraposition is that, independently of the nature of the connection, an extraposed relative clause is in a right position with respect to the main clause as a result of a syntactic movement; a trace must be postulated as soon as the relative clause is recognized to be a moved constituent to account for binding consequences. Moreover the relative pronoun at the beginning of the relative clause must have a binding reference depending on the focus structure of the antecedent it refers to. Syntactic restrictions on extraposition of restrictive relative clauses will be discussed in chapter two while discourse-related restrictions at the interface with this syntactic operation will be topic of the fourth chapter. Once the status of non-restrictive relative clauses has been clarified and on the basis of the possibilities this kind of relative clauses have in extraposing, we will try to give an explanation of the syntactic operation underlying the extraposed position of non-restrictive relative clauses as well.

Chapter 2

Adjacency and Discontinuity

This chapter focuses on two different aspects concerning the position of German relative clauses: adjacency and discontinuity with the antecedent noun phrase. The relationship between a relative clause and its antecedent is particularly interesting in a verb second language like German because of the possibility of placing the relative clause at a significant distance from its antecedent noun phrase without compromising the grammaticality of the clause. This phenomenon, which we will call *discontinuity*, is very frequent in German and seems to go along with the lexicalization of the *Nachfeld*. We will also use the well-known term *extraposition* to refer to this phenomenon, but it will soon be clear that in some cases this term implies a misleading analysis.

On one hand discontinuity in German is possible for both restrictive and non-restrictive relative clauses, that is if the antecedent stays in its base position within the verbal brackets of the matrix clause. Limitations occur, however, when the antecedent moves from its argument position to a higher position. Paragraphs 2.1 and 2.2 provide data outlining these restrictions. From the corpus it will soon be clear that the difference between restrictive and non-restrictive relative clauses is a much relevant aspect. An analysis of the derivation of these two kinds of relative clauses is given in paragraphs 2.3 and 2.4 and will represent the ground to explain their behaviour as far as extraposition and/or discontinuity is concerned. Paragraph 2.5 introduces the concept of discontinuity and extraposition and 2.6 examines every case of discontinuity providing an explanation of their grammaticality or ungrammaticality on the basis of the theoretical assumptions, which have been given in the previous paragraphs.

2.1 Introduction: Presentation of data

In order to collect reasonable data to investigate possible positions of relative clauses with respect to their antecedents, data for this chapter have been collected through three questionnaires amongst twenty native speakers. They were asked to judge grammaticality of sentences presented without context. There was no mentioning whether the sentences were belonging to the group of restrictive or non-restrictive relative clauses. The informants received written so they were free to look for a suitable intonation, if any, which would allow grammaticality. The first list of relative clauses included adjacency and discontinuity cases of both restrictive and non-restrictive relative clauses. Antecedents with different cases were put in the first, middle and final field of the main clause while relative clauses with different cases of relative pronouns were near or far away from the antecedent noun phrase.

In order to avoid ambiguity we collected utterances, which are belonging undoubtedly to one or the other kind of relative clause. The reference of the antecedent is determined independently of the content of the relative clauses for non-restrictive relative clauses; this was guaranteed by the use of proper noun as antecedent. Unfortunately punctuation does not play a role in German like it does in other languages because subordinate clauses are always within commas, independently of the kind of the sentence. Moreover non-restrictive and restrictive relative clauses in German don't differ overly as they do in English or Italian because they do not use different relative pronouns for the non-restrictive type (like *which* or *who* in English or *il quale, la quale* or *i quali* in Italian). In order to mark the difference in the German examples the adverb *übrigens* in brackets has been used to force the appositive reading.

Informants were asked to write ok, no or ? near every example, where ? stood for uncertainty about grammaticality. The questionnaires showed that the syntactic category of the antecedent as well as the casus of the relative clause do not play a role in affecting the grammaticality of relative clauses placed in the same position with respect to the antecedent. So if we take for example three discontinuous relative clauses with antecedent in the middle field the same judgment was made for nominative, accusative or dative antecedent as well as for nominative, accusative, dative or any other type of relative pronoun (for example with preposition). The same can be said for singular and plural.

The first collected data were analyzed in order to provide the first evidence on the possible position of the relative clause with respect to its antecedent.

We will use German terminology from Field Analysis to define the fields in which a German main clause is traditionally divided: *Vorfeld* (initial field, before the left verbal bracket), *Mittelfeld* (middle field, between the two verbal brackets) and *Nachfeld* (final field after the right verbal bracket). In a matrix clause the left and right verbal brackets (*linke Klammer* and *rechte Klammer*) coincide respectively with the finite and uninflected verb. This division is legitimated by the presence of discontinuous verbal complexes, splitting up the sentences into three parts, as in *Peter hat einen Apfel gegessen, weil er Hunger hatte*. We have *Peter* in the first field (*Vorfeld*), *hat* which functions a left verbal bracket (*linke Klammer*), *einen Apfel* in the middle field (*Mittelfeld*), *gegessen* which functions as right verbal bracket (*rechte Klammer*), and *weil er Hunger hatte* in the final field of the clause (*Nachfeld*).

The following table reports the number of ok/no/? judgments for each case. The letter A stands for antecedents, RRC for restrictive relative clauses, ARC for non-restrictive (or appositive) relative clauses.

	Vorfeld	LSK	Mittelfeld	RSK	Nachfeld	yes	no	?
A1	A+RRC	(		)		20		
A2	A+ARC	(		)		20		
B1		(	A + RRC	)		20		
B2		(	A + ARC	)		20		
C1		(		)	A+RRC	5	10	5
C2		(		)	A+ARC	7	7	6
A1	A	(		)	RRC	13		7
A2	A	(		)	ARC		19	1
B1		(	A	)	RRC	20		
B2		(	A	)	ARC	12	5	2
C1	A	(	RRC	)			20	
C2	A	(	ARC	)			20	

2.2. Adjacency

The first fact regarding German relative clauses that must be mentioned is that a German relative clause can always stay in the *Vorfeld* (1a, b) and *Mittelfeld* (1c, d) of the matrix clause if the antecedent locally precedes it.

(1)

a. Die Studentin, die die Prüfung nicht bestanden hat, hat mit dem Professor gesprochen.

The-student,-that-the-exam-not-passed-has,-has-with-the-professor-spoken.

b. Karin, die (übrigens) die Prüfung nicht bestanden hat, hat mit dem Professor gesprochen.

Karin,-who-(by-the-way)the-exam-not-passed-has,-has-with-the-professor-spoken.

c. Ich habe mit der Studentin, die die Prüfung nicht bestanden hat, gerade gesprochen.

I-have-with-the-student,-that-the-exam-not-passed-has,-been-speaking.

d. Ich habe mit Karin, die (übrigens) die Prüfung nicht bestanden hat, gerade gesprochen.

I-have-with-Karin,-who-(by-the-way)-the-exam-not-passed-has,-been-speaking.

The same occurs as far as the *Nachfeld* is concerned provided that restrictions on the extraposition of the constituent placed outside the right verbal bracket (so-called *nachgetragene Konstituente*) are respected. Only circumstantial constituents and, in general, prepositional phrases, in fact, can conceivably be moved in the final field of the matrix clause (2a,b).

(2)

a. Ich habe für die Prüfung gelernt, in der Nacht, in der ich nicht schlafen konnte.

I-have-for-the-exam-learned,-in-the-night,-when-I-not-sleep-could.

b. Ich bin zur Arbeit gefahren, mit dem Bus, der um 8:30 losfährt.

I-have-to-work-gone,-with-the-Bus,-that-at-8:30-leaves.

Moreover, the following data (3a-c) show that a relativized second element of a comparison can be extraposed in the *Nachfeld* of the matrix clause together with its relative clause and that extraposition and the following adjacency within the *Nachfeld* are sometimes even more natural than adjacency within the *Mittelfeld*.

(3)

a. ??Wir haben ein preiswertes Buch und ein teures, das uns 100 Euro gekostet hat, gekauft.

We-have-a-cheap-book-and-an-expensive-one,-that-us-100-euros-cost-has, bought.

b. Wir haben ein preiswertes Buch und ein teures gekauft, das uns 100 Euro gekostet hat.

We-have-a-cheap-book-and-an-expensive-one-bought,-that-us-100-euros-cost-has

c. Wir haben ein preiswertes Buch gekauft und ein teures, das uns 100 Euro gekostet hat.

We-have-a-cheap-book-bought-and-an-expensive-one,-that-us-100-euros-cost-has.

Although all examples above are grammatical, (3a) is incontrovertibly less acceptable than (3b); when both the antecedent noun phrase and the relative clause are extraposed, (3c) is by far the most natural and comprehensive

way of expressing the sentence. It follows that not only adjacency is allowed within the final field of the matrix clause as the result of extraposition of both elements, but also that there are cases where this is more clearly perceived than any other solutions.

So far we have been dealing with cases where antecedent and related relative clauses are moved together in a higher or external position of the matrix clause or haven't moved at all from their base position, thus preserving adjacency. We have seen that there is no prohibition for adjacency itself, if restrictions on the position of the antecedent are observed.

On the other hand, discontinuity between relative clause and antecedent is subject to precise rules. First of all it necessarily requires the lexicalization of the *Nachfeld*, which, in other words, means that the relative has to be placed outside the right verbal bracket of the matrix clause if it is not near its antecedent. There can never be discontinuity within the same field (4a,b) and it is impossible to place a relative clause in the *Mittelfeld* of the matrix clause if the antecedent has been placed in the *Vorfeld* (5a,b).

(4)

a. *, dass [Studenten] mit dem Professor [die die Prüfung nicht bestanden haben] gesprochen haben.

,that-[Students]-with-the-professor-[that-the-exam-not-passed-have]-spoken-have.

b. *, dass [Karin] mit dem Professor [die die Prüfung nicht bestanden hat] gesprochen hat.

,that-[Karin]-with-the-professor-[who-the-exam-not-passed-has]-spoken-has.

(5)

a. *[Studenten] haben, [die die Prüfung nicht bestanden haben], mit dem Professor gesprochen.

Students-have,-that-the-exam-not-passed-have,-with-the-professor-spoken.

b.*[Karin] hat,[die die Prüfung nicht bestanden hat], mit dem Professor gesprochen.

Karin-has,-who-the-exam-not-passed-has,-with-the-professor-spoken.

No restrictions whatsoever apply if the relative clause is extraposed in the *Nachfeld* and its antecedent remains in its base position within the *Mittelfeld* (6a,b).

(6)

a. Mit dem Professor haben die Studenten gesprochen, die die Prüfung nicht bestanden haben.

With-the-professor-have-the-students-spoken,-that-the exam-not-passed-have.

b. Die Studenten haben mit dem Professor gesprochen, der die Vorlesung gehalten hat.

The-students-have-with-the-professor,-that-the-lecture-given-has.

c. Ich habe seinen Vater kennengelernt, der (übrigens) gut singen kann.

I-have-his-father-known,-who-(by-the-way)-good-sing-can.

d. Ich bin seinem Vater vorgestellt worden, der (übrigens) ein bekannter Klavierspieler ist.

I-was-to-his-father-introduced,-who-(by-the-way)-a-famous-piano-player-is.

Cases in which the relative clause is located in the *Nachfeld* and the antecedent in the *Vorfeld* are subject to restrictions, which seems to depend first of all on the difference between non-restrictive (4b) and restrictive (4a) relative clauses.

(7)

a. Studenten haben mit dem Professor gesprochen, die die Prüfung nicht bestanden haben.

Students-have-with-the-professor-spoken,-that-the-exam-not-passed-have.

b. *Karin hat mit dem Professor gesprochen, die die Prüfung nicht bestanden hat.

Karin-has-with-the-professor-spoken,-who-the-exam-not-passed-has.

From examples in (6) and (7) it follows that a relative clause can stay in the *Vorfeld* or *Mittelfeld* of the matrix clause only if the antecedent locally precedes it and that the *Nachfeld* is the only field where a relative clause can land when detached from the noun it refers to. The *Mittelfeld* is excluded as the landing site of a relative clause extraposition. The *Vorfeld* cannot of course host an isolated relative clause because the first relativization strategy (in the sense of Keenan and Comrie, 1977) in German requires the antecedent to precede its relative clause.

It appears that the only inconsistent data as for grammaticality of discontinuity arises in (7), where the behaviour of restrictive and non-restrictive relative clauses differs considerably. The next part investigates this behavioural divergence between the two typologies of relative clause, starting from an analysis of their syntactic structure. We will see that such analysis will provide the means to find an answer to the following questions: which restrictions play a role in the possible extraposition of a relative clause whose antecedent is located in the *Vorfeld*? Why can only the *Nachfeld* be the landing site of a relative clause, which is discontinuous from its antecedent? Or rather: why can't a relative clause be placed in the *Mittelfeld* of the matrix clause if the antecedent has been previously moved into the *Vorfeld*?

2.3. Restrictive vs non-restrictive relative clauses

In German there are four kinds of relative clauses: restrictive, non-restrictive, free, and so-called continuative relative clauses (Wöllstein-Leisten, 1997: 47-79). In this work we will consider only restrictive and non-restrictive relative clauses, but we are inclined to believe that the syntactic derivation of free relative clauses fall under the former and that of continuative under the latter. A restrictive relative clause narrows down the

field of reference of the antecedent and provides relevant information to limit, restrict or univocally identify the noun it modifies. Non-restrictive antecedents, on the other hand, are not identified by the non-restrictive relative clause but by the context or by the noun itself. The relative clause provides non-defining information, which is nothing but supplemental and does not limit the meaning domain of the noun it modifies.

A non-restrictive relative clause and the matrix clause, which its antecedent belong to, have two distinct truth values while a restrictive relative clauses intersects its truth value with the matrix clause it depends on. A simple test consists in removing the relative clause. If the underlying meaning of the main sentence changes, then we have a restrictive clause (8a). If the relative clause turns out to be only a supplement to the basic meaning of the sentence, because the truth-value of the main clause does not change, then we have a non-restrictive clause (8b).

(8)

a. Julia kennt wenige Frauen, die sehr gut kochen können \neq Julia kennt wenige Frauen

Julia-knows-few-women,-that-very-good-cook-can \neq *Julia-knows-few-women*

b. Julia kennt wenige Frauen, die (übrigens) gut kochen können = Julia kennt wenige Frauen

Julia-knows-few-women,-who-(by-the-way)-very-good-cook-can = *Julia-knows-few-women*

This semantic difference between restrictive and non-restricted relative clauses is explicit in some languages through the use of a different complementizer, the possibility or impossibility of eliding the relative pronoun, through different and usually more marked punctuation for the non-restrictive type or a different case marking of the antecedent. Some English complementizers are exclusive of some relative clauses while others can be elided if certain restrictions apply. In particular *wh*-complementizers

introduce only non-restrictive relative clauses and the pronoun *that* (provided it is not the subject of the relative clause) can be elided only if the clause is restrictive. A pronoun introducing a non-appositive relative clause can never be left out.

(9)

- a. The boy who/that collects stamps is sick.
- b. Peter, who /*that collects stamps, is sick.
- c. The boy (that) I gave my books to is my cousin.
- d. Peter, who I gave my book to, is a friend of mine. (Comrie, 1999: 81ff)

The same happens in Italian with the relative phrases *il quale*, *la quale*, *i quali* which can replace *che* at the beginning of non-restrictive RCs but are banned from restrictive ones.

(10)

L'amico che/ *il quale colleziona francobolli è malato.

*The-friend-that/*who-collects-stamps-is-ill.*

Pietro, il quale/che colleziona francobolli, è malato.

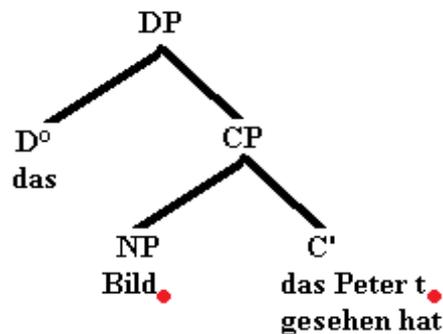
Peter,-who/that-collects-stamps,-is-ill.

Contrary to English and Italian, German RCs do not have any overt syntactic elements that are unambiguously and graphically able to distinguish the two typologies of clauses. The relative pronouns are always *der*, *die*, *das* (with declination), and in none of the cases can they be omitted. This is why in our German examples an “appositive” adverb such as *übrigens* has been added inside the non-restrictive clause: it forces the parenthetical reading without destroying the minimal pair for the sake of the comparison.

From the surface, the analogy between the morpho-syntactic structure of German restrictive and non-restrictive relative clauses could lead us to think that they share a mutual syntactic derivation. A divergent syntactic behaviour with respect to various syntactic operations such as extraction, binding and, as we have already mentioned, extraposition discards this

analogy, as it is the case for English (Bianchi, 1999), French (Perrier, 2009) and Italian (Cinque, 1978, 2001).

The prolific debate on the proprieties of relative clauses, which has attracted many linguists, brought to light two major syntactic derivations: the Head Raising Analysis (11a), (Schachter, 1973; Vergnaud, 1974; Kayne, 1994; and later Borsley, 1997; Bianchi, 1999) and the Matching Analysis (11b) (Lees 1961; Chomsky, 1965; Sauerland, 1998) which was already discussed in chapter one and will be summarized here again with German examples.

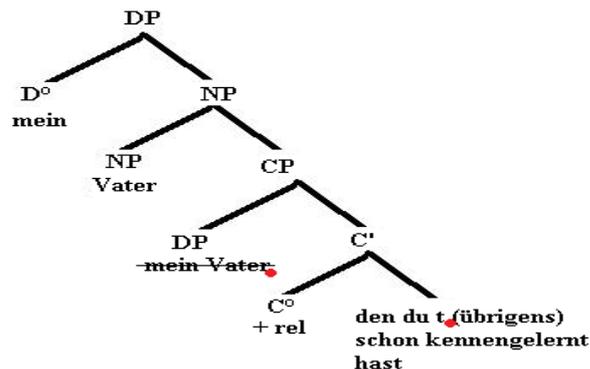


(11)a

(adapted from Kayne, 1994:87)

Das $[_{CP}[_{NP} \text{Bild}] , [_{das} [_{Peter} t_{NP} \text{gesehen hat}]]]$

The-[image], [-that-[Peter-seen-has]]



(11)b.

(adapted from Bhatt, 2002: 45)

$[_{DP} \text{Mein Vater}] , [_{CP} \langle \text{mein Vater} \rangle \text{den du } t_i \text{ (übrigens) schon kennengelernt hast}]$

[My-father], -[<my-father> that-you-(by-the-way)-already-known-have]

According to the HRA (11a) the nominal head of the relative clause originates inside the relative clause CP and raises internally to the SpecCP position to establish a strict local relation with the external determiner. The restrictive relative clauses are in fact CPs which have been selected by an external lexical D° as complements. The Matching Analysis (11b) postulates that the nominal head is interpreted outside the relative clause and that there is a corresponding internal head, which is phonologically deleted under identity with the external head. The two heads, however, are not part of a movement chain and the CP is adjunct to the external nominal head.

Like Carlson (1977), Heim (1987), and Grosu & Landman (1998), we posit that both syntactic derivations are to be found in German relative clauses but that assigning one or the other structure to a relative clause can occur according to different criteria. In particular there is evidence to suggest that the HRA is suitable to describe restrictive relative clauses while the MA adapts to non-restrictive relative clauses.

2.4. Head raising vs Matching Analysis

The basic assumption founded in cross-linguistic literature and research on this topic is that both the HRA and the MA are potentially valid in describing relative clauses in general. We are inclined to believe that the two derivations correspond to the two main typologies of German relative clauses. The first question is: why do we state that the MA can't apply for restrictive RCs in German while the HRA can? The fundamental difference between HRA and MA is that the former has only one internal head, which raises in SpecCP leaving a trace in its base position inside the VP of the relative clause; the latter has also an external head. Proving that a restrictive

relative clause can't have an external head will give us the mean to answer the question above.

Relative clauses that are incontrovertibly restrictive are those derived from an idiomatic expression such as (12b from 12a)¹.

(12)

a. Er hat einen Bock geschossen.

He-has-a-ram-shot.

b. Der Bock, den er geschossen hat, ruiniert seine Karriere.

The-ram,-that-he-shot-has,-spoils-his-career.

c. *Der Bock ruiniert seine Karriere.

The-ram-spoils-his-career.

When we insert an idiomatic expression in a wider context converting it in a relative clause, this must be restrictive. The nominal head of the relative clause (in this case *der Bock*) cannot appear without its relativization (*den er geschossen hat*) in order to be semantically meaningful (12c). This means that the trace position where the nominal head has been raised from must always be present: the meaning domain of the nominal head of an idiomatic expression like (12b) is local that is inside the relative clause. At this point we can state that the Matching Analysis would not be able to explain the ungrammaticality of (12c), where the idiomatic context that allows us to understand the whole sentence is missing. If the two heads of the MA are semantically linked, the external head, which is identical to the internal head within the relative clause, should be able to stand on its own, but the truth is that it cannot appear without the following clause.

Another reason why a restrictive relative clause cannot be analysed using the MA is because the behaviour of the clause with respect to some syntactic operations is not typical of adjunction, as the MA requires.

¹ This argument has been taken from Schachter (1973) and implemented on German. The same argument can however be easily extended also to the Italian language. (see idiomatic expressions such as: *Il granchio che ho preso è clamoroso*).

Variable binding, licensing of the polarity items and the isle condition correspond to those of a complement rather than an adjunction. Haider (1997) shows that a VP internal position like the indirect complement *jedem* in (13a) must be able to c-command the internal head and consequently the pronoun *er* within the relative clause. In fact in (13a) the pronominal variable *er* is regularly bound with the quantifier of the matrix clause. If the subordinate clause were an adjunction this would not be possible, as in (13b). The non-restrictive relative clause in (13c) behaves exactly like an adverbial clause in adjunct position.

(13)

a. Hast du jedem_i die Details genannt, an denen er_i interessiert war?

Have-you-everyone-the-details-told,-to-that-he-interested-is?

b. *Hast du jedem_i die Details genannt, nachdem er_i die Situation erklärt hat?

Have-you-everyone-the-details-told,-after-which-he-the-situation-explained-has?

c. *Hast du jedem_i die Details sofort genannt, an denen er_i übrigens interessiert war?

Have-you-everyone-the-details-immediately-told,-to-which-he-by-the-way-interested-was.

(Haider, 1997: 130)

A second piece of evidence in favour of the presence of a c-command relation between the nominal head and the material internal to the restrictive relative clause, which proves the fact that a restrictive relative clause is a complement of its external head D° derives from the behaviour of polarity items. These are licensed from the external head material like every head licenses the material internal to its complement. If the antecedent of a restrictive relative clause has a negative determiner, this should be able to license a polarity item inside its complement CP (the restrictive relative clause).

(14)

a. Kein Schuler, der in den Ferien jemals gelernt hat,

No-pupil,-that-on-holiday-never-learned-has,...

b. *Der Schuler, der in den Ferien jemals gelernt hat,.....

The-pupil,-that-on-holiday-never-learned-has...

c. Keine Frau, die Julia sonderlich gut kennt, kann gut kochen.

No-woman,-that-Julia-particularly-good-knows,-can-good-cook.

d. *Die Frau, die Julia sonderlich gut kennt, kann gut kochen.

The-woman,-that-Julia-particularly-good-knows,-can-good-cook.

Our expectations on the c-command relationship between the external D° and the material internal to CP were right. *Sonderlich* (14c) and *jemals* (14a) are allowed only if the head is a negative determiner because they belong to its c-command domain. The result of this analysis is not surprising if we consider the HRA; a complement is always in the domain of the head from which it has been selected exactly like the CP internal material is in the domain of the D° which selects it.

The isle condition in German is not as defined as it is in English or Italian (Chomsky 1986; Rizzi, 1990; Cinque; 1990), where extractions are possible only from a complement subordinate clause but never from adjunct subordinate clauses. Extraction depends on other criteria such as the kind of movement (topicalization, wh-movement...) and involved verbs (bridge verbs or not) and a big picture of these conditions has not been drawn yet (Lutz, 1996: 6-9).

(15)

a. *Wen_i hat Peter Hans getroffen, nachdem er t_i besucht hat?

Who-has-Peter-Hans-met,-after-which-he-visited-has?

b. Wen_i hat Peter geglaubt, dass Hans gestern t_i getroffen hat? (Lutz, 1996: 2)

Who-has-Peter-believed,-that-Hans-yesterday-met-has?

c. *Wen_i hast du bedauert, dass du t_i getroffen hast?

Who-have-you-regret-that-you-met-have?

d. *Was hat Hans einen Mann, der ihm t_i gegeben hat, gesehen? (Lutz, 1996:6)

What-has-Hans-a-man,-that-him-given-has,-seen?

The isle condition cannot therefore be a test for the status of complement or adjunction of German RCs because it does not apply as it does in other languages. For our analysis, however, extraction, can be interesting from another point of view, which was pointed out by Engdhal (1997) in his study of relative clauses of verb second Scandinavian languages.

(16)

a. Den teorin_j känner jag [_{NP} ingen_j] [_{CP} som e_j tror på e_k]]

that-theory-know-I-nobody-that-believes-in.

b. Det_k finns det [_{NP} ingen_j] [_{CP} som e_j kan hjälpa mig med e_k]]

that-there-is-nobody-that-can-help-me-with. (Engdhal, 1997: 9-10)

(16a) and (16b) are examples of topicalization of a constituent from a relative clause which are allowed only from restrictive relative clauses. Non-restrictive relative clauses do not allow fronting of a constituent extracted from them. (17) is the non-restrictive counterpart of (16a) that shows that extracting *den teorin_j* causes ungrammaticality.

(17)

*Den teorin_j känner jag en man, som för övrigt tror på e_j.

That-theory-I-know-a-man,-who-by-the-way-believes-in.

The adverb *för övrigt*, which Engdhal translates with *by the way*, forces the relative clause to be understood as a non-restrictive one, like *übrigens* in German (also Scandinavian relative clauses do not have an overt mark that differentiates the two typologies of RCs).

On the one hand, extractions out of relative clauses are possible in the Scandinavian languages but not in related languages such as German and English or in the Romance languages. On the other hand, the syntactic function of this operation, i.e. the focusing of the extracted constituent, can be conveyed through other operations in different languages. Fronting of constituents in German is very frequent but unstressed, and in fact topicalization is not necessarily a focusing strategy (18b). A syntactic

operation in German that could match the focusing function of extraction out of relative clause in Scandinavian languages could be the so-called *Hanging Topic Construction* (*Freies Thema* in German), where a constituent moved in an initial (but external) position of the matrix clause like *An die Theorie* in (18d) is resumed by a pronoun within the matrix clause.

(18)

a. Der Mann glaubt an die Theorie.

The-man-believes-in-the-theory.

b. An die Theorie glaubt der Mann.

In-the-theory-believes-the-man.

c. Der Mann, der glaubt an die Theorie

The-man,-that-believes-in-the-theory

d. An die Theorie, der Mann glaubt daran.

To-the-theory,-the-man-believes-in-it.

As far as syntactic function is concerned, topicalization in Scandinavian languages corresponds to *Freies Thema* in German, which, by the way, have both a spontaneous and oral character. If we try to apply the *Freies Thema* to a constituent internal to a relative clause we discover an analogy with the movement in (16a) and (17). Restrictive relative clauses allow the constituent to hang at the beginning of the matrix clause (19a); non-restrictive relative clauses don't (19b).

(19)

a. an die Theorie, ich kenne den Mann, der daran glaubt.

In-the-theory,-I-know-the-man,-that-in-it-believes.

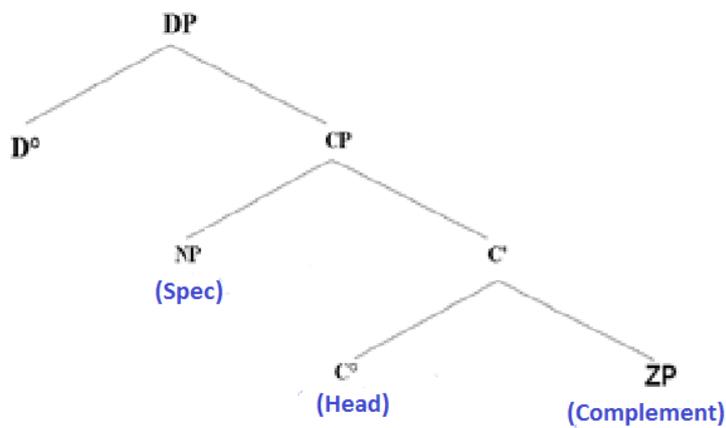
b. *An die Theorie, ich kenne Peter, der (übrigens) daran glaubt.

In-the-theory,-I-know-Peter,-who-(by-the-way)-in-it-believes.

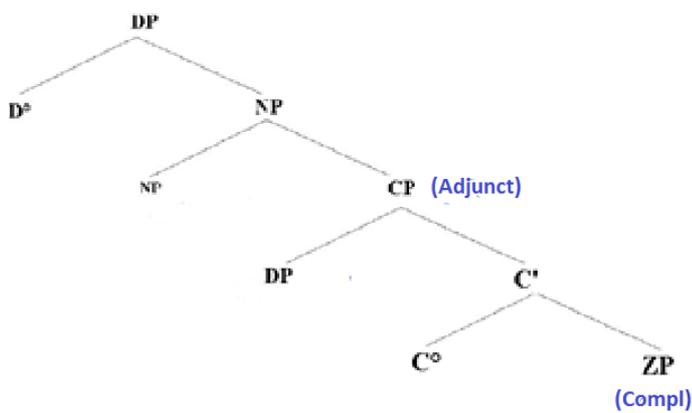
We have seen so far that there are reasons to believe that a restrictive relative clause is the complement of D° , while a non-restrictive relative clause is an adjunction of NP/DP. This is also confirmed by comparing the

characteristics of complements and adjunctions in general within the frame of the generative grammar with those of the two typologies of relative clauses.

If we observe the syntactic derivations of a complement noun phrase (20a) and adjunction noun phrase (20b) proposed by Plaztack (2000: 265), we notice that adjunctions are merged higher than complements resulting in a linear order where complements always precede adjuncts (21a,b).



(20) a. Complement



(20) b. Adjunct

(21)

a. der Freund von Peter mit blauen Augen

the-friend-of-Peter-with-blue-eyes

b. *der Freund mit blauen Augen von Peter

the-friend-with-blue-eyes-of-Peter

We would therefore expect a CP adjunct to follow a CP complement and an opposite linear order to be ungrammatical. As in (22a), a restrictive relative clause precedes a non-restrictive relative clause while (22b) is ungrammatical.

(22)

a. Der Mann, der uns gestern zum Mittagessen eingeladen hat, und übrigens 35 Jahre alt ist, kommt aus Australien.

The-man,-that-us-yesterday-for-lunch-invited-has,-and-by-the-way-35-years-old-is,-comes-from-Australia.

b. *Der Mann, der übrigens 35 Jahre alt ist, und uns gestern eingeladen hat, kommt aus Australien.

The-man,-who-by-the-way-35-years-old-is,-and-us-yesterday-for-lunch-invited-has,-comes-from-Australia.

The same linear order occurs when both sentences are extraposed (23):

(23)

Mit dem Professor haben die Studenten gesprochen, die die Prüfung nicht bestanden haben und die übrigens sehr traurig sind.

With-the-professor-have-the-students-spoken,-that-the-exam-not-passed-have-and-who-by-the-way-very-sad-are.

Based on the assumption made in part two about the semantic difference between restrictive and non-restrictive relative clauses, it is possible to deduce which nouns can exclusively introduce one type or the other. Non-restrictive relative clauses relativize nouns already defined (such as proper nouns, but rarely pronouns), which are well identified and limited (24a). Proper nouns which do not refer to a single person but to a group of people with the same name (24b), or which are used in an idiomatically (24c), are

excluded because they can also introduce a restrictive clause. Proper nouns in the sense of (24a), with respect to substantives in general, are in a way “intransitive” and cannot therefore be the Head of a complement like a restrictive relative clause.

(24)

a. Peter, der übrigens auf die Party kommt, ist ein Freund von meinem Bruder.

Peter, -who-by-the-way-to-the-party-comes, -is-a-friend-of-my-brother.

b. Der Peter, der auf die Party kommt, ist der Freund von meinem Bruder.

The-Peter, -that-to-the-party-comes, -is-a-friend-of-my-brother.

c. Das ist der Peter, den wir alle lieben.

That-is-the-Peter, -that-we-all-love.

Some distributive quantifiers are, on the other hand, incompatible with non-restrictive clause because they make the following noun unidentifiable. These can only introduce restrictive relative clauses.

(25)

a. *Jeder Professor, der übrigens eingeladen wurde, hat an der Konferenz teilgenommen.

Every-professor, -who-by-the-way-invited-was, -has-the-conference-attended.

b. Jeder Professor, der eingeladen wurde, hat an der Konferenz teilgenommen.

Every-professor, -that-invited-was, -has-the-conference-attended.

From the antecedents exclusively used for restrictive and for non-restrictive RCs and the semantic description mentioned in part two, one can easily conclude that the internal head of a non-restrictive relative clause is identical to the nominal antecedent because they both have to be very definite and restricted and because they don't have to cross their truth value to conceive the meaning of what they are referring to. On the contrary, the internal head of a restrictive relative clause does not show any definiteness, and does not identify with external material but rather intersect its value with it.

A clear demonstration of this assumption is the fact that in the trace position internal to a restrictive relative clause there is always an indefinite noun phrase, either without (26a) or with indefinite determiner (26b). This explains why we assume that the determiner of the antecedent base-generates externally from CP.

(26)

a. Die Männer, die es in diesem Restaurant gibt, trinken nur Bier.

The-men,-that-there-in-this-restaurant-are,-drink-only-beer.

Es gibt Männer in diesem Restaurant

There-are-men-in-this-restaurant.

*Es gibt die Männer im Restaurant

There-are-the-men-in-this-restaurant.

b. Der Mann, der im Restaurant sitzt, trinkt ein Bier.

The-man,-that-in-the-restaurant-sits,-drink-only-beer.

Es sitzt ein Mann im Restaurant.

It-sits-a-man-in-the-restaurant.

*Es sitzt der Mann im Restaurant

It-sits-the-man-in-the-restaurant.

Another noteworthy evidence of this fact has been proposed by Cinque (2008: 6) for Italian and will be implemented here in the German language for the sake of our analysis. It regards the specific and non-specific reading of an adjective referred to a noun. If a definite article precedes a noun phrase, the adjective referring to the noun cannot have a non-specific reading (27a); an indefinite article implies instead both a specific and non-specific reading of the adjective (27b). In this case, the speaker can be either thinking about a specific actor or not referring to anyone in particular. Both readings are possible.

(27)

a. Ich weiß, dass der bekannte Schauspieler auf die Party kommen wird.

I-know,-that-the-famous-actor-to-the-party-come-will.

b. Ich weiß, dass ein bekannter Schauspieler auf die Party kommen wird.

I-know,-that-a-famous-actor-to-the-party-come-will.

c. Der bekannte Schauspieler, der auf die Party kommen wird, wird bestimmt sehr elegant aussehen.

The-famous-actor,-that-to-the-party-come-will,-will-surely-very-elegant-look.

It is interesting to see that a definite DP acquires a non-specific reading if a restrictive relative clause follows (27c). Cinque (2008: 7) states that the indefiniteness of the internal head that raises in preverbal position is not lost² and influences the reading specificity. The first conclusion to draw from this analysis is that a restrictive relative clause has an internal head without determiner and that the external determiner merges with the Relative CP after this has raised to the SpecCP position.

(28)

[N°+ FR] = [Buch + das ich t gelesen habe]

[Book + that-I-read-have]

[DP [N°+FR]] = [Das [Buch, das ich gelesen habe]]

[The-[book,-that-I-read-have]]

This is why the antecedent introducing a restrictive relative clause can not only take any kind of determiner (for example negative (29a), or distributive (25a), but this c-commands the material internal to the relative clause. A non-restrictive relative clause, on the other hand, is sensitive to the kind of determiner that precedes the antecedent noun. This means that the determiner merges first with the noun building a DP and later (if the kind of determiner allows it) with the non-restrictive relative clause. In fact, negative or distributive determiners (29b, 25b) do not allow the non-restrictive relative clause to merge. Before the non-restrictive clause merges,

² Cinque assumes that there is even a silent indefinite article between the overt determiner and the noun (Cinque, 2008: 7), as in: *Der [ein] bekannte Schauspieler, der auf die Party kommen wird, wird bestimmt sehr elegant aussehen.*

the antecedent is already identified and can stand on its own without compromising the grammaticality of the sentence (see 8a, b).

(29)

a. Keine Frau, die Julia kennt, kann gut kochen.

No-women,-that-Julia-knows,-can-good-cook.

b. *Keine Frau, die (übrigens) Julia kennt, kann gut kochen.

No-women,-who-(by-the-way)-Julia-knows,-can-good-cook.

Only a complete NP or DP can be perfectly understandable on its own; a head like D° necessarily requires a complement to be completed. Moreover, the external and internal head of a non-restrictive relative clause are identical noun phrases. If the external antecedent has a determiner, this will also be the case for the internal head. Similarly to (26), here a non-restrictive relative clause is turned into a corresponding declarative clause to test the identity (30).

(30)

a. Mein Vater, der im Restaurant sitzt, arbeitet bei Pelipal.

Im Restaurant sitzt mein Vater.

My-father,-who-in-the-restaurant-sits,-works-for-Pelipal.

In-the-restaurant-sits-my-father.

b. Jenes Kind, das Ich (übrigens) seit 2 Jahren kenne, heißt Andreas.

Ich kenne jenes Kind seit 2 Jahren.

That-child,-who-I-(by-the-way)-for-2-years-know,-is-called-Andreas.

I-know-that-child-for-2-years.

Results confirm that the point of attachment of a non-restrictive relative, which is an adjunction, is the maximal projection DP or NP in case of proper nouns (31).

(31) [merge RC with the internal head] = [den Vater, den du gestern t kennengelernt hast]

the-father,-that-you-yesterday-known-have.

[DP + RC]= [mein Vater, den Vater den du gestern t kennengelernt hast]

my-father, -the-father-who-you-yesterday-known-have.

Elision of the internal head = [mein Vater, ~~den Vater~~ den du gestern t kennengelernt hast

The relationship between the determiner of the noun modified by a restrictive relative clause and the noun itself (32b) differs from a DP/NP without RCs (32a, 33a), or from a DP/NP which is followed by a non-restrictive relative clause (33b).

(32)

a. [DP Das Bild]

b. Das [CP[NP Bild], [das [Peter t_{NP} gesehen hat]]]

The-[[image], -[that-[Peter-seen-has]]]

(33)

a. [DP Mein Vater]

b. [DP Mein Vater], [CP <mein Vater_i> den du t_i (übrigens) schon gesehen hast.]

[My-father], -[<my-father>, -who-you-(by-the-way)-already-seen-have.]

In particular, the head noun introducing a non-restrictive relative clause forms a constituent with the preceding determiner (33b) analogously to a non-relativized DP/NP (33a). This is not the case in (32b), where the head noun, modified by a restrictive relative clause, cannot be the direct complement of the determiner as it is generated inside the CP of the relative clause.

Another difference in the way relative clauses relate with the determiner of their antecedents concerns the possibility of leaving within the relative clause a floating quantifier bound with the Head (Bianchi, 2000: 46). German quantifiers like *alle* (34a,b) or *beide* (34c,d), which introduce a definite DP, can be stranded when the name they refer to moves to the left.

(34)

a. Alle Studenten haben die Prüfung bestanden

All-the-students-have-the-exam-passed.

b. [DP Die Studenten] haben [alle t_{DP}] die Prüfung bestanden

[The-students]-have-[all]-the-exam-passed.

c. Beide Brüder wohnen in Deutschland

Both-brothers-live-in-Germany.

d. [_{DP}Meine Brüder] wohnen [beide t_{DP}] in Deutschland

[My-brothers]-live-[both]-in-Germany.

If the DP becomes antecedent of a restrictive relative clause, the quantifier stranding is no longer possible (35b):

(35)

a. Alle Studenten, die die Prüfung bestanden haben, wollen mit dem Professor sprechen.

All-the-students,-that-the-exam-passed-have,-want-with-the-professor-speak.

b. * Studenten, die alle die Prüfung bestanden haben, wollen mit dem Professor sprechen.

Students,-that-all-the-exam-passed-have,-want-with-the-professor-speak.

This is expectable if we consider that, according to the Head Raising Analysis, the internal head raises to the specCP without determiner. It is a bare noun which will merge with an external determiner once the movement has already taken place. Non-restrictive relative clauses, instead, allow for a stranded quantifier because the internal head can be a full DP (36b). In this case elision would apply only to the material identical to the external head (the noun) leaving the quantifier overtly inside the relative clause. Moreover, a stranded quantifier forces the non-restrictive reading of the relative clause, as the minimal pair (37a, b) shows.

(36)

a. Beide meine Brüder, die (übrigens) in Deutschland wohnen, habe letztes Jahr geheiratet.

Both-my-brother,-who-(by-the-way)-in-Germany-live,-have-last-year-married.

b. Meine Brüder, die (übrigens) beide in Deutschland wohnen, haben letztes Jahr geheiratet.

My-brother, -who-(by-the-way)-both-in-Germany-live, -have-last-year-married.

(37)

a. Die ausländischen Studenten, die alle im Wohnheim wohnen, müssen pünktlich zu Hause sein.

The-foreign-students, -who-all-in-the-dorm-live, -must-on-time-at-home-be.

b. Die ausländischen Studenten, die im Wohnheim wohnen, müssen pünktlich zu Hause sein.

The-foreign-students, -that-in-the-dorm-live, must-on-time-at-home-be.

2.5. Discontinuity and extraposition

In this part we will give a detailed analysis of the phenomenon found in English (38a), Italian (38b), but more frequently in German of the discontinuity between antecedent and relative clause, which we presented in the first part on the basis of examples.

(38)

a. I saw the picture of Clinton yesterday, that John liked. (Hulsey & Sauerland, 2002:7)

b. Maria ha incontrato un uomo alla festa, che ti conosce. (Donati, 2000: 100)

Maria-has-met-a-man-at-the-party, -that knows you.

Discontinuity means that the nominal head of the restrictive or non-restrictive relative clause is separated from the relative clause itself by other syntactic material. This has commonly been called extraposition, thus implicitly referring to the fact that it is the result of a movement (Reinhart 1980; Baltin 1982, 1983, 1984; Müller 1996) to the right external field of the matrix clause (*Nachfeldbesetzung* in case of German). Even those who don't agree with the movement theory (Chomsky 1995, 2000, 2001 or Kayne, 1994), however, don't discard the term *extraposition*. Minimalist theories and the antisymmetrical approach (LCA) ban *a priori* any

movement or adjunction to the right. Based on this assumption, an extraposed element would be the result of a movement to the left of every other constituent. What is “extraposed” is actually the only part of the sentence that remains *in situ* while the others raise in the position where they are actually pronounced. As far as German is concerned, this would mean that every order NP – V implies the raising of the verb argument in the preverbal position where it receives case, while the constituents or clause after the verb are actually in their base position.

Many arguments discredit this theory. First of all, the necessary proliferation of functional heads as landing sites of all the material that has to raise. Second, the different behaviour of post-verbal phrase and phrasal complements with respect to their isle condition (Büring & Hartmann, 1996:184); Third, the impossibility of deriving binding relations, co-reference and reconstruction effects which characterize extraposed phrasal complements (Haider 1993: 3; Büring & Hartmann, 1997: 189).

Let’s see what the C principle effects with extraposed clauses are. If we assume that a restrictive relative clause undergoes a to be extraposed after the right verbal bracket, it follows that it should not be able to host an R expression which is co-referential with a pronoun of the matrix clause if the trace of its base generated position is c-commanded by the co-indexed pronoun.

(39)

a. *Es hat ihr_i jemand [eine Geschichte t_i] erzählt, [CP die Ina_i ängstigte]_i

It-has-her-someone-[a-story]-told, [that Ina scared.]

b. Es hat ihr_i jemand [eine Geschichte t_i] erzählt, [CP die sie ängstigte]_i

It-has-her-someone-[a-story]-told, -[that-her-scared.]

c. Es hat ihr_i jemand gesagt [dem Ina_i blind vertraut] (Büring & Hartmann, 1996:189-192)

It-has-her-someone-said, [that-Ina-blindly-trust.]

(39b) is a grammatical example of extraposition of an object relativization while (39a) is not because of the presence of the R expression *Ina*. This derivation obeys nothing more than the assumptions of the movement analysis on A' movements: an extraposed relative clause is c-commanded by the pronominal indirect object and has to respect the binding relation with it. If we assumed the LCA analysis, the grammatical judgement should be reversed and (39a) should be grammatical.

The same conclusion can be drawn from examples (40) where a pronoun in the extraposed clause is bound by a NP quantifier that c-commands it in the matrix clause. The quantifier in the extraposed clause can be bound to the pronoun only if it originates lower than NP. This derivation would not be possible under the base generation assumptions of the LCA analysis where the NP raises upwards and the preverbal argument consequently always c-commands the extraposed clause.

(40)

- a. Weil wir jedem_i [NP die Daten t₁] gegeben haben [CP die er_i braucht]₁
because-we-everyone-[the-data]-given-have-[that-he-needs.]
- b. *weil [ein Mann t₁] jedes Datum_i kennt [CP der es_i braucht]₁ (Büring & Hartmann, 1997a: 64)
because-[a-man]-every-piece-of-data-knows-[that-it-needs.]
- c. Weil wir jedem_i die Daten [CP die er_i braucht] gegeben haben.
because-we-everyone-the-data-[that-he-needs]-given-have.
- d. *weil ein Mann [CP der es_i braucht]₁ jedes Datum_i kennt.
because-a-man-[that-it-needs]-every-data-knows.

We have presented here some arguments that enable us to consider the existence of rightward movements. This does not imply, however, that all extraposed relative clauses are instances of rightward movements, but it does strike a blow for the OV order and the idea that a relative clause is not generated in the *Nachfeld* of the clause. We will see in the following

paragraphs the contexts in which this syntactic operation exactly applies and why.

2.6. Discontinuity as A' movement or Late merge after covert QR

In the first part, data were presented which outline the possible positions of relative clauses in German. We left some issues outstanding that required further explanations and analysis. Now that we have assigned restrictive and non-restrictive relative clauses appropriate syntactic derivations and we have introduced the notion of extraposition, it is time to try and answer those open questions we stated at the end of part one, and which are repeated here: which restrictions play a role in the possibility of extraposing in the *Nachfeld* a relative clause whose antecedent is located in the *Vorfeld*? Why can only the *Nachfeld* be the landing site of a relative clause, which is discontinuous from its antecedent? Or rather: why can't a relative clause be placed in the *Mittelfeld* of the matrix clause if the antecedent has been previously moved into the *Vorfeld*?

Of course if the restrictive and non-restrictive relative clauses are assigned respectively the HRA and the MA, albeit two different syntactic structures, this also accounts for the fact that discontinuity, with regard to their antecedent, and extraposition must be ascribed to two different syntactic operations. Providing proof of this fundamental distinction is the aim of this part.

In particular we want to prove the following: extraposition of a restrictive relative clause represents an instance of A' movement to the right (Büring & Hartmann, 1997a, for relative clause in general) while extraposition of non-restrictive relative clauses is the result of a late merge following a covert countercyclical QR of the nominal head (Fox & Nissenbaum, 2000 for

relative clauses in general). In this case, QR applies to the right and, because it is a covert operation, the nominal head can be pronounced in its base position while the relative clause is pronounced in the right periphery, where it is merged.

2.6.1 Antecedent in the *Mittelfeld* and relative clause in the *Nachfeld*

2.6.1.1 Restrictive relative clauses

As complements, restrictive relative clauses can move rightwards from their antecedent with an A' movement and have to respect the binding and isle conditions of every movement of this kind. Assuming that the nominal antecedent stays in its base position within the *Mittelfeld*, the relative clause moves outside the right verbal bracket of the matrix clause. Not only verb arguments but also every noun phrase of the clause can be relativized and consequently extraposed (41a-e).

(41)

a. weil eine Frau gehustet hat, die mit einem Porsche kam.

because-a-woman-coughed-has,-that-with-a-Porsche-came.

b. weil er den Brief einer Frau geschickt hat, die mit einem Porsche kam.

because-he-the-letter-to-a-woman-sent-has,-that-with-a-Porsche-came.

c. weil er eine Frau kennengelernt hat, die einen Porsche fährt.

because-he-a-woman-known-has,-that-a-Porsche-drives

d. weil er auf eine Frau gewartet hat, die einen Porsche fährt.

because-he-for-a-woman-waited-has,-that-a Porsche-drives.

e. weil er nach Rom mit dem Freund gefahren ist, der einen Porsche hat.

because-he-to-Rome-with-a-friend-gone-has,-that-a-Porsche-has.

From examples (42a-c), where the antecedent remains in the *Mittelfeld* and the non-restrictive relative clause is placed in the *Nachfeld*, nothing speaks against the fact that the extraposition of non-restrictive clause can also be an instance of rightward movement.

(42)

a. weil sie von Anfang an immer wieder Kohl kritisiert hat, der bekanntlich Bundeskanzler ist.

because-she-from-the-beginning-always-Kohl-criticized-has,-who-as-is-well-known-Bundeskanzler-is

b. weil sie für Ronald Reagan gestimmt haben, der US Präsident war.

because-they-for-Ronald-Reagan-voted-have,-who-US-President-was.

c. weil sie seit ihrer Kindheit Papst Johannes Paul II verehrt, der aus Polen stammt.

because-she-since-her-childhood-Pope-John-Paul-II-admires,-who-from-Poland-comes.

(Meinunger, 2000: 214)

There are, however, two major arguments against this assumption. The first argument harks back to binding and reconstruction conditions, which seems to eliminate this possibility. They apply with extraposed restrictive (13a), but not with extraposed non-restrictive, relative clauses (13c). The second arises from the analysis of extraposition when the antecedent is not left in its base position. In this case non-restrictive relative clauses cannot be extraposed at all.

2.6.1.2 Non-restrictive relative clauses

We have seen that the extraposition of a non-restrictive relative clause cannot be a rightward movement. Fox and Nissenbaum's idea about the extraposition of relative clauses involves a covert operation of the external head and a later merge of the relative clause to the covert nominal head (Fox & Nissenbaum (2000) refers to this movement in terms of Quantifier Raising although it is the entire NP/DP that covertly moves and not a

quantifier in a traditional sense). This means that the nominal head can be pronounced in its base position while the relative clause is pronounced in the right periphery of the sentence where it has been merged (Fox, 2002:71). The covert operation is countercyclical, and takes place after the spellout and in a different phase with respect to the overt late merge. According to Nissenbaum, there is no single spellout after which every covert operation takes place, but spellouts repeat cyclically after each syntactic chain. This is why it is possible for an overt operation like the late merge of the non-restrictive relative clause being triggered by a previous covert operation like the Quantifier Raising.

(43)

Wir_i [_{VP} haben ti Peter gesehen_i],

QR (covert)

Wir_i [_{VP} haben ti Peter gesehen_i]_{<Peter>}

Adjunct merger (overt)

Wir_i [_{VP} haben ti Peter gesehen_i]_{<Peter>}, der übrigens 50 Jahre alt geworden ist.

We-have-Peter-seen,-who-by-the-way-50-years-old-is.

In (43) *der übrigens 50 Jahre alt geworden ist* is an adjunction to the external head *Peter* and can be merged to the head of the covert QR resulting in what appears to be an extraposition of the relative clause.

The adjunction relationship between the external head and the relative CP, which is usually looser than a head-complement relationship and should theoretically not hold at long distance, is preserved from the fact that a covert copy of the external head locally precedes the relative clause. Before the quantifier raising, the external head is isolated because the non-restrictive relative clause has not been merged. As soon as the covert movement applies, the clause merges with the external head. This is why the extraposition of non-restrictive relative clauses does not respect binding conditions: the material internal to the relative clause is not c-commanded by the external head because it is not merged with it when generated.

This theory of Fox & Nissenbaum about extraposition can apply only for non-restrictive relative clauses because the nominal antecedent together with its determiner (if present) is merged in the matrix clause before any non-restrictive relative clause comes along. This cannot be the case for restrictive clauses that are merged before attaching to the external D° , which has been selected by the matrix VP. Moreover, extraposition of restrictive relative clauses could not be the result of such operations because complements should merge before any movement applies. Once the internal head has moved to the specCP position (whence it should undergo a QR), the entire relative CP has already been merged and a late merge is ruled out. The only thing possible is a rightward movement of the relative clause as explained in the previous paragraph.

2.6.2 Antecedent in the *Vorfeld* and relative clause in the *Nachfeld*

2.6.2.1 Restrictive relative clauses

In part one, data have clearly shown that, contrary to non-restrictive RCs, restrictive RCs can be placed in the *Nachfeld* even if the antecedent is in the *Vorfeld* of the matrix clause (44a-c).

(44)

a. Studenten haben mit dem Professor gesprochen, die die Prüfung nicht bestanden haben.

Students-have-with-the-professor-spoken,-that-the-exam-not-passed-have.

b. Nur die Studenten haben mit dem Professor gesprochen, die die Prüfung nicht bestanden haben.

Only-the-students-have-with-the-professor-spoken,-that-the-exam-not-passed-have.

c. ?Die Studenten haben mit dem Professor gesprochen, die die Prüfung nicht bestanden haben.

The-students-have-with-the-professor-spoken,-that-the-exam-not-passed-have.

In the previous paragraph we have also seen that extraposition of a relative clause is an instance of rightward A' movement which lands after the right verbal bracket. Of course we now have to deal with the fact that other syntactic operations take place to move the antecedent before the left verbal bracket of the matrix clause. Since the relative clause, together with its external head D° , is generated within the *Mittelfeld* (HRA) when the internal head moves to SpecCp, the entire projection [D° + CP] moves in the *Vorfeld* of the matrix clause. A topicalization does not freeze any extraction from a complement (Meinunger, 2000: 216), so the relative clause alone (part of the complement of the head D°) can be extraposed in the *Nachfeld* with the same A' movement described in paragraph 2.6.

Meinunger speaks of weak isle conditions to refer to complements (but not to adjunction) that have been scrambled or topicalized. Since a CP restrictive relative clause is actually a complement of its head, it follows that even if it is moved to the left of its base position, internal material can be extracted and moved. In this case a relative clause leaves its internal head in the *Vorfeld* together with the external determiner and moves to the right to land in the *Nachfeld*. According to Meinunger (2000), if a restrictive relative clause were an adjunction, topicalization would apply a freezing effect to extraction.

2.6.2.2 Non-restrictive relative clauses

We have said that a late merge necessarily requires a previous covert QR. This means that the actual extraposition of non-restrictive relative clauses depends on the success conditions of a covert QR operation. First of all, the

constituent undergoing this movement must be a maximal projection, that is a DP or a head (Lutz, 1996:3) as is the case with non-restrictive but not restrictive relative clauses. Second, a QR can never go past a DP boundary (Sauerland, 1998, 2000). Third, a QR must respect the transformation conditions of every other syntactic movement (Rizzi, 2006). If we look closely, we will notice that the extraposition of a non-restrictive relative clause from the *Mittelfeld* respects these conditions (36a, b). When the head lies in its base position the relative clause can be lexicalized in the *Nachfeld*; if there is another DP after the external head and near the right verbal bracket, the extraposition encounters reference problems (45c) and the sentence may appear ambiguous.

(45)

a. Hans ist Peter_i vorgestellt worden, [der übrigens ein bekannter Klavierspieler ist.]_i

Hans-was-to-Peter-introduced,-[who-by-the-way-a-famous-piano-player-is.]

b. Hans hat gestern seiner Freundin Peter_i vorgestellt, [der übrigens ein bekannter Klavierspieler ist.]_i

Hans-has-yesterday-to-his-girlfriend-Peter-introduced,-[who-by-the-way-a-famous-piano-player-is.]

c. ??Hans hat gestern seiner Freundin_i Peter vorgestellt, [die übrigens eine bekannte Klavierspielerin ist.]_i

Hans-has-yesterday-to-his-girlfriend-Peter-introduced,-[who-by-the-way-a-famous-piano-player-is.]

If the external head undergoes overt scrambling or topicalization to a higher position of the matrix clause, the covert QR cannot apply and the extraposition is therefore ruled out because the late merge has no attaching site (46a).

(46)

a. *Karin hat mit dem Professor gesprochen, die die Prüfung nicht bestanden hat.

Karin-has-with-the-professor-spoken,-who-the exam-not-passed-has.

The QR ought to take place from the position where the head has been moved violating a basic conditions of the transformation grammar according to which “Operators in operator-variable chains cannot undergo further operator movement” (Rizzi, 2006). In other words, topicalization (Chomsky, 2000, 2000a) and scrambling (Grewendorf, 1999) of a constituent have a freezing effect on the Quantifier Raising. This explains why non-restrictive relative clauses can never stay in the *Nachfeld* or *Mittelfeld* if the external head lies in the *Vorfeld* of the matrix clause.

2.6.3 Antecedent in the *Vorfeld* and relative clause in the *Mittelfeld*

2.6.3.1 Restrictive relative clauses

Now that it is clear which syntactic operations take place to extrapose a relative clause from the *Vorfeld*, it is interesting to investigate the reason why, after the topicalization of the entire complex [D+CP], the *Mittelfeld* cannot be the landing site of a rightward movement of CP while an extraposition in the *Nachfeld* can apply. Theoretically, an extraposition in the *Nachfeld*, which is the most distant field with respect to the *Vorfeld*, should try out the head-complement relation more than a movement in the *Mittelfeld*. According to Haider (1997: 136-138) the distance between starting and landing site has actually nothing to do with the acceptance of the movement.

A relative clause is linked to its antecedent via a complement-head relationship. The antecedent is in turn selected by the verb of the matrix clause, regardless of the nature of this relationship. This means that the relative clauses are not licensed directly from the verb like any other subordinate clause but are licensed indirectly through the antecedent. Direct

and indirect syntactic relationships are, according to Haider, fundamental to managing the movement of the constituents within a sentence. It is forbidden to license an indirect movement (extraposition) in the domain of a directly licensed movement (topicalization). In our case an extraposition into the domain of the VP (which is the *Mittelfeld*) is forbidden because a topicalization of directly licensed material has applied before from the same domain.

(47)

a. [[Ein Mann],[den ich nicht kenne]], hat den ersten Preis gewonnen.

[[A-man]-[that-I-don't-know]],-has-the-first-prize-won.

b. *[Ein Mann] t] hat [den ich nicht kenne] den ersten Preis gewonnen.

[A-man]-has-[that-I-don't-know]-the-first-prize-won.

c. [Ein Mann] t] hat den ersten Preis gewonnen, [den ich nicht kenne].

[A-man]-has-the-first-prize-won,-[that-I-don't-know].

A D° has been topicalized together with its complement relative clause (licensed directly) from the VP internal domain (47a). From this position a second indirect movement is possible provided that the landing site is not the VP internal domain, which has licensed the first movement (47c). The only site left which is external to the VP domain is the *Nachfeld*. This means that the *Nachfeld* is the only possible landing site for extraposing a relative clause, and explains (47b)'s ungrammaticality.

This also explains not only why it is impossible to have the antecedent in the *Vorfeld* and the relative clause in the *Nachfeld* but also why it is impossible to have discontinuity within the *Mittelfeld*.

(48)

a. *, dass [den Satz] alle [der hier steht] ungrammatisch finden.

That-[the-sentence]-everyone-[that-here-is]-ungrammatical-find.

b. *, dass [mehr Leute] gestern [als wir kannten] kamen.

, that-[more-people]-yesterday-[than-we-knew]-came.

(48a) would mean that the complex *den Satz, der hier steht* has been scrambled in a higher position of the *Mittelfeld* with a directly licensed movement. Then the relative clause alone has been extraposed in a lower position of the *Mittelfeld* (that is in the VP domain), with an indirect licensed movement, violating the principle of direct and indirect movements of Haider (1997:138)

2.6.3.2 Non-restrictive relative clauses

The reason a non-restrictive relative clause cannot stay in the *Mittelfeld* if the antecedent lies in the *Vorfeld* is not ascribed to the same reason applying for restrictive clauses because, as we have seen, their extraposition is not an instance of A' movement. On the contrary, it is again a consequence of the freezing effect on the QR that we explained in paragraph 2.6.1.2. The fact that scrambling and topicalization have a freezing effect on the covert movement which allows the late merge of the non-restrictive relative clause rules out four situations: the position described in paragraph 2.6.2 when the antecedent is in the *Vorfeld* and the non-restrictive relative clause in the *Nachfeld*; the antecedent in the *Vorfeld* and the non-restrictive relative clause in the *Mittelfeld*, discontinuity within the *Mittelfeld* and the scrambled antecedent in the *Mittelfeld* and the non-restrictive relative clause in the *Nachfeld*.

2.6.4. Scrambling of the antecedent in the *Mittelfeld* and relative clause in the *Nachfeld*

The last piece of evidence supporting our analysis is taken from a situation that has yet to be analysed and that we would like to introduce with a minimal pair of clauses:

(49)

a. In Indien werden [Kühe t,_j] nie t, geschlachtet, [die bei ihrer Geburt geweiht wurden.]

In-India-are-[cows]-never-slaughtered,-[that-by-their-birth-consacrated-were.]

b. *In Indien werden [Kühe t,_j] nie t, geschlachtet, [die Wiederkäuer sind.]
(Meinunger, 2000: 215)

In-India-are-[cows]-never-slaughtered,-[that/who-ruminant-are.]

A clear difference that accounts for the fact that restrictive and non-restrictive relative clauses are assigned different derivations as far as discontinuity in the *Nachfeld* is concerned is that only the former (8a), with respect to the latter (8b), are compatible with topicalization and scrambling of the antecedent. In example (49a) the antecedent *Kühe* is placed in a higher position than its base position and the relative clause *die bei ihrer Geburt geweiht wurden* has been extraposed. This is possible because the relative clause is clearly restrictive: the information conveyed by the matrix clause refers only to *those* cows, which respects a certain condition (they have to be baptized). We assume that the majority of people perceive (49b) as non-restrictive because they know that cows are ruminants. For those who have this knowledge, this sentence would appear ungrammatical because a non-restrictive relative clause, whose antecedent has been scrambled, cannot merge later, since the QR of the head has been ruled out by scrambling. On the other hand, those who are unaware of the fact that cows are ruminant could perceive this sentence both as restrictive and non-restrictive because there is no evident syntactic signal, as in English or Italian, which helps deal with the doubt. If they perceive it as restrictive because they don't know that cows are ruminant, the clause would appear grammatical.

2.7 Conclusion

Extrapolation of a restrictive relative clause represents an instance of A' movement to the right (Büring & Hartmann, 1997a, for relative clause in general), while extrapolation of non-restrictive relative clauses is the result of a late merge following a covert countercyclical QR of the nominal head (Fox & Nissenbaum, 2000 for relative clauses in general). In this case, QR applies to the right and, because it is a covert operation, the nominal head can be pronounced in its base position while the relative clause is pronounced at the right periphery where it is merged.

The two different syntactic analyses and the following derivations, which explain extrapolation, are fundamental to find an answer to the questions already raised about discontinuous behaviours in German. In particular: as far as restrictive relative clauses are concerned the topicalization of an antecedent in the *Vorfeld* of the matrix clause or its scrambling in a higher position of the *Mittelfeld* together with the relative clause do not exclude the possibility of a following extrapolation in the *Nachfeld* of the restrictive relative clauses with an A' rightward movement.

The impossibility of leaving the antecedent in the *Vorfeld* by extrapolating the restrictive relative clause in the *Mittelfeld* of the matrix clause derives from restrictions regarding the intersection of direct and indirect movement domains (Haider, 1997). The topicalization of the antecedent together with the relative clause is licensed directly from the VP and this rules out any second movement whose landing site is internal to the VP domain. This is also why discontinuity between relative clause and antecedent within the *Mittelfeld* is not allowed.

As far as non-restrictive clauses are concerned, on the other hand, the extrapolation in the *Nachfeld* is forbidden if the antecedent is located in the *Vorfeld* or in a higher position of the *Mittelfeld* because of the restrictions

ruling out QRs, and in particular because topicalization and scrambling have a freezing effect on Quantifier Raising (Chomsky 2000, Grewendorf & Joachim, 1999).

Chapter 3

Towards a typology of subordination

The aim of this chapter is to investigate the distinction between restrictive and non-restrictive relative clauses in German in order to provide further support to the idea proposed in the previous chapter that the clear semantic dichotomy between the two main kinds of relative clauses has also a syntactic explanation. Starting point of the study proposed in this chapter is the well-received hypothesis of Haegeman (2002-2008) on the group of subordinate clauses in general. According to her study there are two types of subordinate clauses, which differ according to their level of subordination and to their internal structure. More precisely there are central clauses, which are more embedded in the structure of the main clause and peripheral clauses, which look more like independent clauses. Although relative clauses differ from other kinds of subordinate clauses because they have a nominal reference in the matrix clause rather a verbal reference, we believe that the proposed dichotomy is suitable also for relative clauses. Moreover we will refer in this chapter only to German subordinate clauses extending the original English-based dichotomy of Haegeman to the language we are focusing about in this work.

At the beginning this chapter will draw a parallel between verbs selecting phrasal complements or adjuncts and nouns followed by relative clauses. According to Meinunger (2000) a restrictive relative clause attached to a noun and a sentential complement of a factive verb are both sister CPs of lexical heads. The concept of valency is traditionally connected to verbs and refers to their internal property of selecting any argument controlled by the verb predicate itself. This also includes the possibility of not selecting any arguments. Verb valency is often related to the traditional notion of verb transitivity, although these two definitions do not correspond entirely:

Valency may also involve the external argument whereas transitivity does not consider it. In this paper, the traditional concept of verb valency (in specific cases referred to as transitivity) is taken a bit further and extended to the nominal domain. The aim of this work is to explore specific syntactic nominal (in particular phrasal) structures, which share similar properties with subordinate clauses depending on verbal phrases. We want to provide evidence for a parallelism between verb and noun arguments, and finally to find a pattern of generalization for the the typologies of subordinate clauses. The syntactic structures that support the idea of a parallelism between verb and noun valency are phrasal arguments for verbs and relative clauses for nouns.

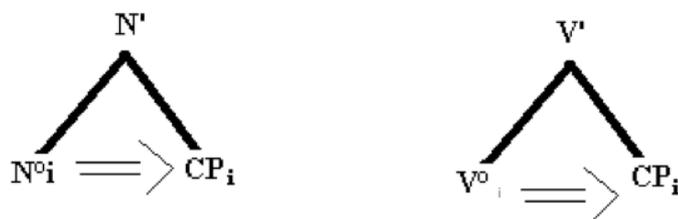
Secondly we aim at providing evidence of the fact that a restrictive relative clause and its head are linked by a head-complement-relationship while a non-restrictive relative clause can be seen as an adjunction to its head. Non-restrictive relative clauses merge to maximal projection late in the derivation of the associated clause rather than being selected by a lexical head during the construction of the matrix clause. Later in the chapter we present a further important evidence for this difference, which is the parallelism with Haegeman (2002-2008)'s dichotomy between central and peripheral clauses.

3.1 Introduction: noun and verb valency

One of the most explicit formal proposals of the parallelism between nouns and verbs selecting or not selecting phrasal arguments is Meinunger's (2000: 206) work on topic effects over extraction and extraposition. In an endeavour to explain how different types of syntactic movements are all restricted by the blocking effect of topics, he draws "a parallel between this finding and the behaviour of argument sentences of factive predicates,

which turn out to be of the same category (= topics)” (Meinunger 2000: 179) Following this assumptions and in order to provide more accurate evidence on similarity between leftward movements like wh-extraction, topic movement out of noun phrases and rightward movements like relative clause extraposition he makes some claims about the position of relative clauses with respect to their nominal antecedent comparing them to phrasal factive complements. Accordingly, relative clauses and nouns share the same index, just as a verb shares the same index with its argument. It is the lexical head that provides its phrasal argument with index, which can be both referential, or not. If the index is referential, the argument is said to carry a referential theta-role and counts as a true participant in the event; if it is not referential the argument does not participate directly in the event and it is considered a “quasi-argument or a non-referential expression” (Meinunger 2000: 206). The starting point of our analysis was the assumption made at this point by Meinunger (2000), and specifically that a noun that is identified by a restrictive relative clause assigns a referential index to it in the same way as, for example, a verb of saying marks its sentential complement with argument index, since in both cases we are dealing with sister CPs of lexical heads (Meinunger 2000: 206).

Figure 1: Sister CPs of lexical heads



Meinunger’s idea accounts for the fact that in the above mentioned construction the CP is linked to the head by a very close head-argument relationship and that the base position of a restrictive relative clause or of a factive phrasal complement is the sister of the lexical head it refers to (we will see in 3.2 that the lexical head N° is not exactly the lexical head we

want the restrictive relative clause to be linked to). The aim of this work is to support this analogy with further evidence and to show that there is a hitherto undiscussed difference with respect to whether the CP of the structure given in the first graphic is a restrictive or non-restrictive relative clause. The difference in the syntactic derivation of the two sentences will not invalidate the original parallelism between nominal and verb valency but, on the contrary, we will propose that the hierarchical location for non-restrictive relative clauses is similar to that of a verb adjunction.

Since the distinction between these two types of relative clauses is crucial to our argument, the following section will focus on some relevant syntactic and semantic properties of the two types of relative clauses, which will be useful for later argumentation.

3.2 Restrictive and non-restrictive relative clauses

3.2.1 Semantics

Contrary to English and Italian, German relative clauses, as we have seen, do not have any overt syntactic elements that are unambiguously and graphically able to distinguish the two typologies of clauses. The relative pronouns are always *der*, *die*, *das* (with declination), and in none of the cases can they be omitted. This is why in our German examples an “appositive” adverb such as *übrigens* has been added inside the non-restrictive clause: it forces the parenthetical reading without destroying the minimal pair for the sake of the comparison.

The semantic difference between restrictive and non-restrictive relative clauses is immediately evident in the following minimal pair of clauses (1a-b).

(1)

a. Julia kennt weinige Frauen, die sehr gut kochen können ≠ Julia kennt wenige Frauen

Julia knows few women, that very good cook can ≠ Julia knows few women

Julia knows few women, that very good cook can ≠ Julia knows few women'

b. Julia kennt wenige Frauen, die (übrigens) gut kochen können = Julia kennt wenige Frauen

Julia knows few women, who (by the way) good cook can = Julia knows few women

Julia knows few women, who (by the way) know how to cook = Julia knows few women'

A restrictive relative clause narrows down the field of reference of the antecedent and provides relevant information to limit, restrict or univocally identify the noun it modifies. It is therefore a real post-nominal modifier of its antecedent because by removing the relative clause, the underlying meaning of the main sentence changes. If we look at the definitions of modifiers proposed in the literature we see that no doubts arise about the modifying nature of restrictive relative clauses. According to a theoretical definition, a modifier is restrictive if the set of objects denoted by a modified head is properly contained in the denotation of the head alone. From a procedural point of view a restrictive modifier contributes to identifying the referent of a complex term expression of the form 'Determiner Head' (Alexiadou 2001; Umbach 2006). There is little consensus about the discourse-related status of restrictive modifiers. They may be active part of the presupposition but they can also represent new information (Fabricius-Hansen 2009).

According to these definitions, sentence (1b) does not seem to have the same status. In fact the denotation of the head and the head itself are equal and the relative clause provides additional information about some already identified discourse referent. From a discourse-related point of view non-

restrictive relative clauses are new information that can often also be stated as a separate assertion without changing the meaning.

Non-restrictive antecedents are not identified by non-restrictive relative clauses but by the context or by the noun itself. The relative clause provides non-defining information which is purely supplemental and does not limit the meaning domain of the noun it modifies.

By removing the relative clause, the truth-value of the main clause does not change and the relative clause turns out to be only a supplement to the basic meaning of the sentence.

Based on this assumption, it seems that non-restrictive relative clauses cannot be modifiers of the antecedent, and consequently, following Meinunger's analysis they should not be able to profit from a co-indexing relationship with a lexical head.

3.2.2 The antecedent

Based on the assumptions made so far about the semantic difference between restrictive and non-restrictive relative clauses, we can deduce which nouns can exclusively introduce one type or the other. Non-restrictive relative clauses relativize already defined nouns (such as proper nouns, but rarely pronouns), which are well identified and limited (2a). Proper nouns in the sense of (2a), with respect to substantives in general, are in a way “intransitive” and cannot therefore have any arguments. The syntactic characterisation of proper names as intransitive determiners is motivated by the fact that they can form DPs by themselves, they can be modified, and are incompatible with determiners (Egg 2007). Again we see that a tree like (1a) is not suitable for non-restrictive relative clauses because the lexical head must be at least transitive to project an argument.

(2)

a. Peter, der übrigens auf die Party kommt, ist ein Freund von meinem Bruder

Peter, who by the way to the party comes, is a friend of my brother

Peter, who by the way comes to the party, is a friend of our brother

A non-restrictive relative clause is also sensitive to the kind of determiner that precedes the antecedent noun, especially when it is a quantifier that makes the following noun unidentifiable. This is the case of a distributive quantifier like *jeder*, which extends the meaning of a specific reference to a broader undefined unit of references (3a) or a negative determiner like *kein* (3b).

(3)

a. *Jeder Professor, der übrigens eingeladen wurde, hat an der Konferenz teilgenommen.

Every professor, who by the way invited was, has to the conference attended.

'Every professor, who was invited, attended the conference.'

b. *Keine Frau, die (übrigens) Julia kennt, kann gut kochen.

No women, who (by the way) Julia knows can good cook

'No women, who (by the way) Julia knows, can good cook.'

We see from (3a) that the possibility of attaching a non-restrictive relative clause depends not only on the nature of the noun it refers to but also on the kind of determiner or quantifier merged with it. This could be the result of the fact that a relative clause merges after the entire DP has been built and that the determiner of a non-restrictive head is therefore part of what we call the relative clause's head, otherwise an external determiner could not interfere in the grammaticality of a relative clause. Semantically, only a complete DP can be perfectly understandable on its own, and this is what a non-restrictive relative clause like (1b) requires to attach and none the less be an independent speech act, conveying new information.

If the point of attachment of a non-restrictive relative clause is a maximal projection like DP (or NP), the relative clause is definitely a non-argument

because there is no transitive lexical head, as in (1a), which can project it. Most of the analysis that put restrictive and non-restrictive relative clauses in different syntactic positions choose a lower position for restrictive relative clauses and a position that is higher for non-restrictive ones (Ziv & Cole 1974; Emonds 1979; Fabb 1989) even if the configuration proposed at different stages of the theory differs consistently. Sections 3.2–3.4 will deal with the actual syntactic derivation of relative clauses.

We then need to consider that a restrictive relative clause can only have nominal antecedents, while a non-restrictive relative clause can also take entire CPs (4a) as antecedent. This means that restrictive relative clauses are limited in this manner because they are selected through a single lexical head which they are complement to. Non-restrictive relative clauses, on the other hand, are not ruled by sisterhood relationship and since they do not profit from co-indexing relationship they may take other possible maximal projections.

(4)

a. Er wohnt in Berlin, worüber er auch froh ist.

He lives in Berlin, about this he also happy is.

'He lives in Berlin, which makes him very happy.'

What forces the two types of relative clauses to appear in different position? Semantically the fact that just one of the two is a modifier is sufficient to predict that there is a different structural relation; their relation with the antecedent and with determiner is the empirical evidence that supports the semantic intuition.

A difference in the way relative clauses relate with the determiner of their antecedents concerns the possibility of leaving a floating quantifier of the antecedent inside the relative clause (Bianchi 2000: 46). German quantifiers like *alle* (8a-b) or *beide*, which introduce a definite DP, can be stranded when the noun they refer to moves to the left.

(5)

- a. Alle Studenten haben die Prüfung bestanden
All students have the exam passed.
- b. [_{DP}Die Studenten] haben [alle _{t_{DP}}] die Prüfung bestanden.
[The students] have [all] the exam passed.
'All the students have passed the exam'

If the DP becomes antecedent of a restrictive relative clause, the quantifier stranding is no longer possible (6b):

(6)

- a. Alle Studenten, die die Prüfung bestanden haben, wollen mit dem Professor sprechen.
All students, that the exam passed have, want with the professor speak.
'All the students that passed the exam want to speak with the professor'
- b. * Studenten, die alle die Prüfung bestanden haben, wollen mit dem Professor sprechen.

Students, that all the exam passed have want with the professor speak.

Non-restrictive relative clauses, instead, allow for a stranded quantifier because the head is a full DP (5b). Moreover, a stranded quantifier forces the non-restrictive reading of the relative clause, as the minimal pair (7a-b) shows.

(7)

- a. Die ausländischen Studenten, die alle im Wohnheim wohnen, müssen pünktlich zu Hause sein.

The foreign students, who all in the dorm live, must on time at home be.

- b. Die ausländischen Studenten, die im Wohnheim wohnen, müssen pünktlich zu Hause sein.

The foreign students, that in the dorm live, must on time at home be.

'The foreign students, who live in the dorm, must be home on time'

This is possible only if we consider that the determiner of the antecedent of a restrictive relative clause is the only part of the antecedent that does not directly belong to the clause. According to Cinque (2008: 6), the noun of an Italian restrictive relative clause does not show any definiteness and intersects its value with external material (which is D). Here we will attempt

to see if this can be extended to German relative clauses as well. If the definite article precedes the noun in a declarative sentence (8a) the non-specific reading we have with an indefinite article (8b) is of course excluded. The indefinite article enables both the specific and non-specific reading. In (8b), the speaker may refer either to a specific actor he/she has in mind or to any actor in general.

(8)

a. Ich weiss, dass der bekannte Schauspieler auf die Party kommen wird.

I know, that the famous actor at the party come will

b. Ich weiss, dass ein bekannter Schauspieler auf die Party kommen wird.

I know, that a famous actor at the party come will

c. Der bekannte Schauspieler, der auf die Party kommen wird, wird bestimmt sehr elegant aussehen.

The famous actor, that at the party come will, will of course very elegant look.

It is interesting to see that the definite article acquires a non-specific reading if a restrictive relative clause follows (8c). According to Cinque (2008: 7), the non-specific reading of the relative clause's head (which has no article) is not lost.³ As proposed in Resi (2011), the Head Raising Analysis proposed by Kayne (1994) was a brilliantly innovative intuition, even though it should not have been generalized to include all kinds of relative structures. Only in restrictive ones is the noun the internal head, which raises to the specCP without determiner. It is a bare noun that merges with an external determiner once the movement has already taken place and the CP is completely merged (Kayne 1994: 86). This is the reason why a restrictive relative clause is not affected by the kind of determiner, which precedes the noun that has to be restricted by the relative clause. The relationship between *das* and *Buch* in an isolated nominal phrase (9a) and

³ He even suggests that a silent indefinite article raises between the determiner and the noun. *Der [ein] bekannte Schauspieler, der auf die Party kommen wird, wird bestimmt sehr elegant aussehen* (Cinque 2008: 7).

the relationship between *das* and *Buch* when a relative clause follows (9b) has a completely different syntactic derivation.

(9)

a. [N°+ restrictive relative clause] = [Buch + *das* ich t gelesen habe]

book that I read AUX.1SG

b. [DP [N°+ restrictive relative clause]] = [Das [Buch, *das* ich gelesen habe]]

the book that I read AUX.1SG

On the other hand: nouns introducing a non-restrictive relative clause form a constituent with the preceding determiner analogously to a non-relativized DP/NP. They are grammatical both on their own and when they are relativized, and their meaning does not change in either case. This is not so with restrictive relative clauses where the head noun, modified by a restrictive relative clause, cannot be the only direct complement of the determiner as it is generated inside the CP of the relative clause. We suggest that the entire CP (including the internal head) is complement of the lexical head D° and that the determiner is the external element selecting the restrictive sentence. (Figure 2).

Figure 2: Syntactic derivation of restrictive relative clauses and non-restrictive relative clauses



We need to wonder now if a restrictive relative clause also behaves like a complement of the D° lexical head it refers to. And if this is really the case, what about non-restrictive relative clauses? What is the exact hierarchical location for non-restrictive relative clauses?

3.2.3 Complement vs Adjunction

Following Williams' (1980) idea, Meinunger (2000) suggests that co-indexing between two elements requires necessarily c-command relationship, and that CP, in this sense, is sister of the lexical head D° or V° . In fact, everything inside the CP is c-commanded by the external lexical head which is a V° in case of phrasal complement of verbs or, as we have proposed, a D° in case of relative clauses. If we assume this, we would expect, following our analysis, that everything inside a restrictive relative clause is in the domain of the matrix clause. On the other hand, a non-restrictive relative clause is next to the head DP but, as syntactic tests will show, neither is c-commanded by anything inside the matrix clause nor is c-commanded by the DP itself. We are inclined to believe that non-restrictive relative clauses merge much later in the derivation of the sentence than restrictive relative clauses, and that they function as adjunction to the maximal projection of DP/NP.

The first piece of evidence is the fact that the external head is a maximal projection and adjunction can in fact only add to maximal projections. We see that the CP of a non-restrictive relative clause behaves like phrasal adjunctions with respect to some syntactic phenomena. Since we assumed from the beginning that a restrictive relative clause and its head are linked by a head-argument-relationship similar to that of verbs selecting their arguments, we will try to provide evidence of both syntactic derivation and see if the complement/adjunction distinction suits sentences in the nominal domain as well as in the verbal domain.

The idea that adjuncts to verbs can be merged late in the derivation has been extensively used and is not particularly controversial. The reason is that adjuncts are exempted from the theta-criterion, which is the condition that forces complements be inserted in the derivation as early as the predicates they receive a theta role from. So the key criterion to distinguish arguments

from adjuncts in the verbal domain is that only arguments obey the theta criterion and we suggest that this difference can be implemented in the restrictive/non-restrictive dichotomy.

First of all we will show that variable binding, licensing of polarity items, and isle condition correspond for restrictive relative clauses to those of a complement rather than an adjunction. A VP internal position like the indirect complement *jedem* in (10a) must be able to c-command the internal head and consequently the pronoun *er* within the relative clause. In fact in (10a) the pronominal variable *er* is regularly bound with the quantifier of the matrix clause. If the subordinate clause were an adjunction this would not be possible, as in (10b). The non-restrictive relative clause in (10c) behaves exactly like an adverbial clause in adjunct position. Examples are taken from Haider (1997: 130).

(10)

a. Hast du *jedem_i* die Details genannt, an denen *er_i* interessiert war?

Have you everyone the details told, in that he interested was?

b. *Hast du *jedem_i* die Details genannt, nachdem *er_i* die Situation erklärt hat?

Have you everyone the details told, after which he the situation explained has?

c. *Hast du *jedem_i* die Details genannt, an denen *er_i*übrigens interessiert war?

Have you everyone the details told, in which he by the way interested was?

A second piece of evidence in favour of the presence of a c-command relation between the head and the material internal to the restrictive relative clause, which proves the fact that a restrictive relative clause is a complement of its external head D° , derives from the behaviour of polarity items. These are licensed from the external head material like every head licenses the material internal to its complement. If the antecedent of a restrictive relative clause has a negative determiner (11a, c), this should be able to license a polarity item inside its complement CP (the restrictive relative clause).

(11)

a. Kein Schuler, der in den Ferien jemals gelernt hat,...

No pupil, that on holiday never learned has,...

b. *Der Schuler, der in den Ferien jemals gelernt hat,...

The pupil, that on holiday never learned has...

c. Keine Frau, die Julia sonderlich gut kennt, kann gut kochen.

No woman, that Julia particularly good knows, can good cook.

d. *Die Frau, die Julia sonderlich gut kennt, kann gut kochen.

The woman, that Julia particularly good knows can good cook.

Our expectations on the c-command relationship between the external D° and the material internal to CP were right. Sonderlich (11c) and jemals (11a) are allowed only if the head is a negative determiner because they belong to its c-command domain. The result of this analysis is not surprising if we consider our suggestion; a complement is always in the domain of the head from which it has been selected exactly like the CP internal material is in the domain of the D° which selects it.

3.2.4 Central vs peripheral clauses

So far we have distinguished two types of relative clauses, according to their indexing, antecedent and of course relationship with matrix clause, and we have proposed a configuration where these two subordinate clauses, depending semantically on noun phrases, actually can be aligned syntactically to classical subordinate clauses depending on verbs. In particular, we have suggested that restrictive relative clauses are complements and non-restrictive relative clauses are adjunctions, the first being attached to a lexical head D° which projects its argument and the latter being merged to a maximal projection DP. This analogy with verb transitivity is supported by another syntactic consideration on the moment of merge of the two structures. As complement, a restrictive relative clause should merge inside

the matrix clause at the time when its head projects it, while a non-restrictive relative clauses should merge later in the derivation when the entire matrix clause has already been projected.

According to Haegeman's (2002, 2004a-b, 2006, 2010) analysis, subordinate clauses depending on verbs in general do not have all the same syntactic derivation and do not behave homogeneously with respect to the matrix clause. Two main subtypes can be syntactically distinguished with respect to their degree of subordination to the associated clauses, the timing of merge and the consequent internal structure, which conveys or not independence to the speech act of the sentence. In particular, central clauses are merged with the associated clause early in the derivation of the sentence. Specifically, they are merged before IP is completed. Peripheral clauses are adjunct after the associated CP has been projected. Central clauses are part of the speech of the matrix clauses while peripheral clauses have their own illocutory force. In the latter case, we have two different speech acts. As a consequence of their external syntactic properties, these two types of subordinate clause also differ in their internal structure and in particular in the complexity of the CP domain.

Haegeman (2004b) first tests the dichotomy of central and peripheral clauses on English conditional clauses, and secondly on other types of subordination, including complement clauses. As far as complement clauses are concerned, Thurmair (1989: 74ff), Haegeman (2002: 159f) as well as Meinunger (2000: 206ff) make a distinction between complement clauses depending on *verba dicendi* and the other types of complement clauses. They suggest that properties of central clauses only occur in the first type of complement clauses, which Meinunger calls *factive complement clauses* and represents with the structure (1a) we provided at the beginning of the present article. Adverbial subordinate clauses may also be central or peripheral according to various criteria. What is more, German subordinate clauses (complement and adverbial clauses) do not behave homogeneously

and display the same differences for most of the relevant criteria proposed by Haegeman (Coniglio 2011).

In this chapter, the criteria for external and internal syntax proposed by Haegeman (2000, 2004b, 2010) for English and by Coniglio (2011) for German subordinate clauses will be briefly presented and applied, where possible, to German restrictive and non-restrictive relative clauses. From a semantic point of view, the analogy between peripheral and non-restrictive relative clauses is straightforward. Non-restrictive relative clauses and matrix clauses constitute two different illocutory speech acts. This type of relative clauses provide background information for the main assertion but they are not relevant for processing the proposition expressed in the matrix clause like it is the case for central clauses. Restrictive relative clauses, on the other hand, contribute to the proposition expressed in the associated clause and are necessary. The restrictive relative clause helps identify the nominal group of the matrix clause. The non-restrictive relative clause describes a context but is not essential. Does this semantic analogy have a syntactic counterpart?

3.3 Syntactic differences between central and peripheral clauses

3.3.1 Differences in external syntax

As far as external syntax is concerned, Haegeman (2000, 2004b, 2010) lists syntactic properties on the basis of English examples that account for the difference between central and peripheral clauses. As we said before, a central clause merges earlier in the derivation of the matrix clause while peripheral clauses merge later. Consequently, the time of central clauses depends on the time of the matrix clauses (12a), while the tense of the

associated clauses does not affect the time line of the peripheral clause (12b) at all. Examples are taken from Haegeman (2002: 123-4).

(12)

- a. If your back-supporting muscles tire (future), you will be at increased risk of lower-back pain
- b. If we are short of teachers [...], why don't we send our children to Germany to be educated? [...]

This aspect is not directly evident in relative clauses because they depend on nominal elements of the associated clause, which do not have the time property. However, it seems that relative clauses do bear covert time property, which is evident when we consider prenominal participial construction. Only a restrictive relative clause can be converted into a prenominal participial construction with an implicit verb (13a-b).

(13)

- a. Der Mann, der an Krebs gestorben war, war noch sehr jung.
The man, that from cancer died was, was still very young.
- b. Der an Krebs gestorbene Mann war noch sehr jung.
The from cancer died man was still very young.
- c. Paul, der an Krebs gestorben war, war noch sehr jung.
Paul, that from cancer died was, was still very young.
- d. *der an Krebs gestorbene Paul war noch sehr jung.
The from cancer died Paul was still very young.

This is also evident in Italian, where only restrictive relative clauses can have an infinitive verb. (14a) can have only a restrictive reading.

(14)

- a. Le cose da mangiare (= le cose che devono/possono essere mangiate)
Things to eat (= things that must/can be eaten)

If central clauses are said to be within the scope of temporal operators in the associated clauses we can suppose that the reason why only restrictive relative clauses can be placed prenominally without overtly expressing the finiteness of the verb is because their time depends on the time of the matrix

clause and is therefore not necessary. Since non-restrictive relative clauses have their own time reference, this must always be expressed like in peripheral clauses, where tense interpretation is independent (Haegeman: 2004b, 2010).

Moreover, central clauses are said to be within the scope of operators in the matrix clause because they are c-commanded by material internal to the matrix clause. We have seen in 3.3 that the c-command relationship is suitable for restrictive relative clauses but not for non-restrictive relative clauses, which, on the contrary, are completely outside the scope of the operators. Polarity items (examples 11) and binding operators (examples 10) only have an effect on c-commanded material.

Another syntactic phenomenon, which should account for this difference, is licensing of parasitic gaps. In English, parasitic gaps are licensed only with central clauses because the gaps need to be c-commanded by the matrix clause (Haegeman 2002, 2004a, 2010). Unlike English, the parasitic gap in German may never appear in a complement clause, even in a factive one, as we would expect if we extend Haegeman's analysis on the German language. It has even been suggested that parasitic gaps may not exist in the German language and that instead the construction that appears to resemble a parasitic gap construction is actually an instance of forward deletion (Fanselow 1996). Sabel (1996) also suggests that what looks like parasitic gaps in German are actually 'pseudo-parasitic gaps' in the sense of Postal (1994). Whether or not parasitic gaps exist in German, it is interesting to note that against any expectation they are not licensed in factive complement clauses.

(15)

a. *Wer_i hat Kevin t_i überredet [CP dass wir e_i anrufen sollen]?

Who has Kevin t_i convinced that we t_i call should

b. *Wem_i hast du t_i gesagt [CP dass wir am Sonntag e_i treffen würden]

Who have you t_i said that we on Sunday e_i meet would.

If the analogy we have drawn so far is correct, we would expect that restrictive relative clauses in Standard German, as central clauses, do not license parasitic gaps either. If relative clauses behave like central clauses in German, they should in fact also respect the syntactic behaviour of central clauses with respect to the possibility of licensing parasitic gaps. Examples (16a) and (16b) meet our expectations.

(16)

a. *Dies ist ein Mann_i den Leute [die e_i treffen] t_i echt mögen.

This is a man, that people, that e_i meet, t_i truly like.

b. *Welches Auto_i mögen Leute [die e_i fahren] t_i ?

Which auto like people, that e_i drive t_i ?

While this analysis is based on Standard German, an examination of more than one dialect of German would be beyond the scope of this work; it is, however, worth noticing that the parasitic gap construction appears in certain similar contexts in Bavarian. The following data on Bavarian are taken from Felix (1985: 6), where (17a) is grammatical in the Bavarian variation but ungrammatical in Standard German (17b).

(17)

a. Das ist eine Frau_i, die_i wenn e_i etwas verspricht hält e_i es auch.

That is a woman who when e_i something promises keeps e_i it also

b. *Das ist eine Frau_i, die_i wenn e_i etwas verspricht hält e_i es auch.

For the sake of parallelism between central and restrictive relative clauses, we expect that a parasitic gap is licensed in the types of central clauses described for English by Haegeman (2002 and following works). For example, according to Bayer (1984), conditional central clauses in Bavarian license parasitic gaps (18).

(18)

Den, wann i e_i derwisch, derschlog i e_i.

Him if I e_i catch slay I e_i

3.3.2 Differences in internal syntax

As far as internal syntax of central and peripheral clauses is concerned, Haegeman lists other criteria, which influence how far the two different speech acts (associated clause and subordinate clause) are independent and, as a result of that, how complete their internal CP-domain is. According to Haegeman, peripheral clauses have, like root clauses, a much more complete left periphery than central clauses and are therefore much more independent with respect to the matrix clause than central clauses. The latter lack projections in the CP domain, which encode illocutory force and therefore the possibility of anchoring the utterance to the speaker's opinion. This is evident from the fact that peripheral clauses may contain elements of epistemic modality or elements, like modal particles (PTCL), which relate the utterance to the speaker.

These speaker-oriented elements must depend on the presence or absence of a projection with these properties. ForceP encodes illocutory force, which is a property of root like clauses, independent speech time and epistemic modality. As far as speech time is concerned, central clauses do not need this projection because their time depends on the time of the matrix clause. They are allowed to have a non-finite verb and occur in prenominal position as participial construction. To describe this difference Haegeman adopts Rizzi's (1997, 2001, 2004) well-known theories on the fine structure of the CP. Central clauses present a reduced CP if compared to that of a peripheral clause.

Clauses displaying a reduced structure not only cannot license fronted arguments and focalized elements (Haegeman 2002, 2004a, 2006, 2010), but they cannot contain MPs either, since they cannot license root phenomena at all. Modal particles can only occur in those contexts that, according to Haegeman (2002, 2004a, 2006, 2010), display a full left periphery and thus root properties. They are banned from non-root contexts

since the latter do not constitute independent speech acts, and also from central clauses. We therefore expect that they cannot occur in restrictive relative clauses (19a-b). Examples are taken from (Zimmermann 2004: 32).

(19)

a. *Eine Kollegin, die ja in Syracuse wohnt, wird kommen.

A colleague, that PTCL in Syracuse lives, will come.

b. *Die Firma sucht einen Angestellten, der ja immer pünktlich ist

The company looks for an employee, that PTCL always on time is.

c. Peter, der ja nichts verpassen will, ist immer dabei.

Peter, who PTCL nothing miss wanted, is always present.

Non-restrictive relative clauses, which are far more independent than restrictive relative clauses, have no problem with modal particles and epistemic modality. The use of modal particles can even disambiguate the reading of German relative clauses and influence the grammaticality of the proposed sentence. (20b) can only have a non-restrictive reading because of the presence of a projection that hosts the modal particle ja.

(20)

a. Autos, die laut sind, sollten mit einer geschlossenen Motorkapsel versehen werden

Autos, that loud are, should with a closed motorcapsule provided be.

Restrictive reading:

Nur diejenigen Autos, die laut sind

Only those autos, that loud are

Non restrictive reading:

Alle Autos, die übrigens laut sind

All autos, which, by the way, loud are

b. Auto, die ja laut sind, sollten mit einer geschlossenen Motorkapsel versehen werden.

Autos, that PTCL loud are, should with a closed motorcapsule provided be.

Non restrictive reading:

Alle Autos, die übrigens laut sind

All autos, which, by the way, loud are

On the one hand we have root-clause-like embedded clauses with a full structure, which are also endowed with illocutory force; on the other hand there are embedded clauses displaying a reduced CP domain without illocutory force, which depend on the matrix clause as far as the anchoring of force to the speaker is concerned. They do not have a ForceP projection on their own.

Figure 3

Internal syntax

Central clauses	Sub				ModP	FinP	
Peripheral clauses		Sub	ForceP	TopP	FocusP	ModP	FinP
Main Clauses			ForceP	TopP	FocusP	ModP	FinP

3.3.3 Implementation of Haegeman's analysis

So, there are syntactic phenomena that account for an implementation of Haegeman's distinction to relative clauses both for external and internal syntax. The time dependency and the possibility of some elements of scoping over the relative clause account for a different time in merging with the associated clause. Availability of epistemic modality, licencing of PTCL or in general the lack of a position that guarantees anchoring to the speaker and which is usually projected in root clauses account for a different internal structure. Restrictive relative clauses have a shorter left periphery than non-restrictive relative clauses, which, like root clauses, are provided with a full structure. It is by no means accidental that non-restrictive relative clauses can be transformed into two different clauses where the second refers anaphorically to the first one through a pronoun (21b). This is not possible for restrictive relative clauses (21d).

(21)

a. Peter ist ein Freund von meinem Bruder, der übrigens auf die Party kommt.

Peter is a friend of our brother, that by the way to the party comes.

b. Peter ist ein Freund von meinem Bruder. Er kommt auf die Party.

Peter is a friend of our brother. He comes to the party.

c. An der Konferenz hat jeder Professor teilgenommen, der eingeladen wurde.

At the conference has every professor taken part, that invited was.

d. *Jeder Professor hat an der Konferenz teilgenommen. Er wurde eingeladen.

Every professor has at the conference taken part. He was invited.

What is interesting for our analysis is that relative clauses have two different syntactic structures. Relative clauses, like central clauses, are embedded in the matrix clause and as we have seen they are selected as complement of a lexical head (22a). The restrictive relative clause is integrated in the main clause. It is merged within the IP of the matrix clause and the nominal head belongs to the relative clause while the external determiner governs over the entire clause as if it were its complement (Resi 2011). Non-restrictive relative clauses are adjunctions to maximal projections NP/DP and they are merged later in the derivation when the IP has already derived, most probably as adjunctions (22b).

(22)

a. Das [_{CP}[_{NP}Bild], [das [Peter t_{NP} gesehen hat]]]

b. [_{DP} Mein Vater], [_{CP}<mein Vater_i> den du t_i (übrigens) schon kennengelernt hast]

The non-restrictive relative clause is integrated in the matrix clause but it is merged or adjoined to the CP of the associated clause in a structure which resembles coordination rather than subordination. The external head, which is the entire NP or DP, is not part of a syntactic chain.

We therefore propose that restrictive relative clauses, like central clauses, are merged at an earlier point of the derivation than non-restrictive or peripheral clauses. Restrictive relative clauses are merged within the matrix clause; non-restrictive relative clauses are adjoined once the entire antecedent is fully projected.

3.4 Conclusion

We have seen that some syntactic differences between restrictive and non-restrictive relative clauses can derive (a) from the fact that the former is a modifier and the latter is not, (b) that one is c-commanded by the matrix clause and the other is not, (c) that one is the complement of a functional head while the other has a full maximal projection as antecedent, and (d) that one is central while the other is peripheral. All these properties account for a close analogy with subordinate clauses depending on verbs. In case of central clauses, complement clauses and restrictive relative clauses, we can apply the original concept of valency as they are considered arguments selected by a lexical head. A lexical verbal head projects a phrasal argument as complement while a determiner projects a restrictive relative clause as complement. Proper names, which are already discursively identified, are not allowed to have complements. The clause is, instead, like an adjunct sentence, which provides a background to the main assertion and conveys additional not directly relevant information. Adjunction, like peripheral clauses and non-restrictive relative clauses, can also be asserted separately from the matrix clause like an independent clause displaying discourse anaphora.

It is generally assumed that complements always precede adjuncts in German (23a-b) because adjunctions are merged higher than complements, resulting in a linear order where complements always precede adjuncts (Platzack 2000:265).

(23)

a. der Freund von Peter mit blauen Augen

The friend of Peter with blue eyes

b. *der Freund mit blauen Augen von Peter

The friend with blue eyes of Peter

We would therefore expect a CP adjunct to follow a CP complement and an opposite linear order to be ungrammatical.

(24)

a. Der Mann, der uns gestern zum Mittagessen eingeladen hat, und übrigens 35 Jahre alt ist, kommt aus Australien.

The man, that us yesterday for lunch invited has, and by the way 35 years old is, comes from Australia.

b. *Der Mann, der übrigens 35 Jahre alt ist, und gestern zum Mittagessen eingeladen hat, kommt aus Australien.

The man, who by the way 35 years old is, and us us yesterday for lunch invited has, comes from Australia.

As in (24a), a restrictive relative clause precedes a non-restrictive relative clause while the opposite order (24b) is ungrammatical, which confirms our hypothesis.

CHAPTER 4

Discourse-related extraposition

This chapter aims at contributing to the understanding of the different factors constraining word order phenomena in German. In particular it investigates the division of labor between syntactic restrictions and discourse constraints in the German word order phenomenon we have been analyzing so far: the occurrence of discontinuous relative clauses, or extraposition of relative clauses. We will argue that the factors that has been pointed out so far as syntactic restrictions for extraposition, which will be summarized at the beginning of this chapter, are not enough to explain all different possible cases of grammatical extraposition and that other levels of analysis, such as prosody and discourse related constraints must be integrated to account for a complete analysis of this phenomenon.

The main questions addressed in this chapter are the following: (1) Which factors constraining a word order phenomenon like extraposition are more appropriately analyzed as relating to discourse properties and are they able to trigger extraposition? (3) Does the sentence intonation play a role in this phenomenon and to what extent?

4.1 . Introduction: the syntactic restrictions

In chapter two we have been looking at the syntactic position of German relative clauses in relation to their antecedent in a typological framework and we have pointed out the following: If the antecedent precedes the relative clause locally, thus in case of adjacency, German relative clauses can appear in the *Vorfeld* and *Mittelfeld* of the matrix clause. As far as the *Nachfeld* of the matrix clause is concerned, the constituent which hosts the

antecedent must be able to move outside the verbal bracket. This means in particular that it has to be an optional constituent or, in general a prepositional phrase. Once the restrictions for so called *nachgetragene Konstituente* are met there is nothing wrong with adjacency within the *Nachfeld* of the sentence. We have seen in chapter two that sometimes this case of adjacency is even more natural than adjacency within the *Mittelfeld*. When the second element of a comparison is relativized this can be extraposed together with its relativization letting the sentence sound more understandable and is meaning traceable.

On the other hand, discontinuity necessarily requires the lexicalization of the *Nachfeld*. Since restrictive and non-restrictive relative clauses are assigned different syntactic derivations (see chapter three) they behave differently with respect to some syntactic phenomena previous to extraposition, in fact the extraposition of restrictive RCs is compatible with topicalization and scrambling of the antecedent (1a) while non-restrictive relative clauses cannot extrapose (1b) if the antecedent is in a scrambled position of the *Mittelfeld* or in the *Vorfeld* of the sentence (Haider, 1997).

(1)

a. Studenten, haben mit dem Professor gesprochen, die die Prüfung nicht bestanden haben.

Students have with the professor spoken, that the exam not passed have

b. *Karin hat mit dem Professor gesprochen, die die Prüfung nicht bestanden hat.

Karin has with the professor spoken, that the exam not passed has

Cases in which the relative clause is located in the *Nachfeld* and the antecedent in the *Vorfeld* are therefore subject to restrictions, which seem to depend first of all on the difference between non-restrictive and restrictive relative clauses.

We conclude that: (1) A relative clause can always be placed in the VF, MF and NF of the matrix clause if its antecedent locally precedes it; (2) It is *always* possible to place the relative clause in the *Nachfeld* if the antecedent

is in its base position within the Mittelfeld. (3) If the antecedent is not in its base position, which include also the Vorfeld position, only restrictive RCs can be extraposed; (4) It is *never* possible to place the relative clause in the Mittelfeld, if the antecedent is in the Vorfeld.

4.2. We need more than syntax

This syntactic analysis tacitly assumes that extraposition of restrictive relative clauses from the Vorfeld is acceptable independently of any context. Example (2) is perfectly grammatical in isolation because the reader is able to find a suitable intonation that justifies the sentence but degrades when embedded in a specific context like in (3). This cannot depend on the particular status of the bare antecedent because the same example with a determinate article before the antecedent *Studenten* is also ungrammatical like we see in the answer to the question in (4).

(2)

Studenten, haben mit dem Professor gesprochen, die die Prüfung nicht bestanden haben.

Students have with the professor spoken, that the exam not passed have

(3)

Mit wem haben Studenten gesprochen, die die Prüfung nicht bestanden haben?

Whom did the Students that did not pass the exam speak with?

Studenten haben mit dem Professor gesprochen, die die Prüfung nicht bestanden haben.

Students have with the professor spoken, that the exam not passed have

(4)

Mit wem haben die Studenten gesprochen, die die Prüfung nicht bestanden haben?

Whom did the Students that did not pass the exam speak with?

Die Studenten haben mit dem Professor gesprochen, die die Prüfung nicht bestanden haben.

The Students have with the professor spoken, that the exam not passed have.

The contrast exemplifies the need of researching other level of analysis as well as the syntactic restrictions according to which example (2) is perfectly fine. For the same syntactic reason also (5a) seems to meet requirements for grammaticality.

(5)

Welche Bilder hast du gekauft?

Which pictures did you buy?

a. Die Bilder habe ich gekauft, die auf dem Tisch liegen

The pictures have I bought, that on the table are.

b. #Die Bilder von Mary habe ich gekauft, die auf dem Tisch liegen

The pictures of Mary have I bought, that on the table are

In fact, according to syntactic condition the example (5a) is grammatical because restrictive RCs can extrapose from the Vorfeld. How can we account for the ungrammaticality of (5b)? Syntactically one could suppose that the presence of a modifier rules out the possibility of extraposing from the Vorfeld. We observe however that there are parallel examples that are perfectly acceptable. This is the case of course of (6a) where an antecedent with the modifier is in the middle field of the main sentence and also, very important, in (6b) which is our study case where the syntactic constraints seems not to be enough. In fact the presence of a modifier is not then a plausible constraint for German extraposition and it does not rule out the possibility of extraposing a relative clause in the final field of the sentence. One needs to look for a new explanation for the unacceptability of (5b), compared to the acceptability of (6b).

(6)

Welche Bilder von Mary hast du gekauft?

Which pictures did you buy?

a. Ich habe die Bilder von Mary gekauft, die auf dem Tisch liegen

I have the pictures of Mary bought, that on the table are.

b. Die Bilder von Mary habe ich gekauft, die auf dem Tisch liegen.

The pictures of Mary have I bought, that on the table are.

We claim that what determines the acceptability of a sentence within a certain context is its focus-background structure. We observe in fact that *die Bilder* in (6b) can be interpreted contrastively because it implies that there are other *Bilder von Mary* to be seen on the table. These contrastively used elements are pronounced with a focus intonation. On the other hand in (5b) focus as new information lies in the specifier. In this case we don't have an appropriate context so *Mary* is more likely to be interpreted as the focus. Focus in German naturally falls on the last noun of a complex NP or better, in the most embedded element of a complex NP (Féry, 1993 and de Kurthy, 2002) but this aspect will be further explained in chapter 4.4. Without any discourse-related implication postnominal genitive or prepositional phrases of noun phrases for example naturally receive focus because they are embedded. We will now investigate further the possibility for focusing in German.

4.3. Focus and background structure in German

In order to account for a detailed analysis of extraposition based on focus and background information within a phrase functioning as antecedent we need to investigate what we mean by focus and background in German sentences. German is, like English or French, an intonational language, which means that the focus-background division of the text, topicalization, modality and pragmatic factors determine the intonation of the sentence. Moreover, intonation heavily depends on the discourse informational structure. This means that a single German sentence can be assigned different intonational contours according to the context and the same melody can be realized on different sentences. The distribution of pitch accents is relevant in determining the interpretation of focus.

In pioneering work on the relation between focus and prosody Chomsky (1971) and Jackendoff (1972) proposed the principle of Focus Prosody Correspondence (FPCO) according to which the F-marked constituent of a phrase must contain the rhythmically most prominent word in that phrase. On the basis of these assumptions Pierrehumbert (1980) and Beckman & Pierrhumbert (1986) provide the following intonational model for German, which is broadly accepted.

A declarative contour where all information is new has two rising down-stepped accents. The second accent, which is a bit lower, it is not perceived as less important than the first one. This kind of sentence can be the answer to the following context:

(7)

Irgentwas neues?

Something new?

/Karin ist nach /Berlin gefahren

Karin is to Berlin gone

The last accent of the sentence is called nuclear accent. The realization of the same sentence with a marked “topic-comment” structure or a contrastive reading leads to a contour where there is rising accent on one word which holds until the falling accent on another word is realized.

(8)

/Karin ist nach Berlin gefahren\

Karin is to Berlin gone

This contour has been called hat pattern (Féry, 1993) or bridge (Wunderlich, 1991). In this pattern topicalized constituents have often a rising contour at the beginning of the sentence, while the focus accent (broad or narrow) determines the falling contour at the end of the sentence.

An other pattern with only one accent at the beginning of the sentence is given when the new information is uttered at the beginning of the sentence and the known information, if at all, is pronounced with flat intonation. This

could be the case if the above sentence was the answer to the following question?

(9)

Wer ist nach Berlin gefahren?

Who went to Berlin?

Karin\ ist nach Berlin gefahren

Karin is to Berlin gone

Falling main accent followed by flat intonation is the only contour that can provide focus at the beginning of the sentence. Pierrehumnert (1980) and Beckman & Pierrhumbert (1986) explain also other intonational contours which are present throughout the German language, like questions, exclamations, patronizing declarative sentences and incomplete sentences, which are signaled by rising contour rather than falling contour. For the sake of this analysis we will only consider intonation involving answers because they can always involve relative clauses and the entire range of extraposition of them. we will use questions only to provide the suitable context.

In particular what seems to be relevant for analyzing the possible extraposition of relative clauses at long distance is the difference between new and given information in relation to the position of the accent. Intuitively two sentences with different accent have different meanings, different contexts and of course different expectation regarding what the reader knows and does not know already. The same accent can be anywhere in the sentence, there is no fixed position for known and given information, but only tendencies. Focus in German can include a whole sentence in case of broad focus or be on a single constituent in case of narrow focus. Focus in German also tends to be naturally at the end of the sentence but, as we have seen, some discourse situation may require it to be at the beginning of the sentence with a specific intonational contour.

Following Jackendoff (1972) and Selkirk (1984) we will use the diacritic [F] to mark the constituent that it is interpreted as focused or as part of the focus. A constituent that is not marked [F] will be interpreted as given information or as part of the given information. In other words a constituent marked [F] is interpreted as equivalent to [+F] and a constituent not marked [F] must be equivalent to [-F]. If we do not have any context primary stress, which is strictly related to the focus structure of the sentence focus, is spontaneously on the rightmost word in the VP (10); on the other hand we can affect focus structure providing the right context (11).

(10)

Peter hat [deinen Kuchen _Fgegessen\]

Peter has your cake eaten

(11)

a. Was is los?

What's wrong?

[_F Peter hat deinen Kuchen gegessen\]

b. Was hat Peter getan?

What did Peter do?

Peter [_F hat deinen Kuchen gegessen\]

c. Was hat Peter gegessen?

What did Peter eat?

Peter hat [_F deinen Kuchen\] gegessen

d. Welchen Kuchen hat Peter gegessen?

Which cake did Peter eat?

Peter hat [_F deinen\] Kuchen gegessen

The focused constituent (or F-marked constituent) of a phrase must contain the intonational nucleus of that phrase. This is the basic rule responsible for the construction of the prosody of the clause.

Another aspect of focus is its classification according to the given interpretation. Culicover & Rochemont (1983:151ff) propose the well know classification of German focus into contrastive (12), informational (13) and

presentational (14) focus. These kinds of focus can occur at the beginning of the sentence. Contrastive focus requires a correction sentence and provides an hat contour.

(12)

Ist Peter nach Berlin gefahren?

Did Peter go to Berlin?

[F/Karin] ist nach Berlin gefahren\ (nicht Peter)

Informational focus is usually the answer to a wh-question.

(13)

Wer ist nach Berlin gefahren?

Who went to Berlin?

[F\Karin] ist nach Berlin gefahren

Presentational focus introduces something into the discourse

(14)

Eine [F\Frau] ist nach Berlin gefahren

A woman went to Berlin

As we see from the above examples, independently from the kind of focus we have, the assumption that a focus has always a pitch accent in German and that the focus exponent is the strongest element in the Rhematic Hierarchy holds on for every sentence.

So far we have seen general assumptions of how focus-background works in some relevant context within the same matrix sentence. In order to provide complete analysis of relative clause's extraposition in relation to prosody we need to have a look at the accent distribution when a subordinate clause is taken into account, in particular when focus is involved.

In a constructions with focus accent on the antecedent of (extraposed) relative clause at the end of the middle field the second accent must be downstepped within the entire relative clause (Féry, 1993). In this case antecedent and relative clause are new information and the beginning of the matrix clause, hence the *Vorfeld*, is given information (15). Like most of the assumptions on relative clauses also Féry (1993)'s hypothesis misses to

provide evidence of both main types of relative clauses. She refers in particular and without mentioning it to restrictive relative clauses as if their behavior in relation to prosody could be extended to all kind of relative clauses as well as to all possible positions and actual examples are not provided. In this paragraph we will refer, explicitly, to the prosody of restrictive relative clauses in some of the positions we have seen so far in order to build a base assumption for explanations of their behavior regarding extraposition at long distance. The question of appositive contour will be mentioned again later in chapter 4.8.

(15)

Was hat Peter gegessen?

What did Peter eat?

a. Peter hat [_F den Kuchen, \ den du gestern gebacken hast] gegessen.

Peter has the cake, that you yesterday cooked have eaten

b. Peter hat [_F den Kuchen \] gegessen, [_F den du gestern gebacken hast]

Peter has the cake eaten, that you yesterday cooked have

(16)

Welchen Kuchen hat Peter gegessen?

Which cake did Peter eat?

a. Peter hat [_Fden] Kuchen, [_Fden du gestern gebacken hast] gegessen

b. Peter hat [_Fden] Kuchen, gegessen [_Fden du gestern gebacken hast]

(17)

Was hat Peter mit dem Kuchen gemacht, den du gestern gebacken hast?

What did Peter do with the cake, that you cooked yesterday?

a. Peter hat den Kuchen, den du gestern gebacken hast, [_F\gegessen]

b. Peter hat den Kuchen, [_F\gegessen], den du gestern gebacken hast

Since relativizations semantically behave like an adjective for the noun, because they give the reader more information in order to identify the noun, (a) We can expect that the entire complex of the noun plus its relative clause is part of the focus/new information (15) as a noun with a restricting adjective would be. (b) We can have focus only on the restricting

information (16) as to say that the general noun is known from the context and we need to restrict it through new information or (c) we can have the entire complex belonging to thematic information. These three possibilities occur with every adjacency or, as we have seen, discontinuity from the Mittelfeld. Discontinuity from the Mittelfeld is not spoiled by any other restrictions rather than syntactic ones. Since there are no syntactic restrictions for extraposition of restrictive relative clauses from the Mittelfeld, extraposition (15b), (16b) and (17b) are all perfectly fine.

In case of discontinuity from the Vorfeld we will see later that and why only possibility (16) is acceptable. So we will look again at these intonational patterns in order to investigate whether they hold also in case of extraposition at long distance, whether a downstepped accent is acceptable when an entire sentence is between the first accent (in the Vorfeld) and the second accent in the Nachfeld of the sentence.

In order to determine what the focus-structure looks like we have been relying so far on the sentence provided by the question test. Jacobs (1988) proposes in fact that the only way to analyze focus is to consider it always as being in the scope of an operator, whether visible or not. Some of these visible operators are described in the following paragraph.

4.4. Focalization of a NP in German

After this brief overview of the intonational structure of the sentence we need to look at this point at the antecedent of a relative clause and see which focus-background structure it can assume. At the beginning of this section we thus explore the possible focus-background structure of a noun phrase, which can potentially be antecedent of a restrictive relative clause. Furthermore we will combine these patterns with extraposition at long distance and with sentence contours. We will see if we are able to express restrictions on the focus-background structure of a NP+restrictive relative

clause within our analysis of the construction. The capability of certain constituent to act as the focus or the topic of a sentence and influence therefore the acceptability of certain syntactic constructions was already observed by Kuno (1987) for English and by De Kurthy (2002) for a particular German construction which also involves discontinuity of two usually adjacent part of the sentence. De Kurthy (2002) investigate syntactic, pragmatic and lexical restrictions of what is usually called NP-PP split constructions. In the following we will use his approach as a starting point for our investigations of the background structure of NP-extrapolated restrictive relative clause.

We have said that German, like English and French is a so called intontional language and focused constituents are signaled by pitch accents (Féry, 1993). Only one syllable is stressed by the pitch accent but a larger part of the utterance can be focused. If the focus is restricted to the word bearing the pitch accent, one speaks of narrow focus and if it is not, one speaks of broad focus. The distinction between narrow and broad focus (provided by Ladd (1980) will be relevant to determine how and if the antecedent is focused. We are incline to believe that preliminary considerations on focalization of a NP antecedent are a good starting point to determine the pragmatic restrictions of extraposition of a relative clause in German in specific syntactic cases.

First of all in a focused NP without any post-nominal adjuncts or arguments the main focus accent can only project from the head noun, as shown in (18a).

(18)

Wen hast du kennengelernt?

Who did you get to know?

- a. Ich habe [den fleißigen STUDENTEN]_F kennengelernt
- b.#Ich habe [den FLEISSIGEN Studenten]_F kennengelernt
- c.#Ich habe [DEN fleißigen Studenten]_F kennengelernt

I have the diligent Student known

Extrapolation of a restrictive relative clause referring to the focalized noun phrase in (19) does not present any problem, because, as we have seen in chapter 1, syntactic restrictions are respected and information structure does not play a role in case the antecedent is in its base position within the middle field and the restrictive relative clause is extraposed in the Nachfeld. If focalization restrictions on the antecedent (18b and 18c) and syntactic restrictions on extraposition from the middle field are respected the sentence is grammatical.

(19)

Ich habe [den fleißigen STUDENTEN]_F kennengelernt, der schon alle Prüfungen bestanden hat.

I have the diligent Student known, that already all exams passed has.

An accent on prenominal adjective or a determiner can only signal narrow focus as exemplifies in (20).

(20)

Welchen Studenten hast du kennengelernt?

Which Student did you get to know?

Ich habe den [FLEISSIGEN]_F Studenten kennengelernt

I have the diligent Student known

Focusing the prenominal adjective of the antecedent in the middle field means restricting and identifying the noun *Studenten*. A further restriction of the antecedent like a restrictive relative clause might sound unnatural provided that the antecedent has been already clearly identified by the focused prenominal antecedent, which disambiguates the reference. It would be more natural if a non-restrictive relative clause would follow but this is true for adjacency as well as discontinuity. So we conclude that focusing the prenominal element is not an informational restriction for extraposition itself. It is a restriction to allow relative clause in general.

(21)

a. ?Ich habe den [FLEISSIGEN]_F Studenten kennengelernt, der schon alle Prüfungen bestanden hat

b. ?Ich habe den [FLEISSIGEN]_F Studenten, der schon alle Prüfungen bestanden hat, kennengelernt.

c. Ich habe den [FLEISSIGEN]_F Studenten kennengelernt, der übrigens schon alle Prüfungen bestanden hat.

d. Ich habe den [FLEISSIGEN]_F Studenten, der übrigens schon alle Prüfungen bestanden hat, kennengelernt.

Also an accent on prenominal determiner can only signal narrow focus as exemplified in (22).

(22)

Welchen Student hast du kennengelernt?

b. Ich habe [DEN]_F Studenten kennengelernt.

This kind of focalization does not interfere with the possibility of having a restrictive relative clause referring to the antecedent *Studenten* (23a) even with extraposition (23b). Appositive relative clause, on the other hand, requires some pragmatic indexing together with the focusing of the determiner. Once the noun *Studenten* has been good identified by indexing of the speaker, non-restrictive relative clause is grammatical (23c).

(23)

a. Ich habe [DEN]_F Studenten kennengelernt, der schon alle Prüfungen bestanden hat

b. Ich habe [DEN]_F Studenten, der schon alle Prüfungen bestanden hat, kennengelernt,

c. Ich habe [DEN]_{F+index} Studenten kennengelernt, der übrigens schon alle Prüfungen bestanden hat.

d. Ich habe [DEN]_{F+index} Studenten, der übrigens schon alle Prüfungen bestanden hat, kennengelernt.

If a noun is followed by an argument or an adjunct focus projection over the entire NP is only possible if the nuclear accent is on the right most element that is part of the NP as shown in (24a and 24b).

(24)

a. Wir haben [die Bilder der AUSSTELLUNG] in Internet gesehen

We have the pictures of the exposition in internet seen.

b. #Wir haben [die BILDER der Ausstellung] in Internet gesehen

Habt ihr die Ausstellung gesehen?

Have you seen the exposition?

c. Wir haben [die BILDER] der Ausstellung gesehen

If the pitch accent is on the head of the complex NP the specifier cannot be part of the focus projection and must necessarily be a topic information of the sentence. This requires necessarily a specific context where the information of the specifier is already known from the discourse.

Extrapolation from the middle field also in this case is not influenced by focalization of any element of the antecedent. Any accepted adjacency (25a) can also be extraposed after the right verbal bracket of the verb (25b). If adjacency is out (25c) extraposition is also out (25d). So, in this case, it is not information structure that affects extraposition.

(25)

a. Wir haben [die Bilder der AUSSTELLUNG], die du letztes Jahr besucht hast, in Internet gesehen

b. Wir haben [die Bilder der AUSSTELLUNG] in Internet gesehen, die du letztes Jahr besucht hast.

c. #Wir haben [die Bilder der AUSSTELLUNG], die du letztes Jahr gemalt hast, in Internet gesehen

d. #Wir haben [die Bilder der AUSSTELLUNG] in Internet gesehen, die du letztes Jahr gemalt hast.

We have the pictures of the exposition in internet seen, that you last year made have.

As we can see from the examples focalisation plays a role in possibility of referring the relative clause to the right constituent but not necessarily on extraposition.

(26)

Habt ihr die Ausstellung gesehen?

a. *Wir haben [die BILDER] der Ausstellung, die du letztes Jahr geschossen hast, gesehen.*

b. *Wir haben [die BILDER] der Ausstellung gesehen, die du letztes Jahr geschossen hast.*

Once the adjacency within the middle field is correct, also extraposition from the middle field can be automatically considered grammatical. Differences between restrictions on adjacency and restrictions on discontinuity concern the case when antecedent is in the Vorfeld of the sentence. In those case, as we expected, informational structure play a role.

Focalization of the antecedent in the middle field is useful however for disambiguating the reference of the relative clause when there are more than a possible NP. This is true for adjacency as well as for discontinuity.

In order to account for a complete analysis of this phenomenon we need also to consider the attachment preferences of an extraposed, as well as adjacent, relative clause according to the grammatical possibility offered by the gender of the single elements of a complex NP. When the reader can refer the relative clause to more than one antecedent we have antecedent ambiguity like in the following examples:

(27)

Die Dienerin der Schauspielerin, die auf dem Balkon war, wurde erschossen.

The servant [fem] of the actress [fem], who [fem] was on the balcony, was shot.

In sentences like (27) we have a complex NP with two feminine nouns in which the head noun (NP1) is modified by a genitive NP (NP2). The complex NP is followed by an adjacent relative clause that can either be attached to NP1 or to NP2.

In general the relative clause prefers to bind to the most recent available antecedent of the main sentence. This has been identified in the literature as the low attachment rule (Abney, 1989): relative pronoun prefers attachment to the lowest attachment site. However we argue that this is not only a

matter of locality (*Schauspielerin* is nearer to the relative clause as *Dienerin*) but, as we have seen before, as a matter of the fact that, without context intervention, focusing in German tends to fall on the last noun of a complex NP.

Assuming this, means that focalization of one of the two NPs can influence the attachment of the relative clause.

(28)

a. [_FDie Dienerin₁] der Schauspielerin₂, [die auf dem Balkon war]₁, wurde erschossen.

So (28) shows that the focalized NP is more likely to be the antecedent of the adjacent relative clause. There is nothing wrong with forcing the reference of the relative clause to *Dienerin* just by focalizing the first part of the complex NP.

The same low attachment preferences can be established for PP modifying NP (29) because the second NP that modifies the head NP is not naturally licensed by a rhematic position.

(29)

a. Er hat das Spielzeug für das Kätzchen, das uns geschenkt wurde, kaputt gemacht.

He has the toy for the cat, that us given was, broken

b. Er hat das Spielzeug für das Kätzchen kaputt gemacht, das uns geschenkt wurde.

He has the toy for the cat broken, that us given was.

This shows clearly how relative clause attachment in general does not only involve syntactic restrictions but also discourse related constraints.

Features determining this attachment possibilities include presence of thematic or rhematic position within the complex NP, the deriving prosodic status of the potential NP-antecedent and the number of NP antecedent that are potentially available to the relative clause. In terms of reference we could say that the reader that encounters a relative pronoun prefers to refer it to the most salient referent.

The concept of saliency was introduced by Schafer & al (1997), of course saliency increases if the discourse referent is focussed and focused elements are more likely to be the reference of the relative pronoun of the relative clause. On the basis of Schafer & al (1997)'s analysis on the referent saliency Walter & Hemforth (1997) found evidence that saliency preferences for extraposed RCs is even stronger than preferences for adjacent RCs. So references of the relative pronoun of a grammatical extraposed relative clause is modulated by the discourse properties of the potential NP antecedent: accented NP-elements are more likely to be reference for relative pronouns than non accented NP-elements (30).

(30)

- a. Er hat die Dienerin₁ der [_FSchauspielerin]₂ erschossen, [die auf dem Balkon war]₂.
- b. Er hat die [_FDienerin] der Schauspielerin₂ erschossen, [die auf dem Balkon war]₁.

He has the servant [_Fem] of the actress [_Fem] shot, who [_Fem] on the balcony was.

Focusing does not affect grammaticality when extraposition from the middle field takes place but only reference when more than one potential NP is there. Under these assumptions it is not surprising that we need to account for saliency, hence focalization, when we are dealing with extraposition at long distance from the Vorfeld.

4.5. Articles in German

If we look again at examples in (31 and 32) we pointed out that focus within a noun phrase on elements other than the noun is only possible when the element is the only narrowed element.

(31)

Wen hast du kennengelernt?

- a. Ich habe [den fleißigen STUDENTEN]_F kennengelernt
- b. #Ich habe [den FLEISSIGEN Studenten]_F kennengelernt
- c. #Ich habe [DEN fleißigen Studenten]_F kennengelernt

This is true for adjectives, definite articles and indefinite articles as we have seen on the basis of a widespread focus question test. The only felicitous answer for an utterance with focus on an article is the answer provided by a question which provides narrow focus on it.

(32)

- a. Welchen Student hast du kennengelernt?

Ich habe [DEN]_F Studenten kennengelernt.

- b. Welchen Student hast du kennengelernt?

Ich habe [EINEN]_F Studenten kennengelernt.

- c. Was für einen Studenten hast du kennengelernt?

Ich habe den [FLEISSIGEN]_F Studenten kennengelernt

In the following we are going to take into account accented definite and indefinite article separately as we are inclined to believe that these two elements in German must be analyzed differently when they have focus accent on it. The possibility or impossibility of discontinuity has nothing to do with how specific the entire NP is. What plays a role is the way in which the determiner of the NP is used and how this influences the focus-background structure of the sentence. We have seen that if the determiner is used deictically, endophorically or as semantic definite then it can be in the focus of the sentence while other parts like the noun are in the background. In this case extraposition referring to that determiner is grammatical. If the article is used anaphorically and refers to something in the discourse, then the entire NP is very likely to be in the background and thus the extraposition is ungrammatical. It is beyond the scope of this work to develop a precise theory of the possible interpretation of determiners in general but some observations together with the restrictions on the focus-

background structures would make the right predictions with respect to the behavior of determiner in extraposition of relative clauses.

In particular accented definite articles are to be considered as demonstratives, while the accented indefinite article is actually a number.

Semantic interpretation of examples in (33) is different from (34)

(33)

- a. Ich habe einen Studenten kennengelernt.
- b. Ich habe den Studenten kennengelernt.

(34)

- a. Ich habe [EINEN]_F Studenten kennengelernt.
- b. Ich habe [DEN]_F Studenten kennengelernt.

In case of focalization on indefinite article the sentence is a response to the question in (35a); in case of focalized definite article the sentence is a response to the question in (35b):

(35)

- a. Wie viele Studenten hast du kennengelernt?
- b. Welchen Student hast du kennengelernt?

4.5.1 Definite articles

Narrow focus on a definite article is actually not possible unless the „definite article“ is actually a demonstrative. As a consequence, articles in German cannot bear narrow focus. In example like (31) the accent naturally falls on the name *Studenten*. If the context requires the main accent to fall on the definite article it means that it has to be a demonstrative (34) with narrow focus while the name is already topic of the sentence, hence thematic information.

(36)

- a. der Mann

The man

- b. [_Fder] Mann

That man

c. Dieser Mann

This man

Example (36a) represents a DP involving an article and a noun where the nuclear stress falls on the head noun. This is different in (36b) where the main stress is placed upon the definite determiner functioning in this case as a demonstrative. This type of demonstrative has been called from Roehrs (2011) simple demonstrative. Finally the last example (36c) shows a determiner involving *-s* as part of the stem and unambiguously functioning as demonstrative, often called complex demonstrative (Roehrs, 2011).

As already manifested in the English translation *that* and *the*, the stressed determiner in (36b) has a different internal structure with respect to its unstressed counterpart (37); in case of complex demonstrative the same internal structure is overtly clear. According to Roehrs (2011) there is a deictic feature inside both simple and complex demonstrative. By simple demonstrative this feature is triggered by focalization.

(37)

a. *der* = [dem_{[F][deic]]] = d+O-er}

b. *dieser* = [dem_{[F][deic]]] = d+ies-er}

In agreement with other authors Roehrs (2011: 18) claims that “*dieser* seems to have three heads where the ending could be interpreted as the head of the Inflectional Phrase (InflP), the deictic element could involve the head of a Deictic Phrase (DeicP), and the define element is the head of what one might call a referential phrase (RefP).” According to Roehrs *-er* D is inserted later as referential element. Factoring in late d-insertion, simple demonstrative involve an (abstract) deictic feature under the Deic-head that remains segmentally unrealized (marked by 0). Without this deictic feature featured by focus we have a simple article with the post syntactic insertion of a dummy *d*, so Roehrs (2009).

The deictic feature inside a demonstrative must be specified for proximity. In case of *dér* and *jener* we have [-prox] while *dieser* is specified with [+prox]. In term of restriction we can also say that demonstrative which are specified with proximity have a restrictive reading because the deictic feature as well as the proximity gives the reader the possibility of unambiguously determine which element we are talking about. Demonstrative without proximity have a non restrictive reading because they do not totally disambiguate the reference point. This is very interesting when we take relativization into account.

(38)

a. *Dér* Student, der die schriftliche Prüfung besteht, darf zu dem Professor gehen.

The Student, that the written exam passes, can to the professor go.

b. *Jener* Student, der die schriftliche Prüfung besteht, darf zu dem Professor gehen.

That Student, that the written exam passes, can to the professor go.

c. **Dieser* Student, der die schriftliche Prüfung besteht, darf zu dem Professor gehen.

This Student, that the written exam passes, can to the professor go.

d. *Dieser* Student, der übrigens die Prüfung bestanden hat, darf zu dem Professor gehen

This Student, who by the way the written exam passes, can to the professor go.

Demonstrative without proximity accept a relativization both through a non-restrictive relative clause and, what it is worth, through a restrictive relative clause (38a and 38b). This means that the antecedent has the possibility to be better identified and restricted. Antecedent with demonstrative with proximity feature, on the other hand, tend not to be further restricted by restrictive relative clauses because most of the time they are already naturally disambiguate from the determiner (38d). Restrictive relative clauses are therefore out (38c), while non-restrictive relative clauses are fine.

4.5.2 Indefinite articles

Since the focushood of the determiner seems to play an important role in promoting the syntactic movement of extraposition we need to answer the question whether all determiners are allowed to be narrow focused. Definite article for example acquire a deictic feature without proximity while indefinite article undergoes another interesting change. In German it is not possible to narrow focus the indefinite article unless we consider it a numeral.

(39)

a. Ich habe einen Studenten kennengelernt.

I knew a Student

b. Ich habe [EINEN]_F Studenten kennengelernt.

I knew one Student

So the sentence (39a) is a possible answer to the question „*Wen hast du kennengelernt?*“ while (29b) answers well the question „*Wie viele Studenten hast du kennengelernt?*“ When English would use *one*, which is different from the indefinite article *a/an* while German would use *ein*.

Quantifiers in general have an hybrid character in German: in some ways they are like adjectives because they can be preceded by a determiner (Esau 1973: 141-2); in other ways they behave like determiners, as well as looking like them (Haiman & Benincà 1992:152). German is one of the languages in which *one* and *a* are homonymous and cannot co-occur in the same noun phrase.

This could go along with Leu's (2001) assumption, that what traditional grammatical descriptions call the indefinite article in German is really a derivation in which *ein* is merged with a phonetically zero operator, that moves to the left of it. As well as the zero operator *ein* can be merged with a subset of various operator such as person elements with referential properties, negative element and numeric features amongst others.

(40)

- a. K+ein Buch
- b. D+ein Buch
- c. M+ein Buch
- d. [OP] + ein Buch

Ein as numeral might be totally unrelated from *ein* as indefinite article (hence they have totally different operators) if we consider how different they are in terms of context of occurrence otherwise they can be related if we assume, like Kayne (2009), that the numeral *one* is actually an indefinite article followed by *single* (41).

(41)

- a. Ein einzelnes Buch

One single book

But another reason which leads to the assumption, that *ein* in the sense of *a* and *ein* in the sense of *one* are two distinguished element is their behavior with respect to relative clauses. A noun phrase with indefinite article *ein* can have a restrictive or non restrictive relative clause, as we have already seen.

(42)

- a. Ein Student, der die Prüfung nicht besteht, muss mit dem Professor sprechen

A student, that the exam not passed, must with the professor speak

- b. Ein Student, der übrigens die Prüfung nicht bestanden hat, möchte mit dem Professor sprechen.

A student, who by the way the exam not passed has, want with the Professor speak.

Focusing the indefinite article *ein* and having therefore a number necessarily implies that the relative clause, which follows, is non-restrictive (43).

(43)

Wie viele Studenten möchten mit dem Professor sprechen?

How many Students want to speak with the professor?

- a. EIN Student, der die Prüfung nicht bestanden hat, möchte mit dem Professor sprechen. (non restrictive reading)

b. *EIN Student, der die Prüfung nicht bestanden hat, möchte mit dem Professor sprechen. (restrictive reading)

One Student, that the exam not passed has, wants with the professor speak.

This goes in line with our earlier findings about narrow focus on the adjective: Once the adjective of a potential antecedent noun has narrow focus the antecedent is already so identified that a restrictive relative clause cannot be used for further restriction. Only non-restrictive relative clauses which give additional but not essential information are accepted. If adjacency is already ungrammatical, let alone extraposition or extraposition at long distance.

(44)

Wie vielen Studenten möchten mit dem Professor sprechen?

How many students want to speak with the professor?

a. *Mit dem Professor möchte EIN Student sprechen, der die Prüfung nicht bestanden hat.

With the professor will one student speak, that the exam not passed has.

b. *EIN Student möchte mit dem Professor sprechen, der die Prüfung nicht bestanden hat.

One Student will with the professor speak, that the exam not passed has.

We conclude that focalizing the determiner triggers extraposition of restrictive relative clauses from the Vorfeld only if the determiner is an accented definite not an accented indefinite article.

4.5.3 Focusing particles in German

There are particles in German, which are able to unambiguously force the focusing of the element that follows (in particular the determiner). These particles are words like *ausgerechnet*, *sogar*, *nur*. These words are clear focus markers of the following elements. Moreover there are functional elements in German which are always focused like the demonstrative

derjenige, diejenige, dasjenige. From data we collected it is clear that only restrictive relative clauses can have an antecedent focused by this particles.

(45)

a. Diejenige Studentin, die die Prüfung bestanden hat, hat mit dem Professor gesprochen.

b. *Diejenige Studentin, die übrigens die Prüfung bestanden hat, hat mit dem Professor gesprochen.

This is true not only in case of adjacency but also of discontinuity and extraposition of relative clauses. A non-restrictive relative clause can never be introduced by an antecedent with focus markers or by demonstrative of that kind, because they necessarily requires a restriction.

(46)

a. *Mit dem Professor hat diejenige Studentin gesprochen, die übrigens die Prüfung bestanden hat.

More data show that with this kind of elements we don't even need a context to be able to judge the grammaticality of extraposition at long distance from the Vorfeld. Extraposition of restrictive relative clauses from the Vorfeld seems to be judged grammatical without hesitation by all native speakers. If these words are focus markers of the following element and extraposition of a relative clause with this kind of antecedent is always possible even at long distance, our hypothesis receives a further argument. Extraposing with a focused antecedent is far more natural than from a topic constituent; if the movement happens at long distance this is required. In fact extraposition from the Vorfeld is far more natural when these focus particles are present and the fact that we don't even need a focalizing context to be able to affirm grammaticality implies that focus plays an important role in this particular case of extraposition.

(47)

a. ??Die Studentin hat mit dem Professor gesprochen, die die Prüfung nicht bestanden hat.

b. DIE Studentin hat mit dem Professor gesprochen, die die Prüfung bestanden hat

- c. SOGAR [DIE] Studentin hat mit dem Professor gesprochen, die die Prüfung bestanden hat.
- d. AUSGERECHNET [DIE] Studentin hat mit dem Professor gesprochen, die die Prüfung bestanden hat.
- e. Nur [die]_F Bilder von Mary hast du gekauft, die jetzt auf dem Tisch liegen
- e. [Derjenige]_F Student hat mit dem Professor gesprochen, der die Prüfung nicht bestanden hat.

(47a) requires the right context to be judged grammatical; the context should allow *Studentin* to be background information and the determiner *Die* together with the relative clause to be focalized in order to trigger extraposition at long distance. A suitable question is: “*Welche Studentin hat mit dem Professor gesprochen?*” Example in (47c, 47d, 47e and 47f) don’t need any context because of the presence of focus markers like *sogar*, *ausgerechnet* and *nur* or overtly focused determiner like *derjenige*.

4.6. Background structure of the antecedent

It is clear now that extraposition from the Vorfeld depends on the informational structure of the antecedent. If we look at the following examples with focalized antecedent we see however that extraposition is out while adjacency is perfectly fine.

(48)

Wer hat vor der Tür gestanden?

Who stood behind the door?

- a. [Die _FStudenten, die die Prüfung nicht bestanden haben], haben vor der Tür gestanden.

The students, that the exam not passed have, have behind the door stood.

- b. #[Die _FStudenten] haben vor der Tür gestanden, [die die Prüfung nicht bestanden haben].

The students have behind the door stood, that the exam not passed have.

In these sentences we have broad focus which includes the antecedent together with the determiner and its related relative clause; the pitch accent is on the noun *Studenten*. (48a) is perfectly fine because the relative clause is close to its antecedent within the Vorfeld. According to our syntactic restrictions this does not cause any problems whatsoever. In (48b) extraposition of the restrictive relative clause rules the sentence out even if the background structure of the antecedent includes focalisation. Not the entire antecedent but only the determiner has to be focused to be able to allow extraposition of the restrictive relative clause from the Vorfeld.

(49)

Welche Studenten haben mit dem Professor gesprochen?

Which of the students have with the professor spoken?

a. [Die]_F Studenten haben mit dem Professor gesprochen, [die die Prüfung nicht bestanden haben]

The students have with the professor spoken, that the exam not passed have.

The antecedent noun *Studenten* has to be topic to be able to extrapose. Adjacency remains again acceptable without restrictions. On the basis of data collected those antecedents that qualify as focus do not allow extraposition of restrictive relative clause. It is always the focushood of the determiner that determines the extraposition. The following pairs of sentences show this difference very clearly (50).

(50)

Wer hat vor der Tür gestanden?

a. Die STUDENTEN, die die Prüfung nicht bestanden haben, haben vor der Tür gestanden.

b. #Die STUDENTEN haben vor der Tür gestanden, die die Prüfung nicht bestanden haben.

(51)

Welche Studenten haben vor der Tür gestanden?

a. DIE Studenten haben vor der Tür gestanden, die die Prüfung nicht bestanden haben

(52)

Was hat Hans ausgeliehen?

What did Hans borrow?

a. Das BUCH, das ich ihm empfohlen habe, hat Hans ausgeliehen.

The book, that I him advised have, has Hans borrowed.

b. #Das BUCH hat Hans ausgeliehen, das ich ihm empfohlen habe.

The book has Hans borrowed, that i him advised have.

(53)

Was für ein Buch hat Hans ausgeliehen?

Which of the book has Hans borrowed?

DAS Buch hat Hans ausgeliehen, das ich ihm empfohlen habe.

The book has Hans borrowed, that I him advised have.

In order to extrapose from the Vorfeld determiners must be focused and in order to have a focused determiner this must bear narrow focus. From this assumption we conclude that focusing the element previous to the antecedent noun is what determines acceptability of extraposition of relative clause. We have been discussing only focused determiners but we need to investigate whether other focused elements rather than the determiners, which precede to the noun, can play a role in extraposing the following restrictive relative clause. We have seen before that numeral *ein* does not allow extraposition. What about other numerals?

(54)

Welche und wie viele Studenten haben vor der Tür gestanden?

Which and how many Students have behind the door stood?

a. #ZWEI Studenten haben vor der Tür gestanden, die die Prüfung nicht bestanden haben.

Two students have behind the door stood, that the exam not passed have.

b. ZWEI Studenten, die die Prüfung nicht bestanden haben, haben vor der Tür gestanden.

Two students, that the exam not passed have, have behind the door stood.

(55)

Welche Studenten haben vor der Tür gestanden?

Which students have behind the door stood?

a. DIE zwei Studenten haben vor der Tür gestanden, die die Prüfung nicht bestanden haben.

The two students have behind the door stood, that the exam not passed have.

We suppose in (54a) there is a silent determiner before *zwei* which is necessarily not focused because, as we have seen before, we cannot have focus on an element other than the noun unless we have narrow focus. Moreover a null element cannot receive focus. If we have narrow focus on the numeral *zwei* focus on determiner or any other element within the antecedent is out. Moreover *zwei* is an adjective and focus on adjective does not allow extraposition at long distance. From the focusing restrictions and Roher (2011) consideration about reference of the demonstrative we conclude that only determiners play a role in the possibility of extraposing restrictive relative clause and that the index within the demonstrative refers to the restrictive relative clause, which follows at long distance.

Let's look again at the focus and background structure of extraposed relative clauses with antecedent in the middle field, that we have seen in chapter 4.3 on the basis of examples (15), (16) and (17) and let's see if the three patterns hold also for extraposition at long distance. According to the informational structure of the internal complex NP-RC we can have: (a) the entire complex of antecedent and relative clause is new information in the sentence, hence focus projection (56); (b) the focus projection include only the restricting information because the noun is already known from the context (57); or (c) the entire structure is old information belonging already to the context (58).

(56)

Was hat Peter gegessen?

a. Peter hat [_F den Kuchen, \ den du gestern gebacken hast\] gegessen.

b. *[_F den Kuchen\] hat Peter gegessen, [_F den du gestern gebacken hast]
(57)

Welchen Kuchen hat Peter gegessen?

- a. Peter hat [_Fden] Kuchen, [_Fden du gestern gebacken hast] gegessen
b. [_FDen] Kuchen hat Peter gegessen [_Fden du gestern gebacken hast]
(58)

Was hat Peter mit dem Kuchen gemacht, den du gestern gebacken hast?

- a. Peter hat den Kuchen, den du gestern gebacken hast, [_F\gegessen]
b. *den Kuchen hat Peter [_F\gegessen], den du gestern gebacken hast

We see that for the extraposition of a restrictive relative clause from the Vorfeld we need to have a thematic noun functioning as antecedent of the relative clause, and rhematic restricting information within the relative clause and on the deictiv value of the determiner, which commands the clause. This is also confirmed by the following example that proofs that the determiner before the antecedent noun is actually carrying focus. We can talk of narrow focus even if the relative clause is also new information because the determiner and the relativization belong to two separate clauses so there can be more than one focus accent.

(59)

- a. Sein Sohn möchte am Wochenende zum Park, der neulich geöffnet wurde, gehen.

His son wants at the weekend to the park, that newly opened was, go.

- b. Sein Sohn möchte am Wochenende zum Park gehen, der neulich geöffnet wurde.

His son wants at the weekend to the park go, that newly opened was.

- c. #Zum Park möchte sein Sohn am Wochenende gehen, der neulich geöffnet wurde.

To the park wants his son at the weekend go, that newly opened was.

- d. Zu dem Park möchte sein Sohn am Wochenende gehen, der neulich geöffnet wurde.

To the park wants his son at the weekend go, that newly opened was.

A focalized determiner, or in general any focalized element of a clause, is not allowed to be cliticized and written together with other elements. The fact that in (59c) there is contraction between *zu* and *dem* means that the article is not accented and therefore not focalized. We see, as we expected, that extraposition at long distance is out. When focalization is allowed (59d) there is no problem with finding the suitable intonation to allow extraposition.

This goes along with what we explained in chapter three about the internal syntactic structure of restrictive relative clauses. Under the head raising analysis we are adopting for restrictive relative clauses the internal NP originates inside the relative clause CP. It is possible to reconstruct the internal head within the relative clause while the determiner is outside the clause and c-commands all the internal material. Restrictive relative clauses are therefore complement of a D° which plays a major role in determining the behaviour of the syntactic materials it follows. This is why it does not surprise that the determiner, together with the relative clause can form a discourse unit which influences also the prosody of the sentence, since we have seen that focus structure is strictly related with accent in German.

4.7. No long Extraposition for non-restrictive relative clauses

In the syntactic analysis we ruled out the possibility of extraposing non-restrictive relative clauses from the Vorfeld. To account for a complete analysis we need to test whether this syntactic condition is also ruled out from discourse-related conditions. If discourse conditions played a role this would mean that what we assumed about syntactic restrictions activate before discourse-related restrictions. Informational structure about focus would play a major role in giving rules to the word order phenomenon of extraposition. This is not what we expect (60b) but for the sake of a complete analysis we want to check whether in case of non-restrictive

relative clause focus is able to trigger extraposition from the Vorfeld, even if it not accepted under a syntactic point of view.

(60)

a. Karin, die übrigens die Prüfung nicht bestanden hat, hat mit dem Professor gesprochen.

Karin, that by the way the exam not passed has, has with the professor spoken.

b. *Karin hat mit dem Professor gesprochen, die übrigens die Prüfung nicht bestanden hat.

Karin has with the professor spoken, that by the way the exam not passed has.

(61)

Wer hat mit dem Professor gesprochen?

Who has with the professor spoken?

c. ???[Karin]F hat mit dem Professor gesprochen, die übrigens die Prüfung nicht bestanden hat.

Karin has with the professor spoken, that by the way the exam not passed has.

In this case there is no ambiguity for the relative pronoun because the gender of nouns and the semantic (a professor is not supposed to take an exam) disambiguate the reference. During the test native speakers were annoyed by the sound of this sentence because they understood the meaning but felt the need to make suggestions. Some of them pointed out to me unexpectedly that the sentence is not wrong provided that the verb of the relative clause was put in the second place. What they implicitly suggested is that a supplement information like the fact that Karin did not pass the exam was perfectly fine. They suggested the following syntax.

(62)

Wer hat mit dem Professor gesprochen?

Who has spoken with the professor?

a. [Karin]F hat mit dem Professor gesprochen, die hat übrigens die Prüfung nicht bestanden.

Karin has with the professor spoken, who has by the way the exam not passed.

Can we say that a non-restrictive relative clause can be extraposed provided that it has a V2 structure? Is this kind of suggestions coming from native speakers a sign that what Gärdner (2000) calls V2-relative clauses are actually relative clauses? Can a V2-relative clause be considered a real relative clause?

This side assumption about non-restrictive relative clause is an open issue which goes along with the fact that these sentences are often assigned different syntactic structure. On one side they are categorized as subordinate clause because in normal and usual position they have a V_{end} structure; on the other side it was suggested in chapter three that they have properties usually belonging to main clauses. Even according to other analysis they are often aligned with other kinds of paratactic constructions we mentioned in chapter one, like coordinate structure, apposition, parenthetical or marginal structure of the sentence.

From a semantic point of view these suggestions are very likely. Non-restrictive relative clauses provide information, which are not essential for understanding the matrix clause. On the other side the syntactic structure of non-restrictive relative clause account for an, even marginal, embedded interpretation.

The comment of the interviewed native speakers about the V2-relative clause does not mean that long extraposition of non-restrictive relative clauses is fine. The sentence is therefore out and we can only take the comments into account for considerations on the nature of apposition. The only marginal case in which extraposition from the Vorfeld was defined as marginally grammatical was (63) where there is the modal particle *ja* within the extraposed non-restrictive relative clause.

(63)

???Karin hat mit dem Professor gesprochen, die ja die Prüfung nicht bestanden hat.

Karin has with the professor spoken, that MPART the exam not passed.

Not everyone agreed with the fact that this was a grammatical example but it was worth mentioning that the modal particle *Ja* seemed to make extraposition more acceptable. With no other modal particle the sentence sounded so acceptable like with *ja*.

(64)

- a. *Karin hat mit dem Professor gesprochen, die doch die Prüfung nicht bestanden hat.
- b. *Karin hat mit dem Professor gesprochen, die halt die Prüfung nicht bestanden hat.
- c. *Karin hat mit dem Professor gesprochen, die wohl die Prüfung nicht bestanden hat.

Moreover the sentence was read with no clear focus intonation on Karin and without context so Karin seems to be no new information within the sentence. Traditionally the literature distinguishes two variants of the same *ja*, that is: (1) an unstressed form, which is usually marked by the semantic feature <BEKANNT> (Thurmair, 1989:104 and Weinrich, 1993:844), i.e. “known to the hearer”, because the information conveyed by the utterance is already known to the reader; (2) a stressed form *JA*, whose function is characterised by the feature <VERSTÄRKUNG> (Thurmair, 1989:109) since it is generally used to strengthen the illocutory force of the utterance. In example (63) it is clearly the case of the first *ja*. Since the speaker thinks a certain fact should already be known to the listener and intends his statement to be more of a reminder or conclusion there should not be any problem about referring the information to the right antecedent even it is far away. If the main problem about long distance extraposition of non-restrictive relative clause is about reference maybe the assumption linked with the modal particle *ja* is able to solve this problem.

4.8. Intonation

The distinction between restrictive and non-restrictive relative clauses is semantic and then, as we have seen in chapter two, syntactic. This difference has been pointed out by Seiler (1960) also as prosodic difference, hence as far as accent and intonation are concerned. He assumes that non-restrictive relative clauses in German have one accent on the noun phrase and one accent on the relative clause and that the matrix clause and the relative clause are two separate prosodic units separated by a clear pause. Before the pause there is a falling contour taking place. The restrictive relative clause, on the other hand, builds a prosodic unit together with the noun it refers to. There is a falling contour within the relative clause and no pause between the two elements.

Since the analysis of Seiler on relative clauses, this different prosodic realization has been with minor differences assumed to be realistic as far as pauses, accent (as we have seen before) and intonation are concerned (Becker, 1978; Ebert, 1970, 1973; Lehmann, 1984; Brandt, 1990; Fritsch, 1990; Frosch, 1996; Eisenberg, 1999; Helbig/Buscha 2001; Zifonum, 2001). According to Birkner (2008), who conducted an analysis on spoken relative clauses an analysis of the prosodic difference between restrictive and non restrictive relative clause is far more complex than it has been highlighted so far in the literature, especially for non-restrictive relative clauses. Intonation pauses depend for examples on the semantic, syntax and pragmatic of the antecedent as well as on the kind of relative clause. In fact there are some non-restrictive relative clauses, which behave like restrictive ones, as far as falling contour is concerned. Of course the generalization which has been used so far must not be considered totally wrong because there are major and useful tendencies.

We can generally say that although both types of relative clauses correlate with different prosodic formats, the formats showing more integration

between main and relative clause occur often on restrictive relative clauses. In fact Birkner (2008)'s study confirms on the basis of data that prosodic integration fits best on restrictive relative clause, whereas prosodically disintegrated configurations fit best on non-restrictive relative clause. This difference is reflected in the absence (restrictive relative clause) or presence (non-restrictive relative clause) of a pause before the relative clause. Besides pauses, non-restrictive relative clauses form an intonational unit alone, whereas restrictive relative clauses build one together with the antecedent resulting in one accent. Sentences containing non-restrictive relative clauses therefore contain two separate accents: on both the antecedent and the relative clause while restrictive relative clauses show a uniform and coherent hat contour (62)

(65)

Bei der /GELben Schraube nimmst du einfach /DAS Loch, \DAS /OHne
 \GeWINde ist.

By the yellow screw take you simply the hole, that without thread is.

Thanks to the relative clause the person will select from the class of holes only those without *thread*. The nucleus and the satellite of the construction, hence the referent element and the clause depends from each other semantically and intonationally, which means that the scopus of the determiner includes the relative clause as well. Thanks to the relative clause every rising accent (on /DAS Loch and on /OHne) has a correspondent falling accent (on relative pronoun \DAS and on \GeWINde. The information within the clause are relevant to understand the hole construction and this information cannot be conveyed in the form of a coordination structure or as main clause. There is no pause between the two parts. The voice rises with the accented determiner and must fall together with the relative pronoun and then further at the end of the relative clause like in (66).

(66)

a. Du sollst jetzt mit der gelben /SCHRAUbe mit dem \SCHLITZ (0.5) - die

RUND ist (1.0) - \verSCHRAUBen.

You should now with the yellow screw with the cut, that round is, screw.

b. Du sollst jetzt mit der gelben Schraube mit dem Schlitz – die ist rund – verschrauben.

You should now with the yellow screw with the cut – that is round - screw

Without relative clause the referent *die gelbe Schraube mit dem Schlitz* can be identified. The relative clause gives additional information that does not limit the amount of possible referents. There is a pause before and after the sentence, which conveys an intonation to the relative clause which is similar to a main clause. The same sentence, in fact, can be transformed into a main clause, without big changes of the same intonation (66b). The fact that an accent falls on a part of the antecedent may be able to guarantee continuity and reference of the relative clause, which under a prosodic point of view must be linked with it. Birkner (2008) does not mention the fact that the main accent might be the focalisation of the determiner but if we compare his data with what we have been researching so far on focalisation in German we can directly conclude that accent actually corresponds with focus on determiner.

Moreover, accent on the determiner, which has also a deictic feature, is even more reliable, as far as reference is concerned. There are for examples examples of extraposition which have only a determiner as antecedent on the Vorfeld (67).

(67)

a. Weil ich die gekauft habe, die eng sind

because we those bought have, that tight are

b. Die habe ich gekauft, die eng sind

Those have we bought, that tight are

Using Birkner (2008)'s statistic we can draw conclusions on frequency of discontinuity of relative clause with respect to its antecedent both for restrictive relative clause and for non-restrictive relative clause. As

predicted in our analysis, adjacency is preferred over discontinuity in general and there is no example of discontinuous non-restrictive relative clause with antecedent within the Vorfeld.

This could be due to the fact that, as it happens in many survey on relative clauses, non-restrictive relative clause are at one point not included in the sample of data. Birkner (2008) does not comment or explicitly mention the fact that there are no examples of the behaviour of non-restrictive relative clause regarding extraposition at long distance and this is again proof of the inconsistency in the analysis of relative clause so far. However missing data can be interpreted as a further proof in favour of our theory.

We are inclined to believe that in the case of restrictive relative clauses extraposition at long distance is acceptable also under an intonational point of view. The relative clause is included in the intonation contour of the matrix; therefore, the hearer has a cue that complementary information is to follow after the matrix clause. On the other hand, a non-restrictive relative clause is not part of the intonational contour of the matrix, so the sequence of clauses is much harder to interpret and acceptability decreases.

Distance increases the ambiguity of references so we need information from the context to disambiguate the meaning of the sentence. In (68a) the reference is more likely to be *den Mann*. This is far less identified than *Bäcker*, because it is the nearest masculine noun phrase the relative pronoun can refer to. (68b) has a different antecedent because a discourse information, hence focalization of *DER* shows unambiguously which is the reference and builds the required hat contour. Similar is the behavior of *DEN* in (68c) although this sentence is perceived as more natural than (68b) because focalization on the subject is not so common.

(68)

a. Der Bäcker hat den Mann zu ermordern versucht, der zu viel wusste.

The baker has the man to kill tried, that to much knew.

b. /DER Bäcker hat den Mann zu ermordern veruscht, der zu viel wusste.

The baker has the man to kill tried, that to much knew.

c. /DEN Mann hat der Bäcker zu ermordern versucht, der zu viel wusste.

The man has the baker to kill tried, that to much knew.

4.9. Conclusions

This chapter dealt with one particular type of extraposition of relative clauses: extraposition at long distance with antecedent in the Vorfeld position.

On the basis of considerations found in the literature about the focus-background structure (Cinque, 1993 amongst others) and the German intonational pattern (Féry, 1993) the aim of this chapter was to provide evidence for the integration of syntactic restrictions with contextual factors, in particular the fact that extraposition of restrictive RCs is influenced by the discourse function of the antecedent and its determiner. On the basis of data those nouns that qualify as focus or contrastive focus cannot license an extraposition of the relative clause from the Vorfeld; it is always the narrow focus of the determiner that determines the extraposition and the only way in German to focus a determiner is with narrow focus.

From the statistic survey of Birkner (2008) we see that extraposition from the Vorfeld is a rare phenomenon. Only 12% of extraposed relative clauses have the antecedent on the Vorfeld of the matrix clause and in only one example (69) we have also extraposition (Birkner, 2008: 237). This is a so called free relative which belongs to restrictive type of relative clauses.

(69)

Das müssen Sie mir noch mal erzählen, was das alles bedeutet.

That must you to me again say, what that all means

Although we have quoted more significant examples of extraposition from the Vorfeld than (69) percentage on the occurrence of this phenomenon are interesting.

First of all, extraposition from sentence initial subject is fast impossible. According to Shannon (1992) the sentence initial position is far away from the extraposition position; even if object are in the Vorfeld extraposition is more difficult. Moreover, with extraposition at long distance the antecedent contains sentence focus or sentence accent and this is rarely at the beginning of a German sentence. In fact extraposition from the Mittelfeld does not provide so many problems and it is, on the contrary, very frequent. Then again, frequency depends a lot on the syntactic function of the antecedent within the sentence. The subject function like subject and predicate name is the most frequent function for an antecedent of a relative clause and also of the relative pronoun in general (48% for the antecedent and 54% for the relative pronoun (Birkner, 2008)). According to Comrie relative clauses are present in every human language and there is a relativization hierarchy, which rules the possibility within one language to relativize different syntactic function of antecedent. The subject function is on the top of this hierarchy, which means that subject positions are the most relativized positions. According to Comrie's hierarchy the most embedded position occurs less frequent.

(70)

Accessibility Hierarchy (AH)

SU > DO > LO > OBL > GEN > OCOMP

Since subject are rarely rhematic it more difficult to have focus accent on them.

On the basis of these considerations we suppose that the low frequency of this phenomenon depends on the following facts: (1) Extraposition of a relative clause from the Vorfeld can only occur if the relative clause is restrictive. This excludes all cases of non-restrictive relative clauses. (2) In order to extrapose from the Vorfeld the antecedent of a restrictive relative clause must not only include focus but the focus must be on the determiner of the antecedent; (3) In order to be focalized the antecedent can only have a

definite article. Antecedent with indefinite article are excluded; (4) Focus in German tends to be at the end of the sentence and not in Vorfeld position; (5) The Vorfeld position in German is often subject position and subjects are usually thematic so the external argument of a verb has, in the majority of cases, no focus accent; (6) The majority of relative clauses in German (like every other language) relativize subjects.

CONCLUSION

Aim of this work was to contribute to the understanding the syntactic behaviour of German relative clauses and, in particular, to find out whether there is a set of restrictions allowing discontinuity or extraposition. The idea started from the fact that discontinuity with relative clauses in the German language, alike other languages like English, French, Italian or Spanish, is very productive and it also goes along with the realization of the *Nachfeld*, which is a peculiarity of a OV language like German.

Literature on this topic refers however only to the syntactic reasons that enable this optional movement across the right verbal bracket of the main sentence but do not explain exhaustively under which grammatical circumstances it takes place. This word order phenomenon has always been defined as optional and it is usually thought to be a stylistic choice of the speaker. On the basis of collected data we have seen that this is not always the case. Relative clauses in German cannot be arbitrary separated from their reference within the matrix clause since, as we claim, there are specific restrictions, both syntactic and discourse-related, governing this possibility. In the first paragraph of this final chapter (§5.1) we would like to provide a systematic description of the restrictions involved in the phenomenon of extraposition with regard of restrictive relative clauses on one side and of non-restrictive relative clauses on the other.

Since a systematic descriptions of grammar rules has never been provided by normative grammars we are inclined to believe that a first level of descriptive adequacy will be relevant not only for the theoretical framework but also for didactic purposes at an advanced level of German L2 competence.

In §5.2 we will give a brief summary of the theoretical framework laying the base for our hypothesis, which implies that German restrictive and non-

restrictive relative clauses have two different syntactic derivations. This dichotomy will also allow us to define the two different syntactic operations involved in the extraposition of the two types of relative clauses.

The last paragraph (§5.3) will pose some questions for further discussions and researches related to this work, and especially to the role played by the distinction of restrictive and non-restrictive relative clauses as well as by the extraposition in other specific fields.

5.1 Restrictions for the position of relative clauses in German

Data presented in this work showed that the general assumption about adjacency of German relative clauses is true for every combination of morphological case of the antecedent and morphological case of the relative pronoun. We conclude that the relative clause may always come straight after the noun or noun complex it is restricting or describing.

(1)

Die Studenten, die die Prüfung schon bestanden haben, sitzen gemütlich in der Mensa und essen.

The students, that have already passed the exam, are sitting in the cafeteria and eating.

The choice of extraposing a relative clause has often been described as caused by stylistic reasons: if placing the relative clause right after the noun it refers to would leave the right verbal bracket of the main clause dangling at the end of the sentence (2a), the resulting sentence would be grammatically fine but probably awkward to comprehend. In this case the relative clause is moved for stylistic reasons after the verb bracket (2b).

(2)

a. Sie werden nie die Woche, die sie krank im Bett **verbracht habe**, **vergessen**.

b. Sie werden nie die Woche **vergessen**, die sie krank im Bett **verbracht habe**.

They will never forget the week they spent sick in bed.

Data from our corpus showed that discontinuity is not always grammatical and is therefore not an “optional” movement. A correct distribution of this phenomenon can however be captured by referring to the dichotomy of restrictive and non-restrictive relative clauses.

(3)

a. Die Studenten haben mit dem Professor gesprochen, die die Prüfung nicht bestanden haben.

Students-have-with-the-professor-spoken,-that-the-exam-not-passed-have.

b. *Karin hat mit dem Professor gesprochen, die die Prüfung nicht bestanden hat.

Karin-has-with-the-professor-spoken,-who-the-exam-not-passed-has.

Restrictions on the possible extraposition of relative clauses in German are best described using the topological field model because it is able to provide the German syntactic structure with clear boundaries, which limit the movement of extraposition.

So, the tables below (4 and 5) makes use of the topological structure of German syntax (VF, MF, NF) to identify the place of the antecedent (Ant) when discontinuity with the relative clause (RC) is analysed.

(4) - Non-restrictive relative clauses

VF	MF	NF	
Ant+RC		RC	OK
	Ant+RC		OK
		Ant+RC	OK
Ant	RC		Never
	Ant	RC	Only when the antecedent is in its base position
Ant		RC	Never

(5) Restrictive Relative clauses

VF	MF	NF	
Ant+RC			OK
	Ant+RC		OK
		Ant+RC	OK
Ant	RC		Never
Ant		RC	Only if the determiner of the

			antecedent is focused
	Ant	RC	OK

As we see from the tables, the two patterns for extraposition are different when extraposing from the *Mittelfeld* and for the *Vorfeld*. Extraposition of restrictive relative clauses is much more productive than extraposition of non-restrictive relative clauses which is allowed only in very restrict circumstances. Restrictions on the extraposition of non-restrictive relative clauses can be derived from a mere syntactic analysis because there aren't discourse-related restrictions taking place. The antecedent of non-restrictive relative clauses must be simply in its base position within the *Mittelfeld*.

(6)

- a. In England wird nie [Pferdefleisch] gegessen, [das übrigens sehr gesund ist]
- b. *In England wird [Pferdefleisch] nie t gegessen, [das übrigens sehr gesund ist]

Antecedents of restrictive relative clauses, on the other hand, are allowed to move in higher positions and in case they move outside the *Mittelfeld* syntactic restrictions are not enough. Topicalization of the antecedent is the only case when discourse-related restrictions are involved. Data from our corpus showed that focalization of the determiner is the only circumstance, which allow extraposing at such long distance (7b).

(7)

- a. Wer hat mit dem Professor gesprochen?
#Die STUDENTEN haben mit dem Professor gesprochen, die die Prüfung nicht bestanden haben.
- b. Welche Studenten haben mit dem Professor gesprochen?
DIE Studenten haben mit dem Professor gesprochen, die die Prüfung nicht bestanden haben

Here are the four grammatical rules for the position of relative clauses:

1) Adjacency is always allowed

- 2) **Discontinuity requires always the lexicalization of the *Nachfeld*.**
- 3) **Non–restrictive relative clauses can extrapose only if the antecedent is in its base position within the *Mittelfeld*.**
- 4) **Restrictive relative clauses may extrapose both from the *Mittelfeld* and from the *Vorfeld*.**
 - a. **From the *Mittelfeld* without restrictions**
 - b. **From the *Vorfeld* only if the determiner of the antecedent is focused.**

To conclude: any German relative clause can be near its antecedent in any of the three fields of the main clause. When discontinuity takes place, the relative clause must be extraposed outside the right verbal bracket of the main sentence. Discontinuity cannot take place within the *Mittelfeld* (scrambling of the antecedent) or between *Vorfeld* and *Mittelfeld* (topicalization of the antecedent). In order to define restrictions on extraposition we need to distinguish restrictive and non-restrictive which are defined in the following table (8).

(8) *Allowed Discontinuity*

Case of allowed discontinuity	VF	MF	NF
Non-restrictive relative clauses		Antecedent in base position	RC
Restrictive Relative clauses		Antecedent	RC
	Antecedent with focused Determiner		RC

Extrapositing non-restrictive relative clauses is ungrammatical if the antecedent is not in its base position. Extrapositing restricting relative clauses is fine even if the antecedent scrambles. In case of topicalization the determiner of the antecedent head must be focused.

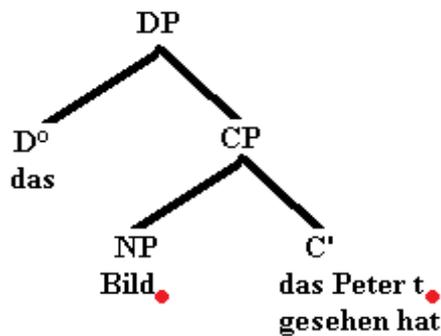
5.2 Theoretical framework for relative clauses

Descriptive results presented in the previous paragraph could be analysed only implying a different syntactic derivation for restrictive and non-restrictive relative clauses. Restrictive relative clauses in German have a much more embedded structure than non-restrictive relative clauses and this results in a divergent syntactical behaviour with respect to various syntactic operations including extraposition. In particular a restrictive relative clause and its head are linked by a head-complement relationship while a non-restrictive relative clause is an adjunction to its external head. This is also strongly supported by the implementation of the dichotomy between central and peripheral clauses proposed by Haegeman (2002, 2004a-b, 2006, 2008, 2010) respectively for restrictive and non-restrictive relative clauses. These two main types of subordinate clauses differ according to their degree of subordination, the timing of merge and the consequent internal structure, which conveys or not independence with the associated matrix clause.

In order to account for the two different syntactical derivations we don't need any further derivations rather than those, which have already been studied in previous literature (The Head Raising Analysis and the Matching Analysis). We need to adjust the way these derivations are distributed and assigned to one or the other type of relative clause in the German language.

In particular we saw that the Head Raising Analysis (Schachter, 1973; Vergnaud, 1974; Kayne, 1994; Borsley, 1997; Bianchi, 1999) is a suitable derivation for restrictive relative clauses (9). Under the HRA the head NP originates inside the relative clause CP and rises within the clause to the position SpecCP. At this point the NP establishes a local relation with the external determiner. This analysis shows clearly that restrictive relative clauses are complement of their external determiners.

(9)



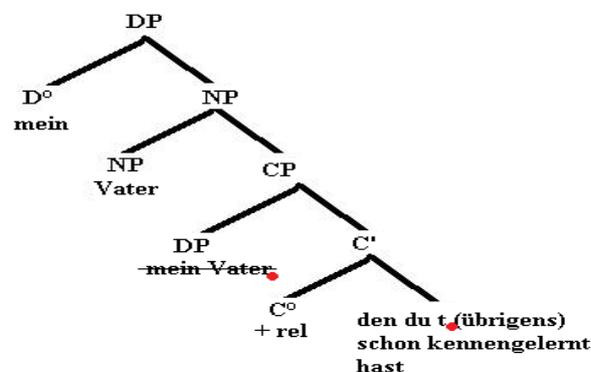
(adapted from Kayne, 1994:87)

Das [_{CP}[_{NP} Bild], [das [_{VP} [Peter t_{NP} gesehen hat]]]]

The-[image],[-that-[Peter-seen-has]]

The Head Raising Analysis is not the right structure for non-restrictive relative clauses, alone for the fact that these sentences, as we said, are far less embedded in the matrix clause than a HRA requires. The syntactic derivation of German non-restrictive relative clauses is best represented by the Matching Analysis (10) (Lees, 1961; Chomsky, 1965; Sauerland, 1998), which postulates that relative clauses are adjunctions to an external nominal head NP or DP. By looking also at the semantics of these sentences and at the type of antecedents they can have, we derive that the nominal head is interpreted outside the relative clause. There is however an identical head within the relative clause which is not part of a movement chain like we have seen with restrictive relative clauses. Since the two heads are phonologically identical, the internal head is elided.

(10)



(adapted from Bhatt, 2002: 45)

[_{DP} Mein Vater], [_{CP}<mein Vater> den du t_i (übrigens) schon kennengelernt hast]

Since restrictive and non-restrictive relative clauses are assigned respectably the HRA and the MA, though two different syntactic derivations, also discontinuity is ascribed to two different syntactic operations. In particular: Extraposition of restrictive relative clauses is the result of an A' movement to the right (Büring & Hartman, 1997 for relative clauses in general). The relative clause does not generate there (Chomsky, 1995, 2000, 2001), like minimalist theories and the antisymmetric approach (Kayne, 1994), which ban a priori movements to the right, would suggest. Rightward movement respects binding relations, isle conditions, co-reference as well as enabling previous syntactic operations on the antecedent.

(11)

a. Weil wir jedem_i die Daten [_{CP} die er_i braucht] gegeben haben.

because-we-everyone-the-data-[that-he-needs]-given-have.

b. Weil wir jedem_i [_{NP} die Daten t_i] gegeben haben [_{CP} die er_i braucht]₁

because-we-everyone-[the-data]-given-have-[that-he-needs.]

In fact: topicalization or scrambling of the entire relative complex [_{D°}+_{CP}] do not freeze any further movement, including extraction from a complement (Meinunger, 2000). The restrictive relative clause can be extraposed in the *Nachfeld* of the sentence with a A' movement to the right even if the antecedent is in a higher position of the matrix clause.

The fact that with topicalization we cannot have a relative clause within the *Mittelfeld* if the antecedent is in the *Vorfeld* is due to the fact that a second syntactic operation, like the A' movement after topicalization, cannot land in the same domain of the element it licenses it. According to Haider (1997) an indirect movement (extraposition) is not allowed to land in the domain of a directly licensed movement (topicalization) so the only suitable site for extraposition is the *Nachfeld*.

Discontinuity of non-restrictive relative clauses is much less productive than restrictive relative clauses and it is the result of a late merge following a counter-cyclic quantifier raising of the nominal head. In this case the quantifier raising applies to the right and because it is a covert operation the nominal head can be pronounced in its base position while the relative clause is pronounced at the right periphery where it is merged. (Fox & Nissenbaum, 2000 for relative clauses in general).

(12)

Wir_i [_{VP} haben ti Peter gesehen_i],

QR (covert)

Wir_i [_{VP} haben ti Peter gesehen_i] <Peter>

Adjunct merger (overt)

Wir_i [_{VP} haben ti Peter gesehen_i] <Peter>, der übrigens 50 Jahre alt geworden ist.

We-have-Peter-seen,-who-by-the-way-50-years-old-is.

The covert quantifier raised enables a short distance relationship with the relative clause. Since the head noun undergoes already a movement to the right it is not compatible with any other movement to the left like scrambling or even topicalization of the antecedent. This explains why the antecedent of an extraposed non-restrictive relative clause must always appear in its base position in order to allow extraposition.

For the same reason we cannot have a relative clause in the Mittelfeld without the antecedent. Topicalization has a freezing effect on the QR, so late merge of the relative clause cannot take place disregarding of the landing site of the syntactic operation involved.

5.3 Further researches

The previous paragraph focused on the syntactical framework of restrictive and non-restrictive relative clauses. In Chapter four we have seen however that syntax is not enough to account for all examples of extraposition and

that we need to investigate discourse-related as well as phonological constraints when we are dealing with extraposition at long distance of restrictive relative clauses. The restrictions involving this particular case of extraposition have only been discussed under a descriptive point of view analysing the results of our empirical surveys. Of course a theoretical explanation of the evidence of our empirical survey still requires an explanation that would suit perfectly in the modern prolific discussions on information structure and syntax-phonology interface. It would be interesting to investigate which syntactic information of extraposed restrictive relative clauses are accessible to phonological rules as well as their semantic interpretation in terms of focus and information structure.

A further interesting field of analysis related to this work is the acquisition of relative clauses both in L1 and L2. Previous studies on the acquisition of relative clauses investigate the complexity of acquiring the relativizing strategy of a given language. No distinction has however been made between the acquisition of restrictive and non-restrictive relative clauses.

Although the topic is still very debated one can identify two major points of discussions on the acquisition of relativization strategies. First of all its complexity in the computation process of relative clauses, which is the result of a double connection of the relative pronoun: gender and number of the relative pronoun are the same as the noun to which they refer to, hence the antecedent found in the main clause. The case of the relative pronoun depends on the syntactic function within the embedded sentence. It would be also interesting to see whether this complexity is perceived in the same way for restrictive and non-restrictive relative clauses or, since the latter share more properties with main clauses, non-restrictive relative clauses are easier to acquire.

Another aspect on which acquisition studies on relative clauses have been focusing so far is related to the hierarchy of relativization proposed by Keenan & Comrie (1977).

(12)

Accessibility Hierarchy (AH)

SU > DO > LO > OBL > GEN > OCOMP

It is argued that relative clauses are acquired by children in a bottom-up way. They start from simple relative clause and then go into more complex grammatical patterns (Diessel and Tomasello, 2000, 2005) climbing the proposed hierarchy. This might have to do with the fact that relativizing an object places a heavier burden on memory than subject relativization does, as already noted by Pritchett, 1992 and Gibson, 1998. Even though this topic has been largely discussed in recent literature, discussions on this matter have been carried on only on the most prolific case of relative clause but can we apply the same rules also for non-restrictive relative clauses?

The third relevant aspect in acquisitional processes concerns the traditional discussions of how adult speakers process extraposed relative clauses (Chomsky, 1965; Miller, 1962; Bar-Hiller, Kasher & Shamir, 1967). It has also been noticed that sentences with embedded relative clauses are harder to process than extraposed relative clauses, presumably because they contain an interruption of the main clause and the burden on memory becomes bigger.

Since relative clauses have been investigated as a unique group of clauses it would be interesting to see whether the different degree of integration of the two types of relative clauses implies also a difference in the processing of their extraposition.

Bibliography

- Abney, P. A. (1989) A computational model of human parsing. *Journal of Psycholinguistic Research*, 18: 129-144.
- Alexiadou, A. (2001) Adjective syntax and noun raising: word order asymmetries in the DP as the result of adjective distribution. *Studia Linguistica* 55: 217–248.
- Andrews, A. D. (2007) Relative clauses. In: T. Shopen (ed.), *Language typology and syntactic description*, pp. 206–236. Cambridge University Press.
- Baltin, M. (1981). Strict Bounding. In: C. L. Baker & J. McCarthy (eds.), *The Logical Problem of Language Acquisition*. Cambridge, Mass., MIT Press: 257-295.
- Baltin, M. (1982). A Landing Site Theory of Movement Rules. *Linguistic Inquiry* 13, 1-38
- Baltin, M. (1983). Extraposition: Bounding versus Government-Binding. *Linguistic Inquiry* 14, 155-162
- Baltin, M. (1984). Extraposition Rules and Discontinuous Constituent. *Linguistic Inquiry* 15, 157-163
- Baltin, M. (2006). Extraposition. In: M. Everaert & H. van Riemsdijk (eds) *The Blackwell Companion to Syntax*, 237-271. Oxford: Blackwell.
- Bayer, J. (1984). COMP in Bavarian Syntax. *The Linguistic Review* 3: 209–274.
- Bar-Hiller, Y., A. Kashir, E. Samir (1967) Measures of syntactic complexity. In: A. D. Booth (eds) *Machine translation*, John Wiley and Sons.
- Becker, R. (1978) Oberflächenstrukturelle Unterschiede zwischen restriktiven und nichtrestriktiven Relativsätzen im Deutschen, in *Kölner Linguistische Arbeiten Germanistik* 4, 1-12.
- Beckman, M. E. & J.B. Pierrehumbert (1986) Intonational structure in Japanese and English. *Phonology Yearbook* 3, 255-309.
- Bhatt, R. (2002). The raising analysis of relative clauses: evidence from adjectival modification. *Natural Language Semantics* 10 (1), 44-90.
- Bianchi, V. (1999). *Consequences of Antisymmetry. Headed Relative Clauses*. Berlin /New York: Mouton de Gruyter.

- Bianchi, V. (2000). Some Issues in the Syntax of Relative Determiners. In A. Alexiadou et al. (eds.) *The Syntax of Relative Clauses*. Amsterdam/Philadelphia: John Benjamins. *Linguistik Aktuell / Linguistics Today* 32. 53-81
- Bildese, E.,A. Padovan, A. Tomaselli (2012) A binary system of complementizery in Cimbrian relative clauses. *Working papers in Scandinavian Syntax*, 90. 1-21
- Birkner, K. (2008) *Relativ(satz)konstruktionen im gesprochenen Deutsch*. De Gruyter.
- Blühdorn, H. (2007) Zur Struktur und Interpretation von Relativsätzen. *Deutsche Sprache* 35. (287-314)
- Borsley, R.D. (1997). Relative clauses and the theory of phrase structure. *Linguistic Inquiry* 28, 629–647.
- Brandt, M. (1990) *Weiterführende Nebensätze: Zu ihrer Syntax, Semantik und Pragmatik*, Stockholm: Almqvist & Wiksell.
- Browning, M. (1987) *Null operator construction*. Doctoral dissertation. MIT Cambridge Mass.
- Büring, D. & K. Hartmann (1996). All Right! In U. Lutz and J.Pafel (eds) *On Extraction and Extraposition in German* Amsterdam/Philadelphia: John Benjamins *Linguistik Aktuell / Linguistics Today* 11. 179- 211
- Büring, D. & K. Hartmann (1997a). The Kayne Mutinity. In D. Beerman et al. (eds) *Rightward Movement* (59-79). Amsterdam/Philadelphia: John Benjamins. *Linguistik Aktuell / Linguistics Today* 17.
- Büring, D. & K. Hartmann (1997b) Doing the Right Thing. *The Linguistic Review* 14. 1–42.
- Büring, D. & K. Hartmann (1998) Asymmetrische Koordination. *Linguistische Berichte* 174. 172–201.
- Burton-Roberts, N. (1975) Nominal Apposition. *Foundations of Language* 13: 391-419.
- Burton-Roberts N (1999). Apposition. In: E.K. Brown, J. Miller, J, ed. *The Concise Encyclopaedia of Syntactic Categories*. Oxford, UK: Elsevier. pp.459.
- Carlson, G. N. (1977). Amount relatives. *Language* 58, 520–542.
- Cecchetto C, and C. Donati (2010), On labeling: Principle C and head movement, *Syntax*, 13:2.
- Chomsky, N. (1965). *Aspects of the Theory of Syntax*. Cambridge, MA: MIT Press.

- Chomsky, N. (1971) Deep structure, surface structure, and semantic interpretation. In: D. Steinberg, & L. Jakobits (eds.) *Semantics: An interdisciplinary reader in philosophy, linguistics and psychology*. Cambridge: Cambridge University Press, 183-216.
- Chomsky, N. (1977) On Wh-movement. In: P.W. Culicover, Wasw, T. & Akmajian, A. (eds.) *Formal syntax*. San Francisco, London: Academic Press.
- Chomsky, N. (1986). *Barriers*. Cambridge, MA: MIT Press.
- Chomsky, N. (1995). *The Minimalist Program*. Cambridge, MA: MIT Press.
- Chomsky, N. (2000). Minimalist inquiries. In R. Martin, D. Michaels, & J. Uriagereka (Ed.) *Step by step: Essays on minimalist syntax in honor of Howard Lasnik* (89-155) Cambridge, MA: MIT Press.
- Chomsky, N. (2001). Derivation by phase. In M. Kenstowicz (Ed.) *A life in language* (1-52) Cambridge, MA: MIT Press.
- Cinque, G. (1978). La sintassi dei pronomi relativi ‘cui’ e ‘quale’ nell’italiano moderno. *Rivista di Grammatica Generativa* 3, n. 1. 31-126
- Cinque, G. (1990). *Types of A’ dependencies*. Cambridge, MA: MIT Press
- Cinque, G. (1993) A null theory of Phrase and Compound Stress”*Linguistic Inquiry* 24:239-297
- Cinque, G. (2001). La frase relativa. In Renzi/Salvi/Cardinaletti (2001/2002): I, 443-503.
- Cinque, G. (2008). *More on the indefinite character of the Head of Restrictive Relatives*. Università Ca’ Foscari, Venezia.
- Comrie, B. (1999). Relative Clauses. Structure and typology on the periphery of Standard English. In: P. Collins & D. Lee *The clause in English. In honour of Rodney Huddleston*. Amsterdam/Philadelphia: John Benjamins.
- Coniglio, M. (2009) Deutsche Modalpartikeln in Haupt- und Nebensätzen. In: *Modalität*. Abraham, W. & E. Leiss (eds.) Tübingen: Narr. (191-222)
- Coniglio, M. (2011). Die Syntax der deutschen Modalpartikeln: ihre Distribution und Lizenzierung in Haupt- und Nebensätzen [*Studia grammatica* 73]. Berlin: Akademie-Verl.
- Culicover, P. W. and M. Rochemont (1990) Extraposition and the complement principle. *Linguistic Inquiry* 21, 1, 23-47.
- Culicover, P.W. and M.Rochemont. (1997) Deriving dependent right adjuncts in English. In Henk van Riemsdijk, David LeBlanc, and Dorothee Beermann (eds.) *Rightward Movement, Proceedings of the*

- Tilburg Conference on Rightward Movement, Oct. 6-10, 279-300.
Amsterdam: John Benjamins.
- Culicover, P.W. & M.Rochemont. (1983) Stress and focus in English. – In: *Language* 59, 123-165.
- De Kurthy, K. (2002) Discontinuous NPs in German. A case Study of the Interaction of Syntax, Semantics and Pragmatics. CSLI Publications.
- De Vries, M. (2002) *The Syntax of Relativization*. Ph.D. dissertation, Universiteit van Amsterdam.
- Del Gobbo, F. (2007): On the syntax and semantics of appositive relative clauses. In: Dehé, N. / Kavalova, Y., Hrsg. (2007), 173`202.
- Diessel, H. and M. Tomasello (2000) The development of relative clauses in spontaneous child speech. *Cognitive Linguistics* 11: 131-151.
- Diessel, H. and M. Tomasello (2005). A new look at the acquisition of relative clauses. *Language* 81: 1-25.
- Donati, C.(1995) il que relative spagnolo. *Lingua e Stile* XXIII: pp. 565-595.
- Donati, C. (2000). *La sintassi della comparazione*. Padova: Uni press
- Ebert, K.H. (1973) Functions of relative clauses in reference acts, in: *Linguistische Berichte* 23, 1-11.
- Egg, M. (2007). The syntax and semantics of relative clause modification. In *Proceedings of the Sixteenth Computational Linguistics in the Netherlands*, Khal'il Simanan, Maarten de Rijke, Remko Scha & Rob van Son (eds.), 49–56. Amsterdam: University of Amsterdam.
- Eisenberg, P. (1999) *Grundriss der deutschen Grammatik* (Band 1: Das Wort; Band 2: Der Satz), Stuttgart/Weimer: Metzler.
- Emonds J. (1976) *A transformational approach to English Syntax*. New York: Academic Press.
- Emonds, J. (1979). Appositive relatives have no properties. *Linguistic Inquiry* 22: 1–25.
- Engdahl E. (1997). Relative Clause Extractions in Context. In *Working Papers in Scandinavian Syntax* 60 (51-79) Department of Linguistics University of Göteborg.
- Erteschik S. N. Strahov (2004) “Focus structure architecture and P-Syntax” *Lingua* n. 114 (3): 301-232
- Esau, H. (1973). Form and function of German adjective endings. *Folia Linguistica* 6(1/2): 136–45.
- Fabb, N. (1989). The difference between English restrictive and nonrestrictive relative clauses. *Journal of Linguistics* 26: 57–78.

- Fabricius-H. C. (2009). Überlegungen zur pränominalen Nicht-Restriktivität. In Koordination und Subordination im Deutschen [Linguistische Berichte, Sonderheft 16], Veronika Ehrich, Christian Fortmann, Ingo Reich & Marga Reis (eds), 89–112. Hamburg: Buske.
- Fanselow, G. (1996). Features, theta-roles, and free constituent order, Paper presented at the GLOW Colloquium, Athens.
- Fanselow, G., S. Felix, (1987). *Sprachtheorie*. Tübingen: Francke.
- Fanselow, G., S. Felix (1993) *Strukturen und Merkmale syntaktischer Kategorien*. Narr, Tübingen 1991
- Felix, S. (1985). Parasitic gaps in German. In Erklärende Syntax des Deutschen. Werner Abraham (ed.), 173–200. Tübingen: Narr.
- Féry, C. (1993) German Intonation Patterns. *Linguistische Arbeiten* 285. Tübingen: Niemeyer.
- Fox, D. (2000). Antecedent contained deletion and the copy theory of movement. *Linguistic Inquiry* 34. 63-96
- Fox, D. and J. Nissenbaum. (2000). Extraposition and scope: A case for overt QR. In S. Bird et al. (Ed.) *WCCFL 18* (132-144) Somerville, MA: Cascadilla Press.
- Frascarelli M. & P. Annarita (2004). *A comparative analysis of restrictive and appositive relative clauses in chuchitic languages*. Università degli Studi Roma Tre.
- Frazier, L., Plunkett, B., & Clifton, C., Jr. (1996). Reconstruction and scope. In M. Dickey and S. Tunstall (Eds). *University of Massachusetts Occasional Papers in Linguistics* 19. Amherst, MA: Department of Linguistics. Pp 239-260.
- Fritsch, W. J. (1990) Gestalt und Bedeutung der deutschen Relativsätze, München: Uni-Druck.
- Frosch, H. (1996) “Appositive und restriktive Relativsätze”, in: *Sprachtheorie und germanische Linguistik* 2, 7-19.
- Fuss, E. (2008). *Word order and language change. On the interface between syntax and morphology*. Habilitationsschrift am Fachbereich Neuere Philologien der Johann-Wolfgang-Goethe Universität in Frankfurt am Main.
- Gärtner (2000) Are there V2 relative clauses in German? *Journal of Comparative Germanic Linguistics*, 3 (2001), pp. 97–141.
- Gibson, E. (1998) Linguistic complexity: Locality of syntactic dependencies. *Cognition* 68, 1-76.
- Graffi, G (1980) Su alcune costruzioni “pseudorelative”. In *Rivista di Grammatica Generativa* 5: 117-139

- Graffi, G. (1981) Sulla differenza di complementazione tra “believe” e “credere”. *Grammatica Generativa* 6: 89-113.
- Grewendorf, G. (1988) Aspekte der Deutschen Syntax. Studien zur Deutschen Grammatik 33. Tübingen: Narr.
- Grewendorf, G. & S. Joachim (1999). Scrambling in German and Japanese: Adjunction versus multiple specifiers. *Natural Language & Linguistic Theory* 17, n. 1, 1-65
- Grosu, A. and F. Landman (1998). Strange relatives of the third kind. *Natural Language Semantics* 6. 125–170.
- Haegeman, L. (2002). Anchoring to speaker, adverbial clauses and the structure of CP, Georgetown University Working Papers in Theoretical Linguistics 2: 117–180.
- Haegeman, L. (2004a.) Topicalization, CLLD and the left periphery. In Proceedings of the Dislocated Elements Workshop [ZAS Papers in Linguistics 35], Benjamin Shaer, Werner Frey & Claudia Maienborn (eds), vol. 1, 157–192, Berlin: ZAS.
- Haegeman, L. (2004b). The syntax of adverbial clauses and its consequences for topicalization. In Current studies in comparative romance linguistics [Antwerp papers in linguistics 107], Martine Coene, Gretel De Cuyper, Yves D’Hulst (eds), 61–90. Antwerp: University of Antwerp.
- Haegeman, L. (2006). Conditionals, factives and the left periphery, *Lingua* 116: 1651–1669.
- Haegeman, L. (2008) The internal syntax of adverbial clause. Ms 1-36
- Haegeman, L. (2010). The internal syntax of adverbial clauses. *Lingua* 120: 628-648.
- Haider, H. (1993), *Deutsche Syntax generativ*. Gunter Narr Verlag, Tübingen.
- Haider, H. (1994). ‘Detached clauses – the later the deeper.’ *Arbeitspapiere des Sonderforschungsbereichs 340*, Bericht Nr. 41.
- Haider, H. (1995) Downright down to the right. U.Lutz & J.Pafel eds. On Extraction and Extraposition. Amsterdam: Benjamins (145-271)
- Haider, H. (1997) *Extraposition*. In: Rightward Movement”. Ed. Dorothee Beerman et al. *Linguistik Aktuell* 17, 115- 151
- Haider, H. (2000) OV is more basic than VO. In: Peter Svenonius ed. *The Derivation of VO and OV*. Amsterdam: Benjamins. (p. 45-67).
- Haiman, J. & P. Benincà (1992) *The Rhaeto-Romance languages*. London: Routledge.

- Heim, I. (1987). Where does the definiteness restriction apply? Evidence from the definiteness of variables. In E. Reuland and A. ter Meulen (Ed.) *The Representation of (In)definiteness* (21–42). Cambridge, MA: MIT Press.
- Helbig, G. and j. Buscha (2001) *Deutsche Grammatik. Ein Handbuch für den Ausländerunterricht*, Berlin u. a: Langenscheidt.
- Henk van Riemsdijk (eds), 115–151. Amsterdam/Philadelphia: John Benjamins.
- Hinterhölzl, R. (2000) Licensing Movement and Stranding in the West Germanic OV Languages, in: Peter Svenonius (ed.), *The Derivation of VO and OV*, *Linguistik Aktuell*, John Benjamins, Amsterdam, pp. 293-326.
- Höhle, T. (1986), Der Begriff "Mittelfeld", Anmerkungen über die Theorie der topologischen Felder, in W. Weiss, H. E. Wiegand & M. Reis, eds, *Akten des 7. Internationalen Germanisten-Kongresses, Göttingen 1985'*, Vol. 3, Max Niemeyer Verlag Tübingen/FRG, pp. 329{340
- Holmberg, A. 1999 Remarks on 'Holmberg's Generalization'. *Studia Linguistica* 53: 1-39
- Huddleston R. (2002) *The Cambridge Grammar of the English Language*. Cambridge University Press, 2000
- Hulsey, S. & U. Sauerland (2006) *Sorting out Relative Clauses: A Reply to Bhatt*. German Science Fondation. MIT and Universität Tübingen/University of Massachusetts.
- Inaba, J. (2007) Die Syntax der Satzkomplementierung. Zur Struktur des Nachfeldes im Deutschen. *Studia Grammatica* 66.
- Jackendoff, R. S. (1972) *Semantic interpretation in generative grammar*. Cambridge, Mass.: MIT Press.
- Jackendoff, R. S. (1977): *X-bar Syntax: a Study of Phrase Structure*. Cambridge, Mass.: MIT Press.
- Jacobs, J. (1988) Fokus-Hintergrund-Gliederung und Grammatik. In: Altmann. H. (ed), 89-134.
- Jespersen, O. (1949) *A Modern English Grammar on Historical Principles. Part III (Syntax. Second Volume)*. London: Allen and Unwin Ltd.
- Kayne, R. (1976) French relative que. In Lujàn, Marta and F. Hensey (eds.) *Current Studies in Romance Linguistics*, pp.255-299. Washington, D.C.: Georgetown University Press.
- Kayne, R. (1994). *The antisymmetry of syntax*. Cambridge MA: The MIT Press.

- Keenan, E. L. (1985) Relative clauses. In: Shopen, T. (eds) *Language typology and syntactic description: Complex constructions*. Volume 2. Cambridge, England: Cambridge University Press. 141-170.
- Keenan, E. L. e B. Comrie (1977). Noun Phrase Accessibility and Universal Grammar. *Linguistic Inquiry* 8. n.1 63-99
- Kiss, T. (1993) Infinite Komplementation. *Arbeiten des Sonderforschungsbereichs 282 'Theorie des Lexikons', #42.*
- Kiss, T. (2001). Configurational and Relational Scope Determination in German. In Meurers, W.D., & Kiss, T. (Eds.). (2001). *Constraint-based Approaches to Germanic Syntax*. 141-175. CSLI Publications.
- Kiss, T. (2005). Semantic constraints on relative clause extraposition. *Natural Language and Linguistic Theory*, 23, 281 - 334.
- Koster, J. (2000) Extraposition as Parallel Construal. Ms., University of Groningen.
- Kuno, S. (1987) *Functional syntax: anaphora, discourse, and empathy*. Chicago: The University of Chicago Press
- Ladd, D.R, (1980) *The structure of intonational meaning: Evidence from English* Distributed by the Indiana University linguistic Club, Bloomington.
- Lees, R. B. (1961). The constituent structure of noun phrases. *American Speech* 36. 159–168.
- Lehmann, C. (1984) *Der Relativsatz: Typologie seiner Strukturen, Theorie seiner Funktionen, Kompendium seiner Grammatik*, Tübingen: Narr.
- Lehmann, C. (1986) On the typology of relative clauses. *Linguistics* 24. 663-80.
- Leu, T. (2001). A sketchy note on the article-modifier relation. Evidence from Swiss-German which sheds light on Greek determiner spreading. *Generative Grammar in Geneva* 2: 55–69.
- Lutz, U. (1996). Some Notes on Extraction Theory. In U. Lutz and J. *On Extraction and Extraposition in German* (1-44) Amsterdam/Philadelphia: John Benjamins (Linguistik Aktuell / Linguistics Today 11).
- McCawley (1972) Relativization. In Masayoshi Shibatani (ed.), *Syntax and Semantics 5: Japanese Generative Grammar*, pp. 295-306. California: Academic Press.
- McCawley, J. (1981). The syntax and semantics of English relative clauses. *Lingua*, 53:99–149.
- McCawley, J. (1988). Relative clauses. In *The syntactic phenomena of English*, pp. 417–463. Chicago, IL: The University of Chicago Press.

- Miller, G. (1962) Some psychological studies of grammar. *American Psycholinguistic*, 17. 748-762
- Meinunger, A. (2000). Syntactic aspects of topic and comment. *Linguistik Aktuell/Linguistics Today* 38
- Müller, G. (1994). On extraposition and successive cyclicity. Ms. Tübingen University.
- Müller, G. (1995) Extraposition as Remnant Movement. Ms. Tübingen University.
- Müller, G. (1996). On Extraposition & Successive Cyclicity. In U. Lutz and J. *On Extraction and Extraposition in German* (213-243) Amsterdam/Philadelphia: John Benjamins (Linguistik Aktuell / Linguistics Today 11).
- Perrier, G. (2009). An interaction Grammar of interrogative and relative clauses in French. *International Conference RANLP 2009 - Borovets, Bulgaria*. 343–348
- Perzanowski, D. (1980): “Appositive relatives do have properties”. NELS X, 355-368
- Pierrehumbert, J. (1980) The phonology and phonetics of English intonation. MIT PhD Dissertation. Distributed by Indiana University Linguistic Club, Bloomington.
- Platzack, C. (2000) A complement of N° Account of Restrictive and Non-Restrictive Relatives: The case of Swedish. In A. Alexiadou et al. (Ed.) *The Syntax of Relative Clauses* (309-348). Amsterdam/Philadelphia: John Benjamins (Linguistik Aktuell / Linguistics Today 32).
- Postal, P. M. 1994. Parasitic and pseudoparasitic gaps, *Linguistic Inquiry* 25(1): 63–117.
- Pritchett, B.L. (1992) Grammatical competence and parsing performance. Chicago: University of Chicago Press.
- Reinhart, T. (1980). On the position of extraposed Clauses. *Linguistic Inquiry* 11. 621-624
- Reinhart, T. (1983) Anaphora and Semantic Interpretation. London & Sydney: Croom Helm.
- Resi, R. (in stampa) *Noun Phrasal Complements VS Noun Phrasal Adjuncts*. Studies in Language Companion Series. John Benjamins Publishing Company.
- Resi, R. (2011) The position of RCs in German. *Lingue e Linguaggio* 1/2011. Bologna: Il Mulino 87-118
- Rizzi, L. (1990). *Relativized Minimality*. Cambridge, MA: MIT Press.

- Rizzi, L. (1997). The fine structure of the left periphery. In *Elements of Grammar. A Handbook of generative grammar* [Kluwer international handbooks of linguistics 1], Liliane Haegeman (ed.), 281–337, Dordrecht: Kluwer.
- Rizzi, L. (2001). On the position Int(errogative) in the left periphery of the clause. In *Current Studies in Italian Syntax. Essays Offered to Lorenzo Renzi* [North-Holland Linguistic Series: Linguistic Variations 59], Guglielmo Cinque & Giampaolo Salvi (eds), 287–296. Amsterdam/New York Elsevier.
- Rizzi, L. (2004). Locality and left periphery. In *Structures and Beyond. [The cartography of Syntactic Structures 3]*, Adriana Belletti (ed.), 223–251. Oxford: Oxford University Press.
- Rizzi, L. (2006). On the Form of Chains: Criterial Positions and ECP Effects. In: L. Cheng, N. Corver (Ed.) *Wh Movement: Moving on* (97-133) Cambridge, MA: MIT Press.
- Rochemont, M. S. (1985) A theory of stylistic rules in English
- Rodman, R. (1976), 'Scope Phenomena, "Movement Transformations", and Relative Clauses', in Barbara Partee (ed.), *Montague Grammar*, Academic Press, New York.
- Roehrs, D. (2006): The Morpho-syntax of the Germanic Noun Phrase: Determiners Move into the Determiner Phrase. PhD Thesis, Indiana University
- Rohers, D. (2011) Determiner Systems in Germanic. GLAC 18.
- Ross, J. R. (1967): Constraints on Variables in Syntax. PhD thesis, MIT, Mass.
- Ross, J. R. (1967) Constraints on Variables in Syntax. PhD thesis MIT, Cambridge, MA
- Ross, J. R. (1969) Adjectives as noun phrases. In Reibel, D. A. and S.A. Schane (eds), *Modern Studies in English. Reading in Transformational Grammar*, pp- 352-360. Englewood Cliffs, NJ: Prentice-Hall.
- Sabel, J. (1996) Asymmetries in Partial Wh-Movement In *Papers on Wh-Scope Marking* [Arbeitspapiere des Sonderforschungsbereichs 340, 76], Uli Lutz & Gereon Müller (eds), 289–315. Stuttgart: University of Stuttgart.
- Safir, K. (1986) Relative clauses in a theory of binding and levels. *Linguistic Inquiry* 17. 663-689.
- Sauerland, U. (1998). *The Meaning of Chains*. Cambridge, Mass: Ph.D. dissertation, Massachusetts Institute of Technology.

- Sauerland, U. (2000). Two structures for English restrictive relative clauses. In: M. Saito et al. (Ed.) *Proceedings of the Nanzan GLOW*. Nagoya, Japan: Nanzan University, 351-366
- Sauerland, U. (2003). Unpronounced Heads in relative Clauses. Schwabe, K. & S. Winkler (eds.), *The Interfaces*. John Benjamins, Amsterdam/Philadelphia, pp. 205–226
- Schachter, P. (1973). Focus and relativization. *Language* 49.19–46.
- Schafer et al. (1997) Focus in relative clause construal. *Language and Cognitive Processes*, 11, 135-163
- Seiler, H. (1960) *Relativsatz, Attribut, Apposition*. Wiesbaden: Otto Harrassowitz
- Selkirk, E. O. (1984) *Phonology and syntax. The relation between sound and structure*. Cambridge: MIT Press.
- Selkirk, E. O. (1986) On derived domains in sentence phonology. *Phonology* 3, 371-405.
- Shannon, T. M. (1992) Toward an adequate characterization of relative clause extraposition in modern German. In Irmengard Rauch, Gerald F. Carr, and Robert L. Kyes editors, *On Germanic Linguistics. Issues and Methods* pages 253–281. Mouton de Gruyter, Berlin/New York.
- Sopher, H. (1971) “Apposition”. *English studies* 52: 401-412
- Struckmeier, V. (2007): *Attribute im Deutschen. Zu ihren Eigenschaften und ihrer Position im grammatischen System*. Berlin: Akademie-Verlag.
- Stuurman, F. (1983). Appositives and X-bar theory. *Linguistic Inquiry*, 14:736–344.
- Thurmair, M. (1989). *Modalpartikeln in ihre Kombination* [Linguistische Arbeiten 223]. Tübingen: Max Niemeyer.
- Thompson, S. A. (1971). The deep structure of relative clauses. In Fillmore, Charles and D.T. Langendoen (eds.), *Studies in Linguistic Semantics*, pp. 79–96. New York: Holt, Rinehart and Winston.
- Truckenbrodt, H. (1994) *Towards a Prosodic Theory of Extraposition*. Talk given at the Tilburg Conference on Rightward Movement. To appear in the proceedings.
- Truckenbrodt, H. (1995) Extraposition from NP and prosodic structure. In: Jill Beckma, *Proceedings of NELS 25 Vol.2* 502-517
- Umbach, C. 2006. Non-restrictive Modification and Backgrounding. In *Proceedings of the Ninth Symposium on Logic and Language*, 152–159. Hungarian Academy of Sciences.

- Vergnaud, J. R. (1974). *French Relative Clauses*. Cambridge, MA: Ph.D. dissertation, Massachusetts Institute of Technology.
- Walter, M and B. Hemforth (1997) Relative clause attachment and syntactic boundaries. Poster presented at the 3rd conference on Architectures and Mechanisms of Language Processing in Edinburgh.
- Weinrich, H. (1993) *Textgrammatik der deutschen Sprache*, Mannheim: DUDEN.
- Wilder, C. 1995. 'Rightward Movement as Leftward Deletion', in Uli Lutz and Jürgen Pafel (eds.), *On Extraction and Extraposition in German*, John Benjamins, Amsterdam, pp. 273-309.
- Williams, E. 1980. Predication. *Linguistic Inquiry* 11: 203–238.
- Wiltschko, M. (1997). Extraposition, identification and precedence. In D. Beerman, D. LeBlanc, and H. van Riemsdijk (Eds.), *Rightward Movement*, Volume 17 of *Linguistik aktuell*, pp. 357-395. John Benjamins Publishing, Amsterdam.
- Wittenberg, K. 1987. Extraposition from NP as anaphora. In J. Huck and A. Ojeda (eds.), *Syntax and Semantics*, Volume 20: *Discontinuous Constituency*. San Diego, Harcourt Brace Jovanovich, Publishers.
- Wöllstein-Leisten, A. (1997) *Deutsche Satzstruktur. Grundlagen der syntaktischen Analyse*. Tübingen: Stauffenburg Verlag.
- Wunderlich, D. (1991) "Intonation and Contrast". – In: *Journal of Semantics* 8, 239-251
- Zifonun, G., L. Hoffmann, B. Strecker (1997): *Grammatik der deutschen Sprache* Bd. 3. Berlin / New York: de Gruyter.
- Zimmermann, M. (2004). Discourse particle in the left periphery. In *Proceedings of the Dislocated Elements Workshop [ZAS Papers in Linguistics 35]*, Benjamin Shaer, Werner Frey & Claudia Maienborn (eds), vol. 2, 254–566, Berlin: ZAS.
- Ziv, Y. & Cole, P. (1974). Relative Extraposition and the scope of definite description in Hebrew and English. In *Papers from the Tenth Regional Meeting of the Chicago Linguistic Society*, April 19-21, Michael W. La Galy, Robert A. Fox & Anthony Bruck (eds.), 772–786. Chicago: Chicago Linguistic Society.
- Zwart, J. W. (2000) A head raising analysis for relative clauses in Dutch. In *The syntax of relative clauses*, A. Alexiadou, A. Meinunger, P. Law and C. Wilder (eds.), 349-385. Amsterdam: John Benjamins.

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