Antisymmetry and sign languages: a comparison between NGT and LIS

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Chapter 5: The structure of the Left Periphery – Combinations of clauses

In chapter 4, some left periphery phenomena were discussed, such as imperative clauses, topicalizations, and different kinds of interrogative clauses. This chapter deals with sentences formed by combinations of clauses. I will specifically present and discuss conditional ("if") clauses and restrictive relative clauses, also considering their interaction with topics. These phenomena also involve the left periphery in LIS and NGT. In fact, in these constructions, the subordinate clause is located in the left periphery of the matrix clause, as the analysis will argue. As in chapter 4, both word order and nonmanual markers play an important role in the analysis of these clauses, because nonmanual markers perform functions which in other languages are carried out by lexical markers. The chapter is organized as follows. In §5.1, I will describe conditionals and restrictive relative clauses in several sub-sections. In §5.2, I shall attempt to analyze these constructions on the basis of antisymmetric phrase structures proposed for spoken languages. In particular, I shall focus on a unified account for LIS internally-headed and externally-headed relative clauses. General conclusions follow in §5.3.

5.1 Word order with respect to combinations of clauses

The first part of this chapter describes the word order, the lexical markers, and the nonmanual markers encountered in conditional and relative clauses of LIS and NGT. Most data were obtained from the literature, but also informants' judgements are considered. Here, I would like to point out an important caveat. I take LIS and NGT conditional data to be pretty straigthforward; moreover, there is a considerable amount of research available on LIS relative clause constructions. In contrast, the discussion of NGT relative clauses is based on a very small set of (elicited) data. For this reason, I refrain from including NGT relative clauses in the analysis. In other words, in contrast to all previous chapters, the analysis of relative clauses lacks a comparative (LIS vs. NGT) component in that it addresses only LIS relative clauses (though relying also on some comparison with DGS). The exact status and the structure of NGT relative clauses must be determined in future studies. The first section of the chapter is structured as follows. In §5.1.1, I point

out some general aspects concerning combinations of clauses. In §5.1.2, I describe conditional clauses of LIS and NGT. In §5.1.3, I introduce different types of restrictive relative clauses of LIS and provide a few examples which suggest that relative clauses might also exist in NGT. The data are then summarized in §5.1.4.

5.1.1 Introduction

As mentioned in the introduction to this chapter, the combinations of clauses discussed here are left periphery phenomena (at least in NGT and LIS) in that they involve the raising or merging of a subordinate clause into the left periphery of the matrix clause. This is easily observed in the examples that will be provided in §5.1.2 and §5.1.3. As the data will show, both relative and conditional clauses can appear (conditional in fact must appear) before the rest of the sentence, even before the subject of the main clause. In addition to this, also the left periphery of the subordinate clause – be it a relative or conditional clause – may display some lexical material such as, for instance, the optional lexical markers of conditionals, which correspond to the complementizer 'if'. Moreover, we shall see that topic constituents can occur within the conditional clause, that is, they are embedded in the protasis of the conditional. In these cases, the topicalized constituent does not occupy its canonical position, but precedes other elements of the subordinate clause. Thus, both the matrix clause and the subordinate clause each have their own left periphery. Consequently, it is very important to distinguish the left periphery internal to the subordinate clause from the left periphery of the matrix clause (where the subordinate may or must sit). In this context, nonmanual markers provide important information. For instance, they clearly mark the conditional clause as well as the (restrictive) relative clause and its head noun. Thus, nonmanual markers distinguish these subordinate clauses from the matrix clause. It must be recalled here that various NMMs can be layered upon the same string of signs, which indicates that one and the same constituent has different features at the same time.

5.1.2 Conditionals

This section describes the linear order and the NMMs observed in conditional clauses, as well as the position of these with respect to the matrix clause.

In conditionals, the protasis usually bears specific nonmanual markers in LIS and NGT, sometimes glossed as "cond". Yet, these markers consist of different components. For instance, the LIS "cond" NMM contains "raised eyebrows", a "forward head tilt", and "tension of eyes and cheeks" (Branchini & Donati 2009:162). Accordingly, Branchini & Donati's example (14.c) should be rendered as (220.a). The NGT "cond" NMM, too, involves "raised eyebrows", as well as optional "head forward", "head tilt", and/or "chin lift" (Smith 2004). These elements combine in different ways and may vary in their spreading in Smith's examples, but, taken together, they clearly mark the conditional clause as distinct from the matrix clause. In NGT, a nonmanual marker "head nod" can also appear on the matrix clause. For instance, the NGT sentence (220.b) displays raised eyebrows and head forward on the conditional clause, while the head nod appears on the modal verb within the matrix clause. Also notice that the conditional clause may be divided from the matrix clause by a intonational break, much like topics can be separated from the rest of the sentence. At this point, we can compare LIS (220.a) and NGT (220.b). Notice that in (220.a), unlike (220.b), the different components are not listed above each other, because I cannot retrieve the extent of the spreading from Branchini & Donati's (2009) original transcribed sentence. Only "cond" as a whole is specified there. From Branchini & Donati's descriptions, it seems likely that all the components of "cond" have the same spreading domain, but this is not definite. From this example, it can be seen that conditional NMMs of LIS and NGT have similar (though not identical) features.

220.

a. [LIS: adapt. Branchini & Donati in 2009:162]

rais.eyebr+tns.eyes+h.tilt

DOG CAT CHASE CAT SCARED

'If the dog chases the cat, the cat gets scared'

b. [NGT]

raised eyebr.

head fwd **hn.**

IX$_{1}$ ITALY LIVE, IX$_{1}$ ITALIAN CAN SPEAK

'If I lived it Italy, I could speak Italian'

Recall that "raised eyebrows" are the same NMM observed on topics in §4.1.5. Thus, despite the crosslinguistic variation observed, at least two different components can be identified as marking conditionals. First, there is a topic "raised eyebrows" NMM common to both LIS and NGT. In addition to this, there are also language-specific NMMs which are more clearly related to the conditional clause. For the moment, the different NMMs involved in conditionals are grouped under the label "cond". The reader must bear in mind that a number of NMMs are at work simultaneously under this label. They will be individually discussed in §5.2.3. In addition to NMMs, recall that both LIS and NGT have optional conditional lexical markers at their disposal, as mentioned in §5.1.1. Namely, NGT has the sign glossed IF in (221.b) or SUPPOSE in (221.c), while LIS has the signs IF in (221.a) or OCCASION (Bertone, p.c.). From (221.a), (221.b), and (221.c) we see that these lexical markers fall under the NMM and are the leftmost signs within the nonmanually marked conditional clause. In other words, they are the leftmost elements of the subordinate conditional clause.

221.

a. cond.
(IF) RAIN I HOME STAY [LIS]
'If it rains, I (will) stay home'

b. cond. hn.
(IF) RAIN, PARTY CANCELLED [NGT: Smith 2004:24]
'If it rains, the party will be cancelled'

c. cond. hn.
SUPPOSE IX$_1$ ITALY LIVE, IX$_1$ ITALIAN CAN SPEAK [NGT]
'If I lived it Italy, I could speak Italian'

Smith (2004) reports also an optional "head thrust" NMM on the verb of the NGT conditional clause, as shown in (222). A similar NMM has been described in ASL conditionals by Liddell (1986). I have not been able to determine whether a counterpart of this marker exists in LIS.

cond interr.
ht
222. SUPPOSE RAIN, PARTY CANCEL [NGT: adapted from Smith 2004]
'If it rains, will the party be cancelled?'

Conditionals can be negated with the same markers employed in main clauses: LIS (223.a) employs the negative lexical marker NOT, while NGT (223.b) has the "negative-headshake" NMM. Both these markers occur within the spreading domain of the conditional nonmanual marker, thus indicating that they are part of the conditional clause. Notice that in NGT (223.b), the negative NMM replaces the NMM "head-nod" in the matrix clause.

223.

a. cond. [LIS: adapted from Brunelli 2006:66]
(IX$_2$) EXPLAIN$_1$ NOT, IX$_1$ UNDERSTAND CANNOT
'If you don't explain (it) to me, I can't understand'

b. [NGT: adapted from Smith 2004: 48-49]
neg.HS neg. HS
cond.
IF RAIN , PARTY CANCELLED
'If it doesn't rain, the party isn't cancelled'

As for the position occupied by conditional clauses in the sentence, they must precede the matrix clause in LIS (Barattieri 2006) and NGT (Pfau 2006a, 2008a). The conditional clause and the matrix clause cannot be inverted, unlike in some spoken languages (e.g. English *If it rains, I stay at home* vs. *I stay at home, if it rains*). For instance, the counterpart of the ungrammatical NGT sentence (224) is ungrammatical in LIS as well:

aff cond.
224. *PARTY CANCEL, SUPPOSE RAIN [NGT: Pfau 2008a:4]
'The party will be cancelled, if it rains'

For LIS, Barattieri (2006) reports that, on some occasions, some informants accept sentences where the conditional clause follows the matrix clause which bears a special NMM, instead of the neutral

expression. She points out that in such cases, also the conditional clause has a special NMM (lowered eyebrows). However, in the vast majority of the examples that she discusses, the conditional clause occurs first: these examples are literally less marked than the sentences in which the conditional clause follows the matrix clause in that they involve less NMMs.

In NGT, conditional clauses precede imperative and interrogative clauses (Pfau 2006a, 2008a). The same also holds for LIS, according to informants' judgements. See, for instance (225.a), (225.b), and (226.a), (226.b).

225.

a. (IF) $IX_{\mathbf{2}}$ FIRE SEE , $HOUSE_{\mathbf{RGT}}$ $(IX_{\mathbf{RGT}})$ $_{\mathbf{2}}GO_{\mathbf{RGT}}$ [LIS]
'If you see fire, go home!'

b. FIRE SEE , HOUSE IX_3 $RUN\text{-}TO_3$ [NGT: Pfau 2006a:9]
'If you see fire, run to the house!'

226.

a. EVENING RAIN , $IX_{\mathbf{2}}$ HOME STAY [LIS]
'If it rains in the evening, are you staying home?

b. EVENING RAIN , PARTY CANCEL [NGT: Pfau 2006a:9]
'If it rains in the evening, will the party be cancelled?'

Pfau (2006a, 2008a) notices, however, that NGT conditionals can both precede and follow topics as illustrated in (227.a), (227.b). Topics and conditional clauses are separated by breaks in signing. Moreover, the topic and the conditional clause have distinct NMMs.

227. [NGT: adapted from Pfau 2008a:7]

a. cond. top.
SUNDAY IX$_{2}$ $_{2}$VISIT$_{1}$, BOOK , IX$_{1}$ *t* $_{1}$GIVE$_{2}$
'If you visit me on Sunday, as for the book, I will give it to you'

b. top. cond.
BOOK , SUNDAY IX$_{2}$ $_{2}$VISIT$_{1}$, IX$_{1}$ *t* $_{1}$GIVE$_{2}$
'As for the book, if you visit me on Sunday, I will give it to you'

Again, the same phenomenon is observed in LIS. In (228.a) the conditional precedes the topic, while in (228.b) the conditional clause follows the topic. Both were judged grammatical by LIS signers.

228.

a. cond. top.
SUNDAY IX$_{2}$ $_{2}$COME$_{1}$, BOOK IX , IX$_{1}$ $_{1}$GIVE$_{2}$ [LIS]
'If you come to me on Sunday, the/that book, I will give it to you'

b. top. cond.
BOOK IX, SUNDAY IX$_{2}$ $_{2}$COME$_{1}$, IX$_{1}$ $_{1}$GIVE$_{2}$ [LIS]
'The/that book, if you come to me on Sunday, I will give it to you'

Data also show that topics may even occur within the conditional clause, at least in NGT. Compare the position of the noun CAR in (229.a) with its position in (229.b).

229. [NGT: adapted from Pfau 2008a:9]

a. cond.
SUPPOSE CAR IX$_{1}$ FATHER *t* LEND AUX$_{1}$, $_{1}$VISIT$_{2}$
'If with respect to the car my father lends it to me, I will visit you'

b. top. cond.
CAR , IX$_{1}$ FATHER LEND AUX$_{1}$, $_{1}$VISIT$_{2}$
'As for the car, if my father lends it to me, I will visit you'

In (229.a) the noun CAR does not appear in its canonical object position, but precedes both the verb and the subject, as topics usually do in all NGT and LIS sentences. Yet, as Pfau (2008a) points out, it follows the optional conditional marker SUPPOSE. This shows that the topic is part of the subordinate clause. This inference is supported by the fact that the noun falls under the conditional NMM. In contrast, in (229.b) the topic CAR precedes the conditional clause, is separated from it by a prosodic break and is outside the conditional NMM. The contrast between (229.a) and (229.b) proves that the topic in (229.a) is embedded within the conditional clause, while the topic in (229.b) is external to the conditional clause. I have not been able to determine whether embedded topics as NGT (229.a) exist also in LIS. However, in §5.2.2, the presence of NGT embedded topics will be compared to embedded topics in Italian.

5.1.3 Restrictive relative clauses

This section describes the linear order and the NMMs occurring in (restrictive) relative clauses. The data show a remarkable variation, both crosslinguistic and intralinguistic. The status of these constructions in LIS is also currently under debate, as will be evident from the data in this section (see §5.1.4 and §5.2.3). Also, recall that the NGT data are not clear. At some point, data from LIS and NGT will be compared to DGS data.

It may be difficult to detect the existence (and the structure) of relative clauses in sign languages because they usually lack overt complementizers and/or relative pronouns. However, there is evidence that sign languages have different strategies for relativization. ASL relative clauses were first described by Liddell (1978), who showed that this language has both internally-headed and externally-headed relative clauses, marked by NMMs in addition to specific signs. For LIS, Cecchetto et al. (2004a, 2006) first observed a relative construction involving a special sign, which is glossed PROREL or PE in the literature; the former gloss is motivated by its function in relative clauses, the latter by the fact that it is accompanied by a mouthing roughly resembling the sound ‘pe’. Branchini & Donati (2009: 163) notice that this sign co-occurs with a “rel” NMM «consisting of raised eyebrows, a specific tension of the eyes and upper cheeks». Also «a slight head tilt» occurs according to Branchini (2006: 147). The NMM does not appear on the main clause. The sign PE/PROREL may appear in different positions shown

in (230.a), (230.b) and (231). In particular, in (231) the head noun falls under the "rel" NMM, thus indicating its position within the relative clause. A resumptive pronoun (IX) can appear in the matrix clause. These constructions have been analyzed as correlatives by Cecchetto et al. (2004a, 2004b, 2006) and as left-extraposed nominalized internally-headed restrictive relative clauses by Branchini & Donati (2009). In these examples, the authors do not indicate the spatial location of signs, but use the letter 'i' to indicate that signs are coindexed.

230. [LIS: Cecchetto et al. 2004b:3]

a. BOY$_{i}$ prorel$_{i}$ CALL (HE$_{i}$) LEAVE DONE

b. BOY$_{i}$ CALL prorel$_{i}$ (HE$_{i}$) LEAVE DONE
'A boy that called left'

231. rel. [LIS: Branchini & Donati 2009:164]
DOG$_{i}$ CAT CHASE PE$_{i}$ (IX$_{i}$) HOME COME DONE
'The dog that chased the cat came home'

The sign PE is usually clause-final, while the head is in-situ, thus following the LIS canonical S-iO-dO-V sign order as in (232) and (233).

232. rel. [LIS: Branchini & Donati 2009:164]
TODAY MAN$_{i}$ PIE BRING PE$_{i}$ YESTERDAY (IX$_{i}$) DANCE
'The man that today brought the pie yesterday danced'

233. [LIS: Branchini & Donati 2009:165]
rel.
PAOLO MARIA IDEA$_{i}$ SUGGEST PE$_{i}$ IMPORTANT
'The idea that Paolo suggested to Maria is important'

However, other orders are also attested. Compare the position of PE in (234) with that in (235). Unlike (230.a) and (230.b), the NMM provides additional evidence that PE is within the relative clause in both sentences:

234. [LIS: adapted from Branchini 2006:157]

rel.

CHILD COMPETITION WIN PE$_{i}$ IX KNOW TEACHER PRIZE GIVE

'I know that that teacher gave a prize to the child who won the competition'

235. [LIS: adapted from Branchini & Donati 2009:169]

rel.

CHILD PE COMPETITION WIN TEACHER PRIZE GIVE

'The teacher gives a prize to the child who has won the competition'

In (235) the sign PE is in situ, unlike (234), and follows the relativized subject CHILD. Along the same lines, informants (Bertone, p.c.) confirm that (236) is grammatical, with the sign PE in situ following the relativized object COMPETITION. In the example, PE and COMPETITION share the same spatial location, to the signer's right side.

rel.

236. CHILD$_{LFT}$ COMPETITION$_{(RGT)}$ PE$_{RGT}$ WIN IX$_{1}$ SEE$_{RGT}$ [LIS]

'I saw the competition that the child won'

Despite the variation observed and regardless of where PE occurs, in (231)–(236) the noun is always in situ as in circumnominal relative clauses, thus supporting Branchini & Donati's (2009) observations that these clauses are internally-headed relative clauses (IHRCs), but not correlatives in the sense of Cecchetto et al. (2004a, 2006)[103] .

In (237) PE is clause-final, that is, it occurs at the end of the relative clause marked by the NMM. However, the NMM does not spread over the head noun STUDENT, which precedes the relative-marked clause. In

[103] As Guglielmo Cinque pointed out to me, if we consider the correlative clause to be a fronted relative clause with a resumptive element in the matrix clause, then virtually every relative clause can have a correlative counterpart. This hypothesis is in line with the observation that correlative clauses do not exist *per se* (no language has only correlative clauses). Under this view, we have a different meaning of the label "correlative". This comes closer to Branchini & Donati's left extraposition analysis discussed in the second part of this chapter.

(238) PE is clause-final again, the relative NMM spreads over the whole relative clause, but the head noun CITY appears before the subject IX of the relative clause. In (239.a), the relative NMM is restricted only to the sign PE, as an alternative to version (239.b), which has NMM spreading.

237. [LIS: Branchini & Donati 2009:166]

rel.

STUDENT$_{i}$ EXAM DONE PE$_{i}$ ALL$_{i}$ PASS

'The students that took the exam all passed'

238. rel. [LIS: Branchini 2006: 182]

CITY$_{i}$ IX VISIT NEVER PE$_{i}$ IX SEE WANT VISIT

'I want to visit a city that I have never seen'

239.

a. [LIS: Branchini & Donati 2007:13]

rel

ONE WOMAN$_{i}$ MAKE-UP NOT PE$_{i}$ IX MEET NEVER

'I never met a woman who does not wear make-up'

b. [LIS: Branchini & Donati 2007:22]

rel

ONE WOMAN$_{i}$ MAKE-UP NOT PE$_{i}$ IX MEET NEVER

'I never met a woman who does not wear make-up'

Bertone (2007) reports the sign PE to occur optionally also in some relative constructions in which the head noun appears outside and to the left of the relative clause. Examples (240.a) and (240.b) show the sequence *head noun – (PE) – RC* where the head noun falls outside the scope of "tense eyes" NMM, which accompanies PE and the relative clause. Notice that Bertone associates "tense cheeks" (and "raised eyebrows") with definiteness and topicalization, keeping them distinct from "tense eyes", which thus acts as the relevant marker of restrictivity. She states that definiteness in LIS is marked by specific facial expressions, mainly raised eyebrows, head raised backward, tension of the cheeks, and mouth slightly open (in Italian «...inarcamento delle sopracciglia, dal sollevamento della testa, dalla contrazione delle guance e da una lieve apertura della bocca», p. 145). She also says that these

expressions may appear on topicalized phrases and keeps them distinct from tense eyes (in Italian «occhi socchiusi» / «occhi strizzati»). Indeed, in her examples, tense eyes spread differently from tense cheeks and mark the restrictive part of relative clauses, as well as adjectives derived from reduced relative clauses. Consider (240.a) and (240.b), which is an alternative version containing the sign PE.

240.

a. [LIS: Bertone 2007: 71]

tense cheeks

tense eyes

VESTITO ROSSO IX_{1-2} IERI VEDERE $CL_{num+pos}$ (IX_1) COMPRARE FATTO
cloth red I-you yesterday see CLASSIF. I buy-PERF
'The red cloth that we saw yesterday among the others, I have bought it'

b. [LIS: Bertone 2007: 72]

tense cheeks

tense eyes

VESTITO ROSSO (PE) IX_{1-2} IERI VEDERE $CL_{num+pos}$ (IX_1) COMPRARE FATTO
cloth red (pe) I-you yesterday see CLASSIF I buy-PERF

Examples (240.a) and (240.b) indicate that PE is optional and does not affect the behaviour of the NMM. Similar constructions are reported in Brunelli (2006). They lack the sign PE, as (240.a), but display the NMM "tense eyes" and are analyzed as externally-headed relative clauses. Two examples are provided in (241) and (242). The nonmanual marking in Brunelli (2006) is described either as "half-closed eyes" or as "smiling" effect (due to tension of eyes and cheeks): no "tense cheeks" marking is described alone. The "raised eyebrows" NMM, in contrast, is reported as a separate marker. The NMM "raised eyebrows", unlike "tense eyes", is optional. Notice that sentences can be signed with two hands, as in (242). The first line represents the signs made by the dominant hand and the second line the nondominant hand. Also, some indexes may be optionally held by one hand while the other hand performs other signs (a hold is represented by underscore). However, the presence of co-articulated signs does not affect the linear ordering of the relevant constituents, hence, it is not relevant for the analysis. The relation between order of

signs and NMM spreading is especially clear if the sentence is signed with one hand, forcing all the signs to appear in a sequence, as in (240) and (241). Notice that in (242), the verb SIGN is translated as 'speaking to' in the sense of 'having a conversation with'.

241. [LIS: adapted from Brunelli 2006:72]

raised eyebrows
tense eyes/cheeks
BOOK DIX_{LFT} YESTERDAY $FATHER_{RGT}$ $_{RDG}BUY_{RGT}$ TOMORROW IX_{1} $READ_{LFT}$
'Tomorrow I will read the book that my father bought yesterday'

242. [LIS: adapted from Brunelli 2006:71]

tense eyes/cheeks
MAN YESTERDAY $_{1}SIGN_{MID}$ DIX_{MID}++ SISTER PIX_{1} ENGAGED $TOGETHER_{MID}$
IX_{MID} IX_{MID}
'The man I spoke to yesterday (and) my sister are engaged' *or*
'The man I spoke to yesterday is engaged to my sister'

In (241), "tense eyes/cheeks" mark the information which selects the referent to be identified from a set of possible referents, that is, they mark the subordinate (restrictive) relative clause. The head noun and its optional demonstrative fall outside this NMM. They also precede the time adverb YESTERDAY of the subordinate clause. Since time adverbs usually start a sentence, this suggests that the head noun is external to the relative clause. Yet, the head noun and its relative clause are marked as one topic by "raised eyebrows" and indeed precede the clause-initial time adverb TOMORROW of the main clause, as topic constituents do. In (242) the head noun is again outside the NMM, which accompanies the relative clause. However, no topic "raised eyebrows" NMM is present, as far as I could observe.

Unlike restrictive relative clauses, LIS appositive relative clauses as in (243) have the topic NMM, though data suggest that they lack the "tense eyes" NMM (Brunelli 2006). Notice that in this case, the reduplicated two-handed pronoun belongs to the main clause as it does not bear the "raised eyebrows" topic NMM that marks the relative clause. As in (242), the verb SIGN is translated as 'speaking to' in the sense of 'having a conversation with'.

243. [LIS: adapted from Brunelli 2006: 68]

raised eyebrows

MARCO$_{\mathbf{MID}}$ YESTERDAY IX$_{\mathbf{1}}$ IX$_{\mathbf{MID\ 1}}$SIGN$_{\mathbf{MID}}$ DIX++$_{\mathbf{MID}}$ STUDENT GOOD FIRST IX$_{\mathbf{MID}}$

'Marco, who I spoke to yesterday, is my best student' *or*
'Marco, to whom I spoke to yesterday, is my best student'

Data show that "tense eyes" behave differently from "raised eyebrows", even though the two spread together in IHRCs as (231)–(236) and (238). Comparing (242) with (243) suggests that the LIS "rel" marker *sensu stricto* is the "tense eyes" facial expression, which marks restrictivity, and that this marker is independent from the "raised eyebrows" NMM which marks topicalization. In fact, the restrictive relative clause (242) contains only the "tense eyes" NMM, while the "raised eyebrows" NMM marks only the appositive (243), as well as topics. The fact that the restrictive "tense eyes" NMM appears also on IHRCs matches Branchini & Donati's claim that the IHRCs which they had analyzed are restrictive. However, the two NMMs do not always co-occur. Sentence (241) suggests that even when they co-occur, they do not necessarily spread to the same extent.

This is similar to DGS EHRCs where the nonmanual marker «systematically excludes the head noun» (Branchini, Donati, Pfau & Steinbach 2007), but where the topic marker spreads across both the relative clause and the head noun when the relativized DP is topicalized. In DGS relative clauses, a lexical relative pronoun (RPRO) appears, which has distinct forms for human nonhuman referents (RPRO-NH). The relativized DP can appear in situ as in (244) and (245). In (244) the relativized DP is an object and occurs between the first person subject IX$_{\mathbf{1}}$ and the verb BUY, as DGS is SOV. In (245) the relativized DP is a subject and precedes both the locative argument CONFERENCE and the verb GO-TO, but follows the time adverb TOMORROW.

244. [DGS: adapted from Branchini et al. 2007:6]

rel

IX$_{\mathbf{1}}$ [BOOK$_{\mathbf{3a}}$ [RPRO-NH$_{\mathbf{3a}}$ POSS$_{\mathbf{1}}$ FATHER READ]] BUY
'I bought the book that my father is reading'

245. [DGS: adapted from Branchini et al. 2007:5]

rel
TOMORROW [MAN (IX$_{3a}$) [RPRO$_{3a}$ TIE BUY]] CONFERENCE$_{3b}$ GO-TO$_{3b}$
'Tomorrow the man who is buying a tie will go to the conference'

Crucially, when there is topicalization of the relativized DP, as in (246), the topic NMM spreads across both the relative clause and the external head noun, although the latter is excluded from the relative NMM in (244). The topicalization is signalled also by the fact that the relative clause and its head noun are moved to the left, before the subject IX$_1$ ('I') of the matrix clause, as shown in (246).

246. [DGS: adapted from Branchini et al. 2007:6]

top
[BOOK$_{3a}$ [RPRO-NH$_{3a}$ POSS$_1$ FATHER READ]] IX$_1$ BUY
'The book that my father is reading, I bought (it)'

The fact that the topic nonmanual marker is independent from the marking of the relative clause in LIS is is reminiscent of the behaviour observed in DGS. In addition to this, the view that the DP can be topicalized in LIS relative constructions is supported by the optional occurrence of a resumptive pronoun as in (230.a), (230.b), (231), (232), (242).

Available NGT data are less clear. One informant was requested to translate from Dutch to NGT. The signed sentences were then translated back from NGT to Dutch by another informant who did not know the original sentence, nor the context. Crucially, the resulting Dutch sentence was the same as the original Dutch one, despite the intermediate NGT version. This indicates that NGT syntax allows signers to produce and recognize relative clauses. Compare, for instance the LIS sentence (247.a) with its NGT counterpart (247.b). Notice, again, the use of both hands, be it simultaneously or in sequence. The order of signs in the NGT example is similar to that of DGS and LIS EHRCs.

247.

a. [LIS: repeated from (242)]

tense eyes/cheeks
MAN YESTERDAY $_{1}$SIGN$_{MID}$ DIX$_{MID}$++ SISTER PIX$_{1}$ ENGAGED TOGETHER$_{MID}$
IX$_{MID}$ IX$_{MID}$__

'The man I signed to yesterday and (my) sister are engaged'

b. [NGT]

top. top.
MAN NIX$_{LFT}$ YESTERDAY IX$_{1}$ $_{1}$TALK$_{LFT}$ ENGAGED$_{LFT}$TWO$_{RGT}$
SISTER NIX$_{RGT}$_____

'The man I talked to yesterday and (my) sister are engaged'

In NGT (247.b) both the relativized noun MAN and the nonrelativized noun SISTER bear the topic nonmanual marker. However, I have not been able to detect any other marker in addition to the topic marker. In LIS (247.a) no topic marker appears, but the relative nonmanual marker is observed (recall that the two markers are independent). Despite this difference between LIS and NGT, in both languages the head noun is displaced from its canonical position and precedes the time adverb of the relative clause. For instance, the noun precedes the adverb YESTERDAY in LIS (241), (247.a), and also in NGT (247.b). This suggests that the head noun is external to the relative clause in NGT as it is in LIS. Finally, notice that in NGT, relative clauses follow the noun even though some adjectives can be prenominal, as shown in (248.b). In a similar LIS sentence, (248.a), both the adjective and the relative clause are postnominal and the relative clause follows the adjective. In NGT (248.b), the topic nonmanual marker includes also the head noun as it does in LIS (241). In contrast, in LIS (248.a), the restrictive relative NMM excludes the noun PEN, although it does spread to the adjective RED (for predicative adjectives marked restrictively in LIS see Bertone (2007), but recall that in LIS also attributive adjectives are postnominal).

248.

a. PEN RED YESTERDAY LOAN GIVE TODAY FALL BREAK [LIS]
tense eyes/cheeks.
'The red pen I lent you yesterday today has fallen and broken'

b. RED PEN YESTERDAY IX$_2$ $_2$GIVE$_1$ TODAY FALL BREAK [NGT]
top.
'The red pen you gave me yesterday today has fallen and broken'

The different behaviour of the topic and the restrictive relative marker is supported also by crosslinguistic variation. The topic NMM is the same in both languages and it is able to affect the head noun in both languages (when topicalization occurs). In contrast, the restrictive relative NMM does not occur in both languages and (when it occurs), it does not affect the head noun. This supports the hypothesis that topicalization and relativization are independent of each other and that the head noun can take part in topicalization (as it is part of the relativized DP), although it is not part of the relative clause (the clause that relativizes the DP).

Before concluding this section, it is necessary to briefly discuss the LIS sign PE. Although initially, it was analyzed as a relative pronoun in Cecchetto et al. (2004a, 2006), Branchini & Donati (2007, 2009) show that PE is also used in constructions that are clearly not relative clauses. In these cases, it has a determiner-like function. For instance, PE may nominalize adjectives and numerals in (250), much as "the…one" does in English, and accompanies possessives as in (249). PE also occurs in sentences as (250), which has a cleft structure according to Branchini & Donati. Notice that in (250), PE does not bear the "tense eyes" relative marker, but "raised brows" ("rb" in Branchini & Donati's gloss).

249. [LIS: Branchini & Donati 2009:169]

FIRST PE	/	SMALL PE	/	RED PE	/	MY PE
'the first one'	/	'the small one'	/	'the red one'	/	'mine'

250. _____rb_____ [LIS: Branchini & Donati 2009:169[104]]
HOUSE PE ANNA IX BUY WANT
'It is a house that Anna wants to buy'

The observation that PE is a determiner is supported by Bertone (2007) who suggests that PE is an anaphoric element. Recall that according to Bertone (2007), definite DPs and topics often have the same NMMs, distinct from "tense eyes". For example, only the "dp" NMM occurs in (251). As the translation by Bertone herself shows, this is not a relative construction.

_____dp_____
251. ACQUA PE IX BERE BUONA NEG [LIS: Bertone 2007:19]
water PE ix drink good not
'This water is not good for drinking'

Moreover, in Romeo (1997: 84-85) PE is grouped with similar G-handshape signs that convey emphasis, such as strong possessives and demonstratives (which also act as strong pronouns). Accordingly, it is glossed as LUI ('he/him'), QUELLO ('that'), and SUO ('his').

5.1.4 Summary

The data presented show that both LIS and NGT have conditional clauses. They also provide evidence for the assumption that LIS has restrictive relative clauses. These constructions sometimes have sign orders different from that of main clauses and may also be introduced by specific lexical markers. However, they can be recognized mainly through NMMs. Conditional clauses in LIS and NGT and LIS relative clauses share some common features, but also reveal some crosslinguistic variation. This variation concerns also features that distinguish conditional clauses from relative clauses.

With respect to sign order and the NMMs, there are some common features. The subordinate conditional clause must precede the matrix

[104] Branchini (2006: 196) reports HOUSE PE bearing a NMM which she lables 'cleft' and consists of «raised eyebrows, tension of the eyes and cheeks and the head leaning forward». However, later, in Branchini & Donati (2007, 2009), only the NMM "raised eyebrows" is mentioned.

clause in both languages. Also the relative clause tends to precede the matrix clause. Moreover, in both languages, the conditional clause can either precede or follow topicalized constituents. Indeed, the NMMs of conditional clauses of both languages contain the same "raised eyebrows" facial expression observed on topicalized constituents. Relative clauses, too, often bear a "raised eyebrows" NMM in both languages (though not always). Finally, in both languages, the conditional clause may be introduced by an optional lexical markers IF or SUPPOSE, which thus act as counterparts of the complementizer 'if'.

Some variation was observed in the order of signs. For instance, the NGT data that I have been able to collect suggest that postnominal EHRCs (externally-headed relative clauses) might exist in NGT, although the data are problematic. Unfortunately, unlike LIS, the NGT sentences were obtained only by asking informants for a Dutch-to-NGT translation. It is quite possible that this influenced the data, driving the signer to chose the NGT relative construction that is more similar to Dutch. However, it has frequently been observed that different strategies of relativization coexist in spoken languages. For instance, De Vries (2002) lists Lakota and Latin among languages with postnominal and circumnominal relative clauses. Different strategies can also co-occur in sign languages, as in the case of ASL (Liddell 1978) and in LIS. In fact, LIS allows both for IHRCs (correlatives according to Cecchetto et al. (2004a, 2006), or left extraposed internally-headed relative clauses according to Branchini & Donati (2009)), and also for postnominal EHRCs (Brunelli 2006; Bertone 2007).

In what might be NGT relative clauses, I have neither been able to observe complementizers nor relative pronouns, whereas data about LIS reveal a sign PE which can occur in different positions both in EHRCs and in IHRCs (the distribution of PE is summarized at the end of this section). Nonmanual markers, too, show some variation. In addition to the topic "raised eyebrows" NMM seen in §5.1.3, other components may also appear, which are language-specific and more strictly related to the relevant constructions. Thus, LIS conditional clauses bear also a "tense eyes" NMM and a "tense cheeks" NMMs, while NGT displays a "head forward" NMM. The LIS NMMS "tense eyes" and "tense cheeks", as well as "raised eyebrows", occur also on LIS relative clauses. However, there is still debate about some of them. Branchini & Donati (2007, 2009) group together "tense eyes" and "tense cheeks" and take them as one

NMM distinct from "raised eyebrows". Furthermore, according to those researchers, these two NMMs spread together as one relative marker ("rel"). In Bertone (2007), raised eyebrows and tense cheeks are assumed to mark both topicalization and definiteness, while tense eyes appear only on the restrictive part of relative clauses. It excludes the head noun that is restricted by the relative clause. In Brunelli (2006), no "tense cheeks" marker is reported alone, but the topic marker "raised eyebrows" spreads differently from the restrictive relative marker which contains "tense eyes" (and is defined as a sort of smiling expression containing 'half-closed eyes').

Finally, in NGT conditionals, topicalized constituents were observed that were displaced from their canonical position, but still formed part of the subordinate clause because they follow the optional lexical markers IF/SUPPOSE and fall under the conditional NMM that spreads across the conditional clause. This proves that also the subordinate clause has a (partial) left periphery in NGT. I have not been able to observe this in LIS. In relative constructions, it is important to distinguish the position of the "relative complex" (*head noun +RC*) within the main clause from the position occupied by the head noun with respect to the relative (the subordinate) clause.

Cross-checking of data sheds some light on the role of NMMs. Further investigation is necessary to fully clarify their function and distribution. However, along the lines of what was observed in conditional clauses in §5.1.2, it appears that at least two relevant components must be kept distinct in LIS relative clauses, namely the topic NMM "raised eyebrows" and the (restrictive) relative NMM *sensu stricto* "tense eyes". In fact, "tense eyes" is the only marker that occurs obligatorily on restrictive relative clauses. In LIS postnominal EHRCs, the head noun appears displaced from its canonical position in the clause. It precedes the time adverbs, which are usually clause-initial, and falls outside the scope of the "tense eyes" NMM, even though it may still bear the topic NMM (especially when the relativized noun is the object of the main clause as in (241)). The order of signs and the spreading of the topic NMM of these EHRCs are very similar to those observed in DGS EHRCs (Branchini, Donati, Pfau & Steinbach 2007). In LIS IHRCs, on the other hand, the head noun is both under the scope of the topic NMM and also under the "tense eyes" NMM and it is usually in situ, inside the relative clause (which is then a circumnominal IHRC). In NGT, I have not

recognized any specific restrictive NMMs (distinct from the topic "raised eyebrows"). The only clue to assume that NGT may have restrictive relative clauses is the order of signs. The position of the noun is similar to the position of the head noun of postnominal EHRCs observed in LIS and DGS: it is displaced from its canonical position and is able to precede the time adverbs which usually start a sentence or a clause.

The nonmanual marking of the subordinate clause is obligatory in conditionals, regardless of the presence of the optional lexical marker IF/SUPPOSE. Data show also that the relevant LIS marker for restrictivity, "tense eyes", is independent of the presence of the optional sign PE. The sign PE, in turn, is independent of the type of relative clause, in that it usually appears in IHRCs, but it is also attested in postnominal EHRCs. It is optional because postnominal EHRCs are well-formed even without such a sign. It is able to appear in different positions because it is usually clause-final, but it is also able to occur in situ and even clause-initially. Thus, while PE-clauses have long been identified with IHRCs in LIS, and most IHRCs do indeed display the sign PE, PE-clauses fall into two groups: both IHRCs and postnominal EHRCs. It is also worth noting that the head noun is in situ in circumnominal IHRCs, regardless of whether PE is in situ or clause-final. In other words, LIS has final-PE circumnominal IHRCs and in-situ-PE circumnominal IHRCs. The head noun precedes the clause in postnominal EHRCs. Thus, the distributions of head noun and PE are not fully interdependent.

As shown by Branchini & Donati (2009), Bertone (2007), and Romeo (1997:84-85), PE is a determiner-like element in LIS acting as a demonstrative. This is in principle compatible with its optionality and its appearing in different positions. In fact, I would like to point out here that also across spoken languages, demonstratives may occupy diverse positions in relative clauses. For instance in Marathi correlatives (which according to Wali (2006) have eleven variations), a demonstrative *ti* ('that') may occur twice, as in (252):

252. [Marathi: Wali 2006:289]

Ti	ji	mulgi	ghari	geli	ti	ithe	raathe
that	which	girl	home	went	that	here	lives

'The girl who went home lives here'

In Italian postnominal EHRCs, the demonstrative *quel(lo)* ('that') may replace the definite article *il* ('the') introducing the relativized DP, as in (253):

253. Dov'è il/quel libro di cui parlavi ieri? [Ital.]
where is the/that book about which spoke-2SG yesterday?
'Where is the/that book that you mentioned yesterday?'

5.2 Analysis

This second section is an attempt to analyse LIS and NGT conditional clauses as well as LIS restrictive relative clauses, and their interactions with topicalization using an antisymmetric structure. The analysis assumes a split-CP structure, following Rizzi (1997, 2001), for the left perifery of the main clause and also for the left perifery of the subordinate (conditional or relative) clause. The analysis of the different types of relative clauses found in LIS is based on Cinque's (2005, 2008) unified account, assuming a Spec-Head-Comp, antisymmetric structure and leftward movements also for some LIS constructions that seem to require rightward movement.

5.2.1 Introduction

Conditionals in LIS and NGT can be easily explained within the framework of antisymmetry and split-CP, even though, at first sight, some questions arise as to the ordering of the protasis with respect to topics and to interrogative clauses. The subordinate, that is, the conditional clause, occurs to the left of the main clause. The optional lexical markers are clause-initial. Thus, having a subordinate clause to the left of the main clause (possibly with topics) and having optional clause-initial lexical markers, conditionals can easily be accounted for in an antisymmetric Specifier-Head-Complement framework. For instance, as noted by Barattieri (2006), the LIS clause-initial conditional marker, which corresponds to the CP element IF (Ital. *se*), appears to the left of the conditional clause as in languages which have the [Spec;CP] on the left. Its position is thus in contradiction with the idea of a [Spec;CP] on the right in LIS:

> «Una trattazione più approfondita andrebbe dedicata alla natura del segno SE. Sappiamo infatti che il connettivo logico corrispondente occupa, nelle lingue a testa iniziale, la posizione di [Spec, CP], e si trova quindi nella periferia sinistra della frase. Tuttavia se osserviamo il segno SE, notiamo come anche questo, quando presente, venga realizzato nella periferia sinistra della frase principale, dato questo che risulta degno di nota se consideriamo la LIS una lingua che realizza tale testa funzionale a destra.» (Barattieri 2006: 79)

In the following paragraphs, an analysis of conditionals will be made on the basis of Rizzi's split-CP.

For restrictive relative clauses, the observed postnominal EHRCs are not a problem for an analysis based on antisymmetry. In LIS, the distribution of NMMs and the position of the head noun indicate that the head noun is outside and to the left of these relative clauses, much as in languages with [Spec;CP] on the left such as English, Dutch or Italian. The order of signs of these LIS clauses is also reminiscent of DGS EHRCs and they are indeed analyzed as EHRCs, which possibly undergo topicalization (Brunelli 2006, 2009), although there is still debate on the status of some NMMs. The order of signs suggests that similar postnominal EHRCs might be present also in NGT, albeit with partially different NMMs, so that one and the same analysis can be applied to all three sign languages. However, given that the data I have collected do not provide conclusive evidence that NGT has restrictive relative clauses, I shall only offer an analysis of LIS.

Some problems arise with the IHRCs attested in LIS. For a long time these were seen as the same as the so-called PE-clauses, but the situation is more complicated. Data show that PE-clauses include both circumnominal IHRCs and postnominal EHRCs: in circumnominal IHRCs, the sign PE is clause-final or in situ, but in some EHRCs it is clause-initial. Thus, while the clause-final position of the sign PE/PROREL has been seen as a reason to analyze (different types of) IHRCs with a [Spec;CP] on the right (Cecchetto et al. 2004, 2006; Branchini & Donati 2007), the interaction between the spreading of NMMs and the distribution of PE indicates a more complex structure. In addition to this, assuming IHRCs with [Spec;CP] on the right would contradict other CP-related phenomena of LIS where [Spec;CP] appears to be on the left.

In §5.2.3, other specific details of the distribution of PE within IHRCs and EHRCs will be described, which make the analysis even more complicated. Much of the discussion will thus focus on PE-clauses in LIS, with special attention to those clauses that fall into the group of IHRCs, even though I shall also deal with the relative clauses in DGS. The section is organized as follows. In §5.2.2, conditionals are accounted for starting from Pfau's (2008a) analysis and taking into consideration some properties of the conditional NMMs. In §5.2.3 I shall examine relative clauses. I will investigate different accounts of relative clauses, starting from Cinque's (2005, 2008) unified structure for both IHRCs and EHRCs building on the observation that PE has a determiner-like status (Branchini & Donati 2007). The analysis of LIS postnominal EHRCs will be further extended to DGS relative clauses. In §5.3, some general conclusions will be drawn about the similarities between conditionals and relative clauses (Bhatt & Pancheva 2006; Arsenijević 2009; Haegeman 2009a, 2009b). In fact, the presence of the same "tense eyes" NMM in both conditional and relative clauses of LIS suggests that these constructions share important properties and possibly most of their structure. I will present some speculations about this in §5.3. Throughout the discussion, however, the reader must bear in mind that, since this chapter deals with **combinations** of clauses, the analysis must constantly distinguish between the left periphery of the subordinate clause and the left periphery of the main clause in which the subordinate clause is embedded.

5.2.2 Structure and movement of conditional clauses

This section shows that NGT topics embedded within the conditionals clause (§5.1.2.) are similar to embedded topics encountered in Italian. Accordingly, I first argue that the conditional clause is a subordinate clause with its own left periphery, merged somewhere in the matrix clause, which can also have its own left periphery. On the basis of the distribution of the NMMs and the position of the conditional clause with respect to the matrix clause, I then argue that the conditional clause is a topicalized constituent located in the left periphery of the matrix clause. Finally, I resume the discussion about embedded topics and suggest that the reason for a topic to occur within the conditional clause may be related to specific interpretive properties of the topic itself. At the end of the section, I conclude that even though the motivation is not yet

clear, the existence and the distribution of embedded topics, together with the clause-initial position of complementizers, strengthen the assumption of an antisymmetrically structured split-CP à la Rizzi, which holds crosslinguistically and also crossmodally.

The observation that both the main clause and the subordinate clause have each its own left periphery in combinations of clauses (§5.1.4) is not surprising. Although there are clear differences between main and subordinate clauses, each of them has a field for old/new information, as suggested by spoken language data. In fact, some kind of topicalization internal to the protasis of a conditional construction is observed also in spoken languages. For instance, in Italian (254) the embedded topic *a scuola* ('to school') is resumed by the clitic *ci* ('there'). It entails that 'the school' has been mentioned in the previous discourse and therefore, it cannot be uttered out of the blue.

254. [Ital.]
Se a scuola non ci vai, non imparerai mai niente
Lit. 'If, to school, you don't go there-*clit*, you will never learn anything'

Crucially, the word order of (254) is very similar to the sign order of NGT (229.a), repeated as (255), where CAR is displaced to the left but still falls under the scope of the conditional NMM.

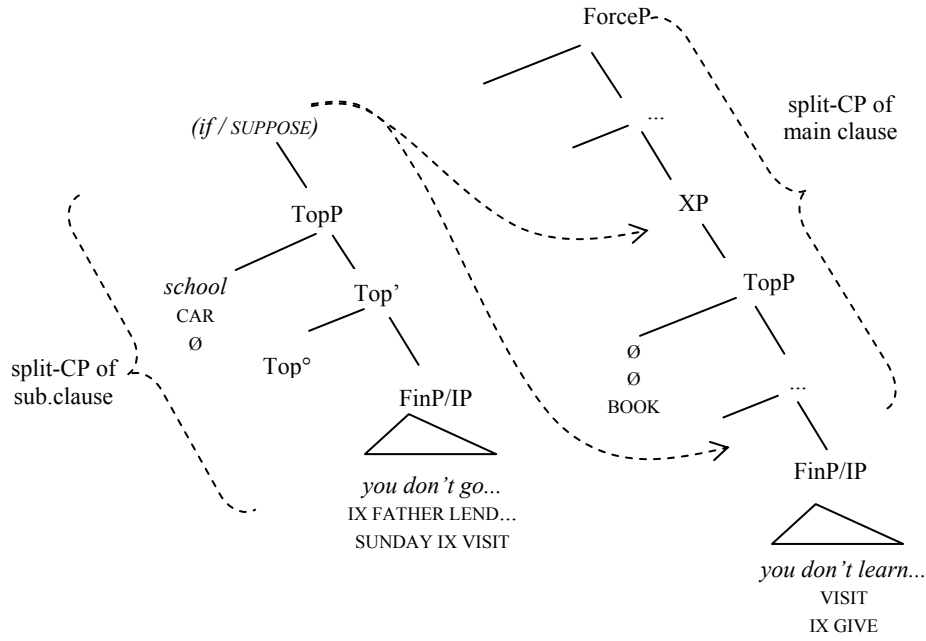
255. [NGT: repeated from (229.a)]
cond.
SUPPOSE CAR IX$_{\mathbf{1}}$ FATHER *t* LEND AUX$_{\mathbf{1}}$, $_{\mathbf{1}}$VISIT$_{\mathbf{2}}$
'If the car my father lends to me, I will visit you'

The subordinate clause lacks independent illocutionary force, hence its left periphery is reduced. However, granted that the subordinate lexical markers *if/se* and SUPPOSE are CP elements, there must be at least one topic position between them and the subordinate verb for the displaced constituents *scuola* ('school') and CAR. At the same time, the matrix clause also has a left periphery where topics can be positioned, as in (227.a), (227.b), (228.a), (228.b), and (229.b). Specifically, the fact that the subordinate clause precedes the topics in (227.a) and (228.a) indicates that it is able to be in the left periphery of the matrix clause, at least in

some sentences. Thus, in the case of conditionals, one must bear in mind that Rizzi's hierarchy of projections in the CP domain holds, at least partially, for both the main clause and the subordinate clause. These two structures are combined, so that the subordinate clause precedes the main clause.

In conclusion, it is reasonable to assume that the conditional clause, with its own left periphery, is located somewhere in the matrix clause, possibly in its left periphery, at least in some cases. This is sketched in (256): a position within the conditional clause must be available for topics like *scuola* ('school') in Italian (255) and CAR in NGT (254); at the same time a position in the matrix clause must be available for topics like BOOK in NGT (227.a) or similar cases as LIS (228.a). The exact position of the conditional clause is not determined yet, given that conditional clauses can either precede topics as in (227.a), (228.a) or follow them as in (227.b), (228.b). For the moment, we see that at least in some cases, the conditional clause must target a landing site above TopP in the left periphery of the main clause, in order to be able to precede the topic. Information about the position occupied by the clause when it follows (and is arguably below) the topic is as yet scarce.

256. Combining two left peripheries (simplified structure)



At this point, as suggested in figure (256), the question arises as to which projection in the main clause is the landing site for the conditional protasis. Is the landing site the same in all cases or are there different possible landing sites? In principle, when the subordinate clause follows the topic, as in (227.b) and (228.b), it may target a position below the topic BOOK, thus occupying a projection somewhere near the FinP/IP area, which hosts the main clause. In order to answer these questions, the issue of embedded topics will not be adressed until the end of this section. First of all, the focus will be on the left periphery of the main clause. The fact that conditional clauses in both LIS and NGT resemble topics in many aspects, as observed in §5.1.2, seems to suggest that it is easy to account for them. Just like topics, conditional clauses are marked by raised eyebrows, they have an intonational break, and they can only precede the rest of the sentence. They also seem able to change places with other topics, as topics do with each other.

This suggest the simplest answer: conditional clauses **are** topicalized. After all, as Pfau (2008a) points out, this behaviour of sign languages parallels that of some spoken languages, such as Hua. In fact, Pfau points

out that the NGT "raised eyebrows" NMM of both conditionals and topics parallels the fact that Hua marks conditionals and topics with the same *–ve* particle. Pfau (2008a) also shows that some alleged differences between topics and conditionals in NGT, ASL and DGS are due to independent differences between nouns and clauses, rather than to the clauses being conditional. For instance, conditional clauses can bear a negative headshake while topics cannot simply because predicates can be negated while DPs cannot [105]. However, nothing prevents negated sentential or clausal constituents from being topicalized so that a negative conditional clause can well be a topic. Moreover, according to Pfau (2008a), the head thrust which is occasionally observed in NGT conditional clauses can be taken as a mood marker which, as such, appears on verbs and not on nouns. Thus, it does not necessarily entail a difference between conditionals and topics. Under such a perspective, Rizzi's split-CP structure (257) with recursive topic positions seems to work well, once conditional clauses are assumed to be topics: conditionals sit in a topic projection in the left periphery of the main clause (as mentioned in chapter 4, I use the label InterP for Rizzi's IntP projection of interrogativity).

257. Force…Top*…(Inter…)Foc…Top*…Fin (…IP)

Other authors, though questioning free recursion, argue for the presence of different topic projections preceding the interrogative phrase, although there is some debate on the hierarchy of such projections. As discussed in chapter 4, Frascarelli & Hinterhölzl (2007) argue for a shift/aboutness topic and a contrastive topic above interrogativity and a familiar topic lower than focus. Poletto & Benincà (2004) propose instead a more restrictive version of Rizzi's hierarchy whereby all topics must precede focus (see Badan (2007) for an application of such model to the analysis

[105] This holds for unmarked sentences. In case of contrast, it seems to me that DPs can be negated at least in some languages. For instance, compare the position of *non* ('not') in Italian examples (i) and (ii). Unlike (i), in (ii), *non* ('not') does not negate the verb *ho scelto* ('I have chosen'), but only the DP *il colore* ('the colour').

Telling about chosing some object

(i) Non ho scelto il colore, ma (ho scelto) la forma
Lit. 'I have not chosen the colour, but (I have chosen) the shape'

(ii) Ho scelto non il colore, ma (*ho scelto) la forma
Lit.'I have chosen not the colour, but the shape'

of the Chinese and Italian left periphery). All of them, however, assume that each topic position is related to a distinct semantic feature. For the purpose of the present dissertation, the question as to whether topics are (freely) recursive or related to distinct topic features is not relevant at this point. The most important fact is the presence of some topic slot in the matrix clause to host the topicalized conditional clause. In principle, then, (257) seems able to explain NGT and LIS conditionals. The problem with conditionals, Pfau (2008a) notes, lies in some restrictions on the position of the conditional clause within the main clause. Conditional clauses cannot follow the interrogative clause, but a topic and a conditional clause can co-occur before InterP, instead. Indeed, assuming (257), an NGT sequence *Topic-Conditional-Interrogative* as (258) can only be accounted for either with more than one topic projection before InterP or by exploiting FocP and InterP.

258. [NGT: adapted from Pfau 2008a:7]

top.	cond.	wh.
PARTY IX$_3$,	EVENING RAIN, IX$_2$	WEAR WHAT

'As for the party, if it rains, what will you wear?'

On the one hand, if one assumes that two topics occur before InterP and that the conditional clause appears in topic position, the topicalized conditional clause should also be able to appear in the TopP that is below IntP. Consequently, the conditional clause should be able to follow the interrogative clause. Conditional clauses, however, never follow interrogative clauses in LIS and NGT. On the other hand, if the conditional clause is not a topic, the fact that it may not follow interrogative clauses derives automatically from the fact that it cannot occupy recursive topic projections. However, in this case, there is no position available for it in Rizzi's structure between the high TopP and InterP, unless it occupies FocP. Pfau (2008a) leaves this question open and tentatively proposes that, if conditional clauses are not topics, they could be assumed to move to FocP, following Neidle (2002), with subsequent raising of FocP to IntPer.

Such an account, however, is not viable in my opinion because a conditional clause in FocP or InterP would conflict with interrogative

clauses and focalized elements[106]. For instance, wh questions allow topicalized constituents as in Italian (259.a). The topic is resumed by an optional pronoun. However, wh questions do not allow focalized constituents, as shown in Italian (259.b). This is probably so because FocP is already used to derive the interrogative. Yet, conditional clauses do occur with wh questions in both Italian (260.a) and NGT (260.b), as the topic does in (259.a). Thus, conditional clauses pattern with TopPs rather than with FocPs. (Notice the comma breaks with the topic and also the different orders Top>Cond , Cond>Top in (258) and (260.b))

259.

a. A Mario, cosa (gli) regali? [Ital.]
'To Mario, what do you give (him) as a present?'

b. **A Mario* cosa regali? [Ital.]
'*To Mario* what do you give as a present?'

260.

a. Se piove, per la festa, cosa ti metti? [Ital.]
'If it rains, for the party, what will you wear?'

b. [NGT: adapted from Pfau 2008a:7]

cond. **top.** **wh.**
EVENING RAIN, PARTY IX**3** , IX**2** WEAR WHAT
'If it rains in the evening, as for the party, what will you wear?'

Examples (260.a) and (260.b) imply that also InterP is active for the interrogative matrix clause, given that these sentences contain an interrogative matrix clause. If the conditional clause, too, occupied InterP, it could not co-occur with the interrogative matrix clause. However, in (260.a) and (260.b), the conditional clause does co-occur with the interrogative clause, hence it cannot be the case that both are in InterP.

[106] In this case, in my opinion, FocP and InterP can only be understood as belonging to the left periphery of the main clause (in which the conditional clause is located) since the analysis aims to account for the ordering of elements (topics and conditional) with respect to the main clause. Because the main clause has one FocP and one InterP, there are not enough slots to host both conditionals and focus elements or both conditionals and wh questions.

As for the possibility of topic recursion, instead, recall from chapter 4 that different topics can stack in LIS, NGT, and also spoken languages as Italian. See for instance (261.a), (261.b) and (261.c).

261.

a. [LIS]

top. top vn.
SCHOOL IX$_3$ **,** TOMORROW EVENING MEETING**,** IX$_2$ LIX$_3$
'As for the school, as for the meeting tomorrow evening, will you be there?'

b. [NGT: Pfau 2006a:10]

top. top vn.
SCHOOL IX$_3$ **,** TOMORROW EVENING MEETING IX$_3$ **,** IX$_2$ BE-PRESENT$_3$ IX$_2$
'As for the school, as for the meeting tomorrow evening, will you be there?'

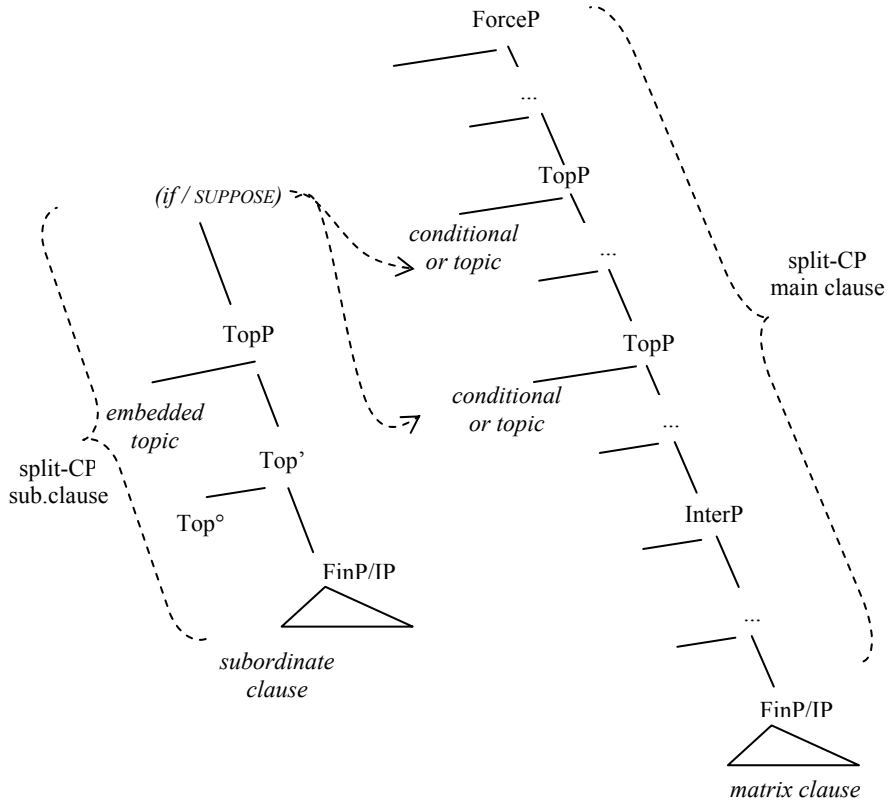
c. A scuola **,** alla riunione di domani sera**,** ci vai? [Ital.]
Lit. 'To school, to the meeting of tomorrow evening, will you go there?'

Crucially, however, Italian also allows for topics to the right of the sentence, whereas no topic is allowed to follow the sentence in LIS or NGT. This observation is crucial because, given the distribution of LIS and NGT topics, the hypothesis that LIS and NGT conditional clauses are topicalized is no longer a problem. Quite to the contrary, it becomes a welcome solution. Because LIS and NGT conditional clauses share many similarities with topics, the initial problem was explaining why they must precede interrogatives, rather than determining their topic or nontopic status. However, once there is independent evidence of topic stacking before InterP, the behaviour of conditional clauses follows directly from their being topics in these languages. The fact that "topic stacking on the left" is attested also in some spoken languages makes it plausible that this hypothesis is not an ad-hoc solution for sign languages, but reflects some universal structure. On the other hand, the observation that not only conditional clauses are banned from following InterP in LIS and NGT, but that topics are also banned, indicates that topics and conditional clauses even share restrictions (in addition to the ability to appear in

different positions). Topics occur on the left, conditional clauses occur on the left. Topics cannot occur on the right, conditional clauses cannot occur on the right. This not only strenghtens the hypothesis that LIS and NGT conditional clauses are "every inch" topics, but also shows that the obligatory left peripheral position of conditional clauses derives from independent restrictions on (all) LIS and NGT topics. At present, I cannot explain what motivates these restrictions, but whatever the reasons are, they favour the hypothesis of a left periphery, rather than that of a right periphery, because both topics and conditional clauses appear to the left of the matrix clause in these languages.

The structure (256) is then refined in (262). Topic projections occur in the left periphery of the matrix clause and host both topics and conditional clauses, which are topicalized. These subordinate clauses contain themselves at least one topic projection in their own left periphery to host embedded topics. In (262), the topic projections of the matrix clause are higher than the projection of interrogativity and this accounts for the fact that topics and conditional clauses must precede interrogative clauses. Each of the topic projections can host alternatively the conditional subordinate clause, or the topic BOOK, thus allowing for (227.a) and (228.a) or (227.b) and (228.b).

262. Combining two left peripheries (in more detail)



The hierarchy of projections in structure (262) matches, at least partially, what has been proposed in §4.2.1 and §4.2.5 for the topics that precede wh and polar questions, as well as imperatives. In (262), the label InterP subsumes other projections of the "interrogative zone" discussed in §4.2.3. These projections are omitted here for the sake of clarity.

A brief digression is in order, at this point. The interrogative zone is made up of WhP> InterP> FocP> TopP, according to the structure proposed in §4.2.3 along the lines of Aboh & Pfau (2011). This entails that one very low topic projection exists below InterP (in addition to the various higher and lower topics above WhP, here represented as TopPs above InterP). However for some reason, this very low topic position

below InterP is not accessible to the topicalized conditional clause, which is marked by "raised eyebrows". More generally, this very low topic position is not accessible to any constituent marked by "raised eyebrows", as suggested by the observation that "raised eyebrows" constituents do not follow interrogative clauses. This fact fits in with the assumption (made in §4.2.5) that only higher topics are marked by "raised eyebrows", while low topics are not. Thus, the hypothesis that conditional clauses are topicalized can be maintained. Only one adjustment is required: the fact that conditional clauses are not allowed in the low topic position below InterP follows from their being "raised-eyebrows" topics, rather than from their being just topics. Whatever restrictions are at play, the reasons of topics restrictions in LIS and NGT remain unexplained, as already mentioned. More investigation is required on the nature of the very low topic, as well as on the nature of conditionals. Crucially, however, the ban affects both topics and topicalized conditional clauses, thus confirming that they behave alike. It does not affect the assumption that conditional clauses are topicalized.

Following this digression, it must be remarked that the claim that conditional clauses are topics does not imply that they are just topics. The NMMs observed in LIS and NGT, as well as the optional lexical markers of these languages, indicate that conditionals have their own specific properties in addition to topicality. Thus, Pfau (2008a) suggests that the head thrust observed on some NGT conditional clauses as (222) may be a mood marker affixed to the subordinate verb in the head Mood°. Along the same lines, one can argue that "tense eyes" on LIS conditionals act in a similar way. However, this NMM should be assigned in the specifier of a functional projection (where the clause is located), rather than in the head, because it spreads on the whole subordinate clause rather than affecting only the verb.

Here I leave open the question concerning the nature of conditionals (some speculation is presented in §5.3). I restrict myself to the observation that their properties do not prevent them from undergoing a possible topicalization which layers a topic NMM over the conditional NMMs and over the optional lexical markers. As previously said, the fact that conditional clauses are topicalized in LIS and NGT forces them to precede interrogative clauses, as all topics do in these languages, and yet leaves them free to appear in different positions with respect to (other) topics, in the same way as all topics do with respect to each other.

A final issue concerns the initial observation that some topicalization is possible also **within** the conditional clause as in (229.a), (255). Similar examples in Italian show that the embedded topic cannot have a "high topic" or a "aboutness-shift topic" reading as in an out-of-the-blue sentence. Rather, it resumes some old information provided previously in the discourse much like low, familiar topics (recall Frascarelli & Hinterhölzl's (2007) distinction between aboutness/shift topics and familiar topics in §4.2.5). I have not been able to test whether these interpretive differences hold for embedded topics in NGT (and possibly in LIS). However, just the presence of embedded topics in both sign languages and spoken languages proves that, in principle, embedded topics are not impossible from the point of view of crosslinguistic and crossmodal variation, hence of the universal structure. In addition to this, the fact that embedded topics appear in the left part of the subordinate clause, after the optional lexicals marker, but before the subject, confirms the assumption of a left periphery, rather than that of a right periphery. This is in line with the observation that the optional lexical conditional markers IF/SUPPOSE appear to the left and not to the right of the clause.

In conclusion, then, the behaviour of LIS and NGT conditionals seems to call into question a detail of the split-CP structure (the existence/absence of a topic lower than InterP), rather than affecting its fundamentally antisymmetrical structure.

5.2.3 Structure and movement of restrictive relative clauses

This section analyzes the considerable variation attested in relative clauses in LIS and tries to derive them from a unified account proposed by Cinque (2005, 2008a) within a strictly antisymmetric framework. The analysis also draws on DGS data. As anticipated in §5.2.1, we will see that LIS postnominal EHRCs do not present problems for an analysis based on antisymmetry and leftward movements. The same observation can also be extended to DGS EHRCs (Branchini et al. 2007). LIS, however, appears to have also other relative constructions, the so-called PE-clauses, most of which are IHRCs.

The fact that LIS has different relative constructions is not surprising: not only spoken languages have more than one relativization strategy (see De Vries' (2002) survey, for instance), but also sign languages, for example ASL, have both IHRCs and EHRCs, (Liddell 1978). In the case

of LIS, however, some contradictions appear between IHRCs and other CP-related phenomena, which include EHRCs.

On the one hand, as already mentioned in §5.1.3, LIS PE-clauses have been analyzed as correlatives by Cecchetto et al. (2006) and as left-extraposed nominalized IHRCs by Branchini & Donati (2007): these relative constructions both fall in the group of IHRCs. Both analyses assume that LIS is a head-final language and has [Spec;CP] on the right. Indeed, such approach is supported by the fact that the sign PE/PROREL usually appears clause-finally.

On the other hand, recall from §4.1. and §5.1.2 that other CP-related phenomena, such as topicalizations and conditionals, are left periphery phenomena in LIS (and NGT) and thus point to a Specifier-Head-Complement structure of the CP domain. Even the final-wh interrogative constructions of these languages conform to final-wh and double-wh constructions observed in spoken languages with [Spec;CP] on the left, as shown in §4.2.3. Postnominal EHRCs are also a phenomenon observed in languages with Spec-Head-Compl structure and thus suggest an antisymmetric structure for LIS. In fact, in LIS postnominal EHRCs, the head noun appears to the left of the clause and precedes clause-initial time adverbs just as in languages with [Spec;CP] on the left. Moreover, some PE-clauses are postnominal EHRCs. In some of them, the sign PE is even able to occur clause-initially, that is, at the beginning of the nonmanually marked relative clause immediately after the external head noun.

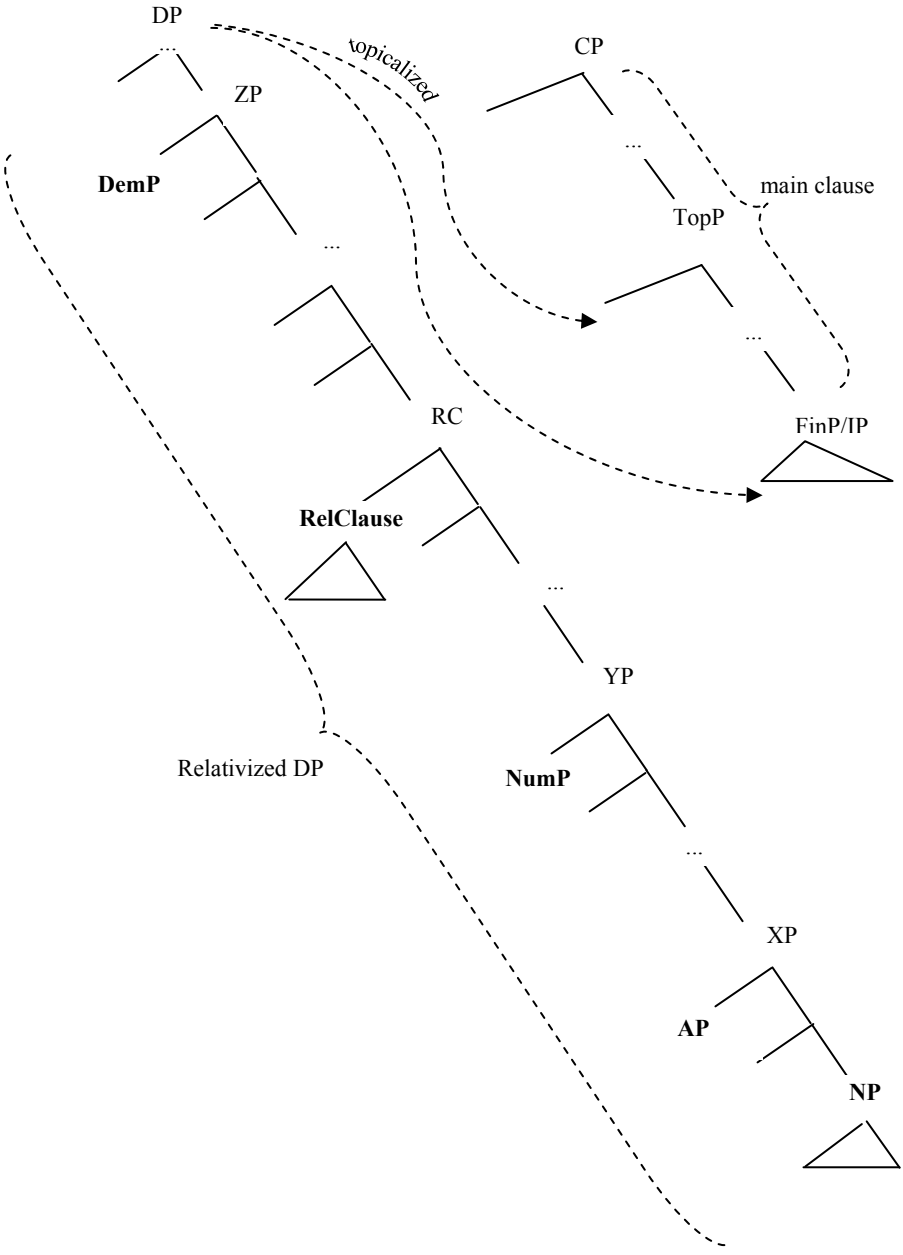
Taken together, these facts seem to suggest two opposite deep CP structures in LIS at the same time. However, while one may be inclined to reject antisymmetry in the presence of crosslinguistic variation in favour of a parametrical setting determining the branching structure of languages, it is still not desirable to have two differently branching structures in one and the same language. In general, as discussed in chapter 1, postulating a language with some projections branching leftwards and some branching rightwards is against the economy principle for the elaboration and acquisition of the language. It is then attractive to analyse also IHRCs with a Specifier-Head-Complement structure in order to be able to argue for a single branching structure for the CP domain. Crosslinguistically, it would also be attractive to have one and the same structure underlying different languages, since postnominal EHRCs are attested also in DGS. Here, I will discuss

Cinque's (2005, 2008a) unified derivation for different types of IHRCs and EHRCs, which is based on a Specifier-Head-Complement branching structure. In doing so, I will follow Brunelli (2007, 2009), but will revise partially the analysis of IHRCs.

As anticipated in §5.1.4, the distribution of PE and NMMs in LIS IHRCs and postnominal EHRCs varies considerably and makes a unified account difficult. The analysis will proceed from postnominal EHRCs to cases which require a more detailed discussion. The discussion will address the different relative clauses in the following order. First, I shall address postnominal EHRCs of LIS compared with DGS, taking into account the possible presence of the sign PE at the beginning of LIS relative clauses and the relative pronoun RPRO(NH) at the beginning of DGS relative clauses. Second, I shall address LIS IHRCs with PE in situ, immediately after the head noun, which is also in situ. Then, I shall address LIS IHRCs with clause-final PE, but head noun in situ. Finally, I shall other LIS cases, which are more problematic and will be discussed at the end of this section.

Cinque (2005, 2008a) proposed a derivation that combines the matching and the raising account and also allows to derive different types of EHRCs and IHRCs. His proposal aims to formalise the intuitive observation that relativization entails the junction of two sentences (which become clauses) and that the head noun plays a role in both sentences. In Cinque's view, the head noun is really merged twice, as external head in the relativized DP and as an internal head in a clause embedded within the DP (note that here, "head" refers to the head noun, not to the head of a syntactic projection). Observing the crosslinguistic variation among spoken languages, he proposes that the merger position of relative clauses within the relativized DP is universally a projection above numerals and (attributive) adjectives and below demonstratives, as represented in (263). The piedpiping movements within DP seen in chapter 2 may then invert constituents, yielding different surface orders across languages. The relativized DP, in turn, constitutes a part of the main clause, as an argument of the verb of the main clause. At this point, notice that, just like other DPs, Cinque's relativized DP can either sit in FinP/IP or be a topic hosted higher in the left periphery of the sentence. The combination of the relativized DP (containing the subordinate relative clause) with the matrix clause is sketched in (263). Notice that AgrP*s* are omitted.

263. Merging position of subordinate relative clauses in the relativized DP and positions of DP in the sentence



As in the case of conditionals, in (263) we must distinguish the positions of elements in the subordinate clause from the position occupied by the subordinate clause with respect to the matrix clause. According to Cinque (2003, 2008a), the "relative clause zone", includes also some complementizer positions because in various languages, there is evidence of two or three complementizers or relative particles appearing at the same time (Cinque (2008) reports the case of Buli, for example). Leftward movements within this zone yield identification and deletion of either the internal head or the external head. They also lead to the final or initial position of complementizers and relative pronouns. For instance, raising of the internal head and deletion of the external one produce IHRCs. They produce correlatives, if the internal head raises leftwards alone (to the left of the RC) and deletes the external head (only the surface order is represented here):

- *int.head – RC – ~~(ext.head)~~*

They produce (circumnominal) IHRCs, if the whole relative IP raises with the internal head remaining in situ (i.e. if the internal head raises as part of the whole IP) or, alternatively, if nothing moves. The external head is deleted also in this case:

- *RC[…int.head…] – ~~(ext.head)~~*

In contrast, if the external head raises leftwards above the internal one, it triggers identification and deletion of the internal head and the clause is spelt out as a postnominal EHRC.

- *ext.head – ~~(int.head)~~ – RC*

If the internal head is accompanied by an overt quantifier or demonstrative (either preceding or following the head noun), this is still pronounced after the internal head is deleted and it thus surfaces as a relative pronoun, yielding the sequences:

- *ext.head – rel.pron. ~~(int.head)~~ – RC* or
- *ext.head – ~~(int.head)~~ rel.pron. – RC*

In fact, some languages have quantifier-like *wh*-relative pronouns (e.g. English *the man with whom*), while other languages have demonstrative-like *d*-relative pronouns (e.g. German *der Mann mit dem* 'the man with whom'). Some languages "fluctuate" between the two (e.g.

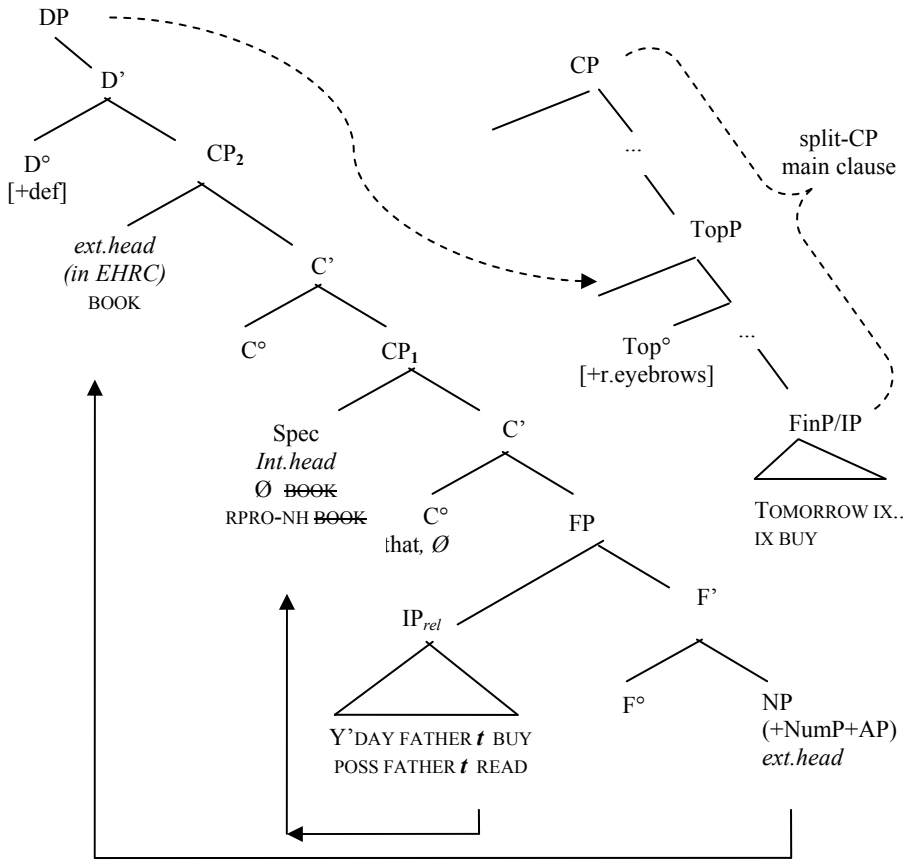
Dutch *de man met wie* 'the man with whom', but *de man die* 'the man whom'). On the other hand, other languages contain both a quantifier-like and a determiner-like definite element (e.g. Italian *l'uomo con il quale* lit. 'the man with the which…') which has also the property to recall an aforementioned referent. In Brunelli (2007, 2009), an application of Cinque's proposal, with two complementizer positions, derives LIS EHRCs as (241). As we will see here, this account works also for DGS (244), (246). As far as I know, DGS is the only sign language to have a relative pronoun (with distinct forms RPRO-H/RPRO-NH for human and nonhuman referents, see Branchini et al. (2007)).

In this perspective, the fact that LIS has postnominal EHRCs is explained by its inverting piedpiping movements within the DP (see chapter 2). In fact, since these roll-up movements reach at least DemP in this language and granted that relative clauses are located lower than DemP, roll-up movements are also able to raise the (external) head noun across the relative clause, dragging along possible adjectives and numerals. The head noun of LIS EHRCs, BOOK in (241), is merged in DP, externally to (and lower than) the relative clause, as indicated by the fact that it does not bear the relative NMM "tense eyes". It then raises leftwards with DP-internal pied-piping movements until it reaches a position above the relative clause and its internal head, which is thus deleted. At this point, further raisings bring the external head above DemP. By this, the noun BOOK comes to precede the demonstrative (DIX), which is itself outside the relative NMM because it is merged above the relative clause.

In LIS (248.a) the adjective RED follows the noun PEN, but noun and adjective precede the restrictive relative clause. The NMM on RED suggests that this may be an adjective derived from a reduced relative clause (see Cinque (2005b)). However, although its status is not clear to me, remember that all adjectives generally follow the noun in LIS. The order of signs can be derived if the noun raises leftwards above the relative clause and pied-pipes the adjective with inversion (which is usual in LIS). Raising of the head BOOK to the left of the relative clause derives also the order of signs of DGS (246). These sequences of movements yield postnominal relative clauses similar to those observed in head-initial languages as Italian (except that in Italian, the head noun stops between the relative clause and the demonstrative). After relativization has occurred, the relativized DP can be topicalized, as previously

observed. In doing so, the relativized DP (head noun + RC) receives the "raised eyebrows" NMM. The derivation of topicalized relative clauses as LIS (241) and DGS (246) with Cinque's account is represented in more detail in figure (264).

264. Externally-headed relative clauses of LIS and DGS



In (264), the external head raised to [Spec;CP_2] identifies and deletes the internal head raised to [Spec;CP_1]. Because in LIS (241), neither demonstratives nor quantifiers accompany the internal head noun, [Spec;CP_1] contains no lexical material after deletion and no overt relative pronouns appear. The relative clause is accompanied only by an overt external head so that the sequence *ext.head – ø – RC* appears in LIS (241). Recall that the demonstrative DIX in LIS (241) is merged externally

to the relative clause (it accompanies the external head noun and is outside the "tense eyes" NMM). According to Cinque, DemP is located between DP and the relative clause. Thus, the DIX of (241) must not be confused with the demonstratives and quantifiers that accompany the internal head noun and surface as relative pronouns (as the DGS RPRO or RPRO-NH). The same mechanism of (241) accounts also for LIS (240.a), which has the same order of signs as (241). In the case of DGS relative clauses as (246), the internal head noun is accompanied by RPRO(NH). After the external head deletes the internal one, RPRO(NH) still occupies [Spec;CP_1], thus yielding the same sequence *ext.head – rel.pronoun – RC* observed also in some spoken languages (e.g. German and Romance languages). In all the cases in (264), however, the overt head noun is the external one, which sits higher than and before time adverbs at the beginning of the subordinate clause. As for NMMs, the whole LIS clause bears the "tense eyes" facial expression, but since this does not spread on the external head, it must be assigned in a projection below CP_2, possibly the FP represented in (264). After relativization has taken place, the whole relativized DP forms part of the main clause. At this point, figure (264) shows that, if the relativized DP is topicalized, it sits in the left periphery of the main clause and receives the usual "raised eyebrows" nonmanual marker, thus yielding LIS (241) and (240.a), and DGS relative clauses as (246).

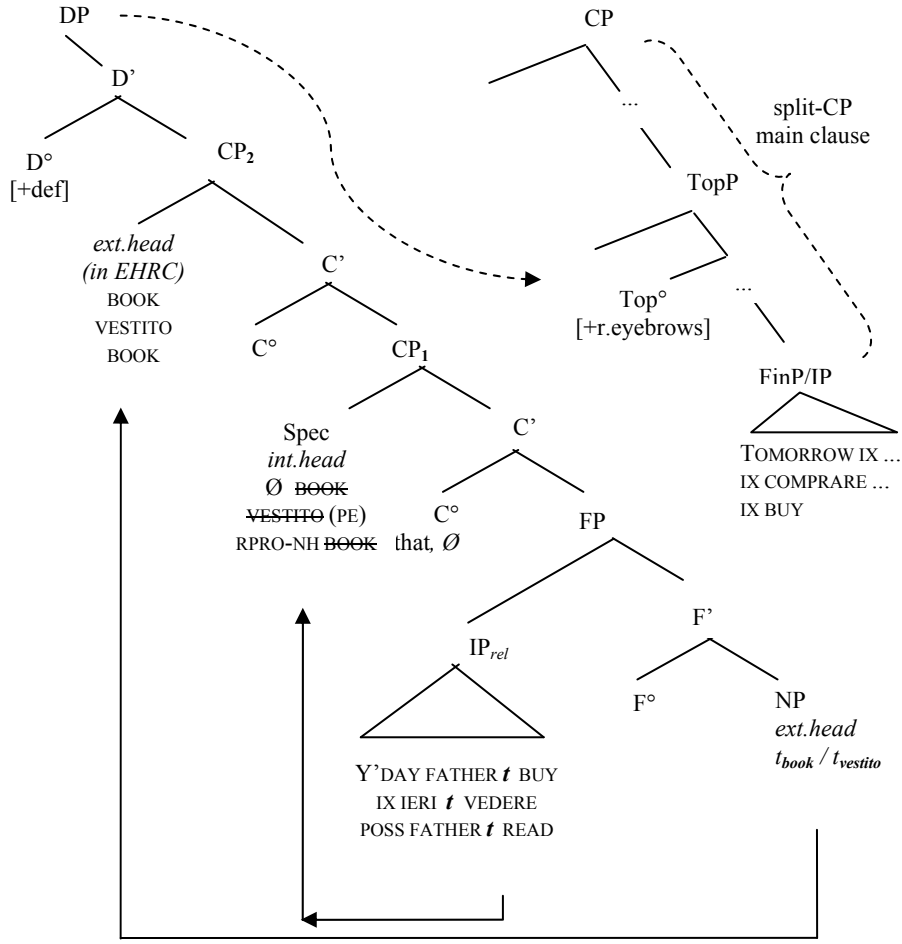
In contrast, if the topicalization shown in (264) does not occur, the relativized DP occupies its canonical argument position in the IP of the main clause and it does not bear any additional nonmanual marker (layered on the relative one). Only the first part of the derivation occurs, so that a relative clause is generated, but no topic NMM occurs, as exemplified in LIS (248.a), (247.a) and in DGS (244) and (245).

This also accounts for some crosslinguistic variation observed between LIS and DGS. In LIS there is relativization, marked by "tense eyes", and optional topicalization, marked by "raised eyebrows". That topicalization is optional in LIS is suggested by the comparison of (241) with (247.a) and (248.a). In DGS, topicalization is optional as in LIS and, when it occurs, the head noun receives the usual topic NMM together with its relative clauses, thus yielding sentences as (246). When topicalization does not occur, sentences as (244) and (245) appear. In this perspective, the difference between LIS and DGS EHRCs (and between these sign languages and spoken langauges) lies only in the different

NMMs assigned by the projections involved in the derivation and in the fact that the internal head noun may come with or without an overt pronoun (the quantifier or demonstrative). The derivation (264) also captures the fact that in LIS, where different NMMs appear, the spreading of the "raised eyebrows" NMM is independent from the "tense eyes" NMM, which marks the relative clause. The "raised eyebrows" NMM is assigned by Top°, as it is a topic marker, only when the whole DP occupies a topic position in the main clause. The "tense eyes" relative NMM is assigned in another projection, possibly in Cinque's FP, and is thus independent from the presence of PE (§ 5.1.4). The same derivation holds for the distribution of the topic NMM in NGT and DGS relative clauses.

LIS initial-PE relative clauses as (240.b) can also be treated as EHRCs. The sign PE accompanies the deleted internal head, thus bearing the "tense eyes" NMM and surfacing in the expected position between the the remainder of the relative clause and the external head, in the same way as RPRO(NH) does in DGS. In principle, this PE which accompanies the internal head may be either a quantifier or a demonstrative. From this perspective, the difference between LIS (240.a) and (241), on the one hand, and LIS (240.b), on the other, is only the optional presence of PE. In particular, LIS (240.a), which has the same structure of (241) derived in figure (264), is a subcase of LIS (240.b), where the sign PE can be optionally overt. Thus, in (265), the Cinquean derivation (264) is extended to LIS EHRCs such as (240.b). This means that one and the same account derives LIS clauses with clause-initial PE, DGS clauses with clause-initial RPRO(NH), and LIS clauses without PE. The linear order is *ext.head – PE /RPRO – RC* in LIS and DGS, as well as *ext.head – Ø – RC* when LIS has no overt PE.

265. Externally-headed relative clauses (optional clause-initial PE≈RPRO)



As previously seen, however, LIS also has PE-clauses which are IHRCs. This is indicated by the fact that the head noun falls within the spreading domain of the "tense eyes" NMM and follows the clause-initial time adverbs of the subordinate clause.

As mentioned in §5.1.3, initial accounts for these clauses were based on the assumption that [Spec;CP] is on the right in LIS. In Cecchetto et al. (2004, 2006), PE-clauses are analyzed as correlatives and the clause-final position of PE is treated as the result of PE moving rightwards to CP. Yet,

the possibility of having PE also in clause-initial position as in (240.b) suggests that the clause-final position of PE is not necessarily related to [Spec;CP] being on the right. The fact that PE appears also in EHRCs indicates that the "internal headedness" does not depend automatically on PE. More in general, PE appearing also in nonrelative constructions as (249-251) shows that even the "restrictiveness" and the "relativeness" of a relative clause do not depend on PE, as confirmed by the fact that the "tense eyes" relative NMM is independent from PE. In addition to this, recall that other CP-related phenomena as topicalization (§4.2.1 and §4.2.5) and conditionals (§5.2.2) clearly involve a structure where specifier are on the left, not on the right. Wh questions, despite their crosslinguistic and intralinguistic variation, can also be derived with an antisymmetric structure (§4.2.3) as they display a similar variation even in languages with [Spec;CP] on the left. Thus, a CP structure with specifiers on the right is required only by a limited number of constructions, namely, only by some relative clauses of LIS. Incidentally, relativeness and restrictiveness independent from PE are reminiscent of Aboh, Pfau & Zeshan's (2005) observation that the "wh-ness" of a wh interrogative clause does not depend on the presence of a wh element (chapter 4). This fact will be discussed later in this section.

Branchini & Donati (2007), as already mentioned, argue that PE-clauses are nominalized IHRCs, but not correlatives. They also argue that these clauses are left extraposed. As discussed in §5.1.3, they propose that PE is a determiner-like element. In Branchini & Donati's view, thus, PE is merged with the head noun in the subordinate clause and then raises rightwards to a C° head endowing the whole clause with nominal features and acting as a nominalizer. In this way the position and the function of PE are explained and, at the same time, an account is given for the coreference between PE and the noun. The clause is then left-extraposed. Thus, the account proposes a mixed structure where rightward movement co-exists with leftward movement.

This analysis, however, presents some problems, in my opinion. First, while nominalized clauses do exist in many languages, it seems counterintuitive that the determiner of one argument of the verb acts also as a determiner-like element of the entire nominalized clause. Notice especially, that PE is able to agree in place (or location) with the internal noun even though it should act as nominalizer of the clause. Second, while the fact that PE-clauses are moved leftwards is not a problem for

the present approach (indeed it proves the need for some leftward movement), the idea that PE moves rightwards to (the specifier or the head of) CP is again in contrast with the possibility of having PE on the left, as it was in contrast also under Cecchetto et al.'s hypothesis. Third, Branchini & Donati (2007:16) assume that the determiner PE moves to the complementizer head so that «the head C° acquires derivationally the status of a head D° (projecting a DP)». Yet, while the final position of determiners could still be accounted for by postulating a Complement-Head-Specifier phrase structure for DP (rejecting antisymmetry), the initial position of other CP elements, such as optional lexical conditional markers in §5.1.2, indicates a Specifier-Head-Complement structure for the CP of LIS and NGT. The hypothesis of a C° head turning into D° and projecting a DP structure is thus untenable in my opinion.

In Brunelli (2007, 2009), it is proposed that the CP domain has a Specifier-Head-Complement structure. Cinque's antisymmetric structure (264) is extended to LIS internally headed relative clauses like (230.a), assuming that they are correlatives along the lines of Cecchetto et al. (2004, 2006). The sign PE is taken to accompany the internal head as a quantifier. However, in principle it could also be a demonstrative (along the lines of Branchini & Donati) given that both quantifiers and demonstratives are postnominal in LIS (see chapter 2). According to Brunelli's (2007, 2009) hypothesis, in these relative clauses the external head does **not** raise and is cancelled by the internal head which has moved leftwards into [Spec;CP_1] together with PE. The relative construction displays thus the linear order *int.head+PE – RC* as in (230.a). Sentences with clause-final PE as (230.b), instead, are treated as participial structures in which the participial verb acts as an adjective. According to this hypothesis, the adjectival verb resembles English participial forms *the calling boy* or *the broken pen*, but follows the LIS canonical order N-A-Q/Dem with DP-final quantifier or demonstrative (as opposite to the Dem/Q-A-N order of English). This different order would follow from independent properties of the LIS DP, discussed in chapter 2. It is a property of the LIS DP to move the noun before adjectives and to have adjectives before demonstratives and quantifiers.

However, two remarks must be made here. First, while (264) can account for (230.a), it cannot be applied in (236), which has a similar structure. Sentences like (236) show that the head noun COMPETITION and PE are in situ, that is in object position, within the spreading range of the

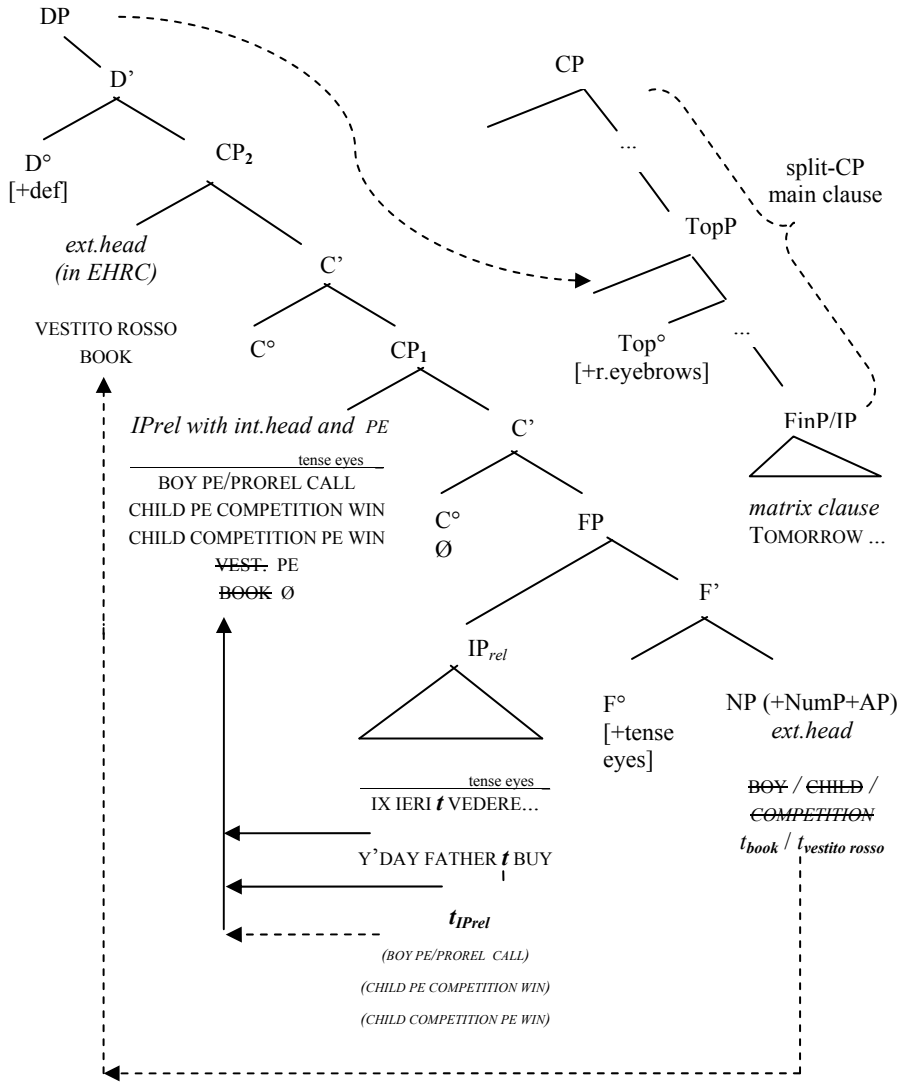
relative NMM. This also suggests that (230.a) has an in situ PE accompanying the in-situ head noun BOY, in this case in subject position. Therefore, both sentences (236) and (230.a) belong to the group of circumnominal IHRCs. If the internal head and PE are in situ, the idea that the internal head raises with PE to CP_1 cannot be maintained. A different account must then be given necessarily for (236) and most likely for (230.a). Second, assuming the hypothesis of the participial construction, in cases like (230.b) the clause-final determiner PE should close the whole DP (as its English counterpart *the* opens it), not just accompany the internal head noun. Demonstratives (and more in general determiners) occupy the higher parts of DP. They occupy a projection different from those hosting adjectives and numerals, as they are not part of these modifiers. In LIS, demonstratives appear at the end of the DP, following adjectives. Consequently, if the verb were in a participial, adjectival form that relativizes the DP, the determiner PE should occur after both noun and verb. In other words, PE should mark and close the entire DP, rather than being associated with the participial verb that relativizes (and is embedded in) the DP. Accordingly, PE should fall outside the relative NMM that spreads on the verb. In (230.b) no NMM is shown, but sentences (231-234) show that the clause-final PE falls under the NMM. These IHRCs with clause-final PE require then a different analysis which take into account the fact that PE is within the relative clause, albeit displaced from its in situ position. The analysis must also consider that the head noun of these clauses is still in situ so that these final-PE clauses can be considered as circumnominal IHRCs. In fact, recall from §5.1.3, §5.1.4 and §5.2.1 that LIS has final-PE circumnominal IHRCs as well as in situ-PE circumnominal IHRCs. This inference is in line with Branchini & Donati's (2009) view that none of LIS IHRCs are correlative in the sense of Cecchetto et al. (2004, 2006).

The first observation entails the possibility that in in-situ-PE circumnominal IHRCs, the sign PE and the internal head noun do not move or move as part of a bigger chunk, namely IP_{REL}.This leaves their position unchanged with respect to the surrounding elements. The second observation implies, that in final-PE circumnominal IHRCs, PE is extracted alone from its merge position near the internal head noun, leaving the in situ internal head within IP_{REL}.

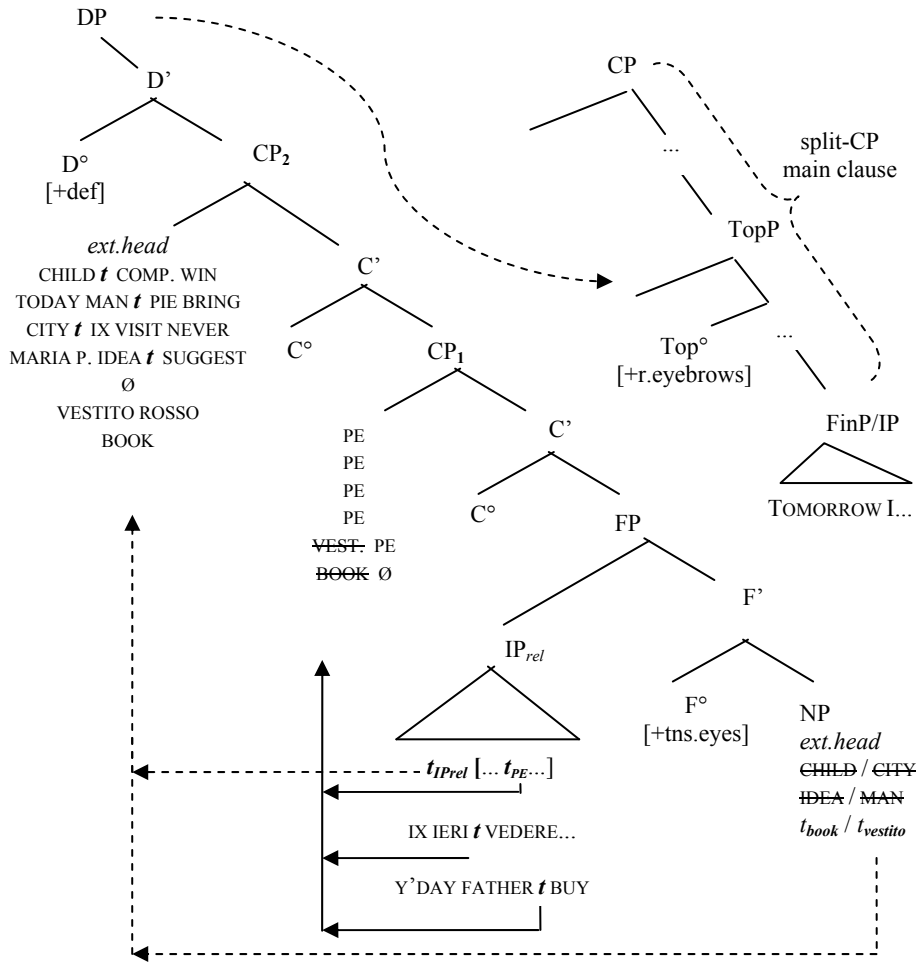
At this point, starting from an antisymmetric derivation like (264) or (265), a new account is possible. The element PE raises leftwards alone

and is subsequently crossed over by leftward remnant movement of the whole restrictive-marked IP_{REL}, i.e. the remainder of the relative clause. This yields final-PE IHRCs, where PE is part of the relative clause (rather than closing the relativized DP) and bears the relative NMM. In contrast, if the whole IP_{REL} raises without previous PE-extraction, or, alternatively, if no raising occurs at all, in situ-PE IHRCs are derived. The sign PE bears the relative NMM and occurs in situ, close to the internal head noun. The two derivations differ minimally from each other, as expected. Both derivations also differ minimally from the one proposed for EHRCs and correlatives. The two derivations are represented in (266) and (267). In (267) the "extract-PE" account derives final-PE (circumnominal) IHRCs and is compared to the derivation of EHRCs. In (266) the derivation proposed for in situ-PE (circumnominal) IHRCs is compared to the derivation of EHRCs. The differences are discussed in detail in the pages that follow the figures. However, bear in mind since now that the peculiarity of EHRCs is that they involve also the raising of the external head, rather than having just movement of the relative clause or extraction of PE and remnant movement of the clause.

266. IHRCs with in situ-PE: IPrel remains in FP or possibly moves to $CP_1$with PE in situ; relative NMM [+tense eyes] assigned by F° (compared to the minimally different EHRCs derivation)



267. Final-PE IHRCs: PE (if any) raises alone; rel. NMM [+tense eyes] assigned by F° (compared with the minimally different EHRCs derivation)



In (266), the whole IP_{REL} clause stays in FP or, alternatively, raises without any changes, dragging along the internal NP in situ and the in situ PE. Under this view, the difference between EHRCs and IHRCs lies in whether both heads raise or only IP_{REL} raises. If IP_{REL} raises, its in situ internal head identifies and deletes the external head, which has not

moved, thus yielding (230.a), (235) and (236). In contrast, when both heads raise, the external NP is higher than the internal one which is so identified and deleted as in (240.a), (240.b), (241). A minor difference derives from whether PE is merged with the internal head as in (240.b) or is replaced by ø as in (240.a) and (241). If PE is present, it appears in the position of the internal head, thus preceding the remaining IPrel. Another possibility is that no raising occurs at all in these IHRCs. In this case, the difference with EHRCs lies in whether both heads raise or no head raises.

In contrast, in (267) the difference between EHRCs and IHRCs lies in whether both heads raise, with PE possibly accompaning the internal head, or PE raises alone followed by remnant movement of IP_{REL} across it. If PE moves alone and is crossed over by the the remaining IP_{REL}, the in situ internal NP identifies and deletes the external NP which has not moved, while PE remains stranded clause-finally as in (230.b), (231), (232), (233) and (234). In contrast, when both heads raise, the external NP is higher than the internal NP, which is identified and deleted as in (240.a), (241). Again, the sign PE (if present) is still visible in the position of the raised internal NP thus possibly preceding the remainder of IP_{REL} as in (240.b), when the internal head is deleted by the external head.

In both derivations, in (266) and (267), IP_{REL} bears the "tense eyes" NMM because it is merged in [Spec;FP], where the NMM is assigned under spec-head agreement with F°. The "tense eyes" NMM, is taken as the overt effect of the functional head in the specifier of which the (restrictive) relative clauses are merged, given that it appears on the restrictive part of externally headed relative clauses and on IHRCs, which Branchini & Donati have shown to be restrictive. In fact, in Cinque's view, restrictives and appositives are merged in different projections, so that a clause being restrictive does not derive from the movements that it possibly undergoes, rather from its being merged in a specific restrictive relative projection. Granted this, it is not surprising that the restrictive marker "tense eyes" is an inherent property of the head of the functional projection where restrictive clauses are merged. Also, this hypothesis accounts for the NMM being independent form PE. This sign does not determine the spreading of the NMM, but, in contrast, it bears the "tense eyes" NMM as a consequence of its position in FP as part of IP_{REL}. Thus, PE is able to bear different nonmanual markers, "tense eyes" in restrictive relative clauses or no relative NMM in (250), because it can be merged in different projections of DP, namely in FP or DemP. The fact that PE is

optional must have an independent motivation that I am not able to explain at this point. It may pattern with English *that/who(m)* alternating with *ø*, as in *The man (that/ø) I met yesterday*. However, more research is needed to compare the distributional pattern of these elements. Assuming that the "tense eyes" restrictive relative NMM is the overt manifestation of spec-head agreement in a dedicated functional projection is entirely analogous to Pfau's (2006, 2008a) assumption that topic and imperative NMMs are encoded in dedicated projections (see chapter 4). It is also analogous to Aboh & Pfau's (2011) assumption that interrogative NMMs are assigned under spec-head agreement in InterP (an hypothesis which I revised slightly proposing a dedicated WhP in chapter 4).

Some sentences must still be discussed. This group, which I have labelled "other LIS cases", includes sentences with clause-final PE, but external head, as indicated by the spreading of the NMM in (237). Instead of PE, a strong demonstrative index DIX++ can appear as in (242). In (238) the object CITY precedes the subject index. Notice incidentally that, while the possibility of replacing PE with a strong demonstrative strengthens the hypothesis that PE is a demonstrative (contra Brunelli's (2007, 2009) quantifier analysis), demonstrative movement alone (either rightwards or leftwards) is not sufficient to explain the position of the head noun, at the left of its own canonical position (thus contrasting with derivations based only on PE movement). Finally, the group "other LIS cases" includes also sentence (239) where the relative NMM is restricted to the sign PE only.

From a theory-internal point of view of "pure mechanical derivation", (237) and (242) require an additional projection to account for the fact that remnant movement of IP_{REL} strands PE/DIX clause-finally and yet targets a position below the external head (which is outside the NMM and to the left of the relative clause). Assuming that movement is only leftwards, PE or DIX++ is extracted alone to the first CP, followed by remnant movement of IP_{REL} which strands it clause-finally. At this point, the external head moves further above IP_{REL} and subsequently identification and deletion of the internal head occurs, as with other EHRCs. This amounts to saying that two CP projections are not sufficient because the projection where PE/DIX extracts to must have two other projections above itself: one landing site for the remnant movement of IP_{REL} and one landing site for the external head. Cinque (2003, 2008)

indeed assumes three CPs[107], although the first one hosts the whole IP_{REL}, rather than hosting just a demonstrative or quantifier as proposed here. However, the question arises as to why should as many as three CP projections be necessary, except for pure theory-internal requirements. One projection hosts the external head noun. Another projection hosts the internal head noun or the IPrel that contains it. However, what is the role of the third hypothetical projection? It must be motivated by specific features in order to avoid unmotivated proliferations of projections.

Unfortunately, I can only offer some tentative suggestions, which require further investigation. To begin with, notice that the proposal of three different CPs has been already put forward for independent reasons in relation to Dutch embedded interrogative clauses and relative clauses (Hoekstra 1993; Zwart 2000). I do not discuss those proposals here, but I take them as independent evidence that more than two CP projections are somehow required.

At this point, I would like to draw attention to some similarities between restrictive relative clauses and wh interrogative clauses in LIS. First, as discussed earlier in this section, the "restrictiveness" of a relative clause is independent from PE just as the "wh-ness" of an interrogative clause does not depend on wh elements (see chapter 4). It is for this reason that I assume the NMM "tense eyes" to be assigned in Cinque's FP projection dedicated to restrictive relative clauses, as I assume the wh NMM to be assigned in a dedicated WhP in chapter 4. Second, the distribution of PE (final or in situ) in IHRCs is reminiscent of the distribution of wh elements (final or in situ) in interrogative clauses. Third, PE can be clause-final, split from the in situ noun as some complex wh-phrases can be split into a final wh sign WHICH and an in situ NP (chapter 4). Only the clause-initial PE seems not to have a clear clause-initial wh interrogative counterpart. Given the striking intralinguistic variation encountered in LIS wh clauses, it seems no coincidence that the

[107] Apparently, one position can be "gained" within the two-CPs hypothesis, taking PE in (237) as a realization of the head C° in (266) and assuming that IPrel moves to [Spec; CP_1] and is crossed over by the external NP in [Spec; CP_2]. However, this cannot apply to the strong index in (242), which is clearly a demonstrative or a pronoun, hence a specifier (recall chapter 2). On the other hand, the word order and the spreading of the NMMs cannot be accounted together under (267). In fact, in both (237) and (242), [Spec;CP_2] is already occupied by the external head without NMM. The remaining CP_1 can host a moved PE or index, but these should then appear clause-initially since there is no landing site for inverted material.

same variation is observed also in relative clauses. In addition to this, recall that the sign PE belongs to a group of G-handshaped emphatic forms (Romeo 1997: 84-85). In fact, under certain circumstances it can be even replaced with a strong, reduplicated demonstrative DIX++, as in EHRC (242) which I will discuss later. Aboh & Pfau's (2011) proposal that the wh element is extracted to a focus position is relevant here. On the basis of this assumption, different orders of signs are derived in chapter 4 depending on whether:

- the wh element raises with the NP;
- the wh element raises alone (plus remnant movement of the NP)
- the wh element does not raise (or alternatively raises with the whole interrogative clause).

Given the similarities between the distribution of PE and that of wh elements, it is plausible to suggest that the same mechanism is at work in the two constructions. The movement of PE is related to focus features. The different positions of PE in relative clauses depend on how the movement occurs:

- PE raises together with the head noun;
- PE raises alone (followed by remnant movement of IP_{REL} containing the head noun);
- PE does not raise (or, alternatively, raises with the whole IP_{REL}).

This hypothesis does not only account for the similarities between restrictive relative clauses and wh interrogative clauses, but also explains why an emphatic, reduplicated demonstrative (DIX++) can occur in place of PE. The presence of Foc/Top features in relative clauses is suggested also by some Bulgarian data in Krapova (in press). Hopefully, research on this issue may bring support to the present hypothesis about PE. The specific feature of EHRCs is that the external head noun also raises. This idea will be further discussed later. Incidentally, correlative relative clauses, if they were attested in LIS, could be derived from PE raising with the internal head, as EHRCs are, except that no raising of the external head occurs. However, recall that correlative clauses are not attested in LIS, according to Branchini & Donati's (2009) analysis.

According to the hypothesis outlined above, one CP position is reserved for focalized material, one hosts the internal head (or the remnant IP_{REL} containing the internal head) and the highest one is the possible landing site for the external head. Movement to the first CP would then be movement to a focus position. In (237) and (242) only the

determiner PE or DIX is focalized, followed by remnant movement of IP_{REL}, containing the in situ internal head noun. This strands PE/DIX clause-finally. As said, the only difference with final-PE IHRCs is that at this point also the external head noun raises, triggering indentification and deletion of the internal head and yielding the final-PE EHRC with the order *ext.head – RC […~~int.head~~ t_{PE} …] – PE/DIX*. If the determiner raises with the internal head, the following raising of the external head yields initial-PE EHRCs. If the internal head raises with IP_{REL} after extraction of the determiner, but the external head does not move, final-PE IHRCs result with an in situ head noun. If nothing is focalized, or only the whole IP_{REL} does, in situ-PE IHRCs result with an in situ head noun.

Given the proposed presence of focus features, a further question arises now as to whether topicalized relative clauses have then one and the same element bearing both focus and topic features at the same time. In fact, given these derivations, relative clauses may contain a focalized element that would bear also topic features when the whole DPrel is topicalized in the main clause. That a certain element undergoes topicalization and focalization may appear contradictory. In my opinion, there are some reasons to hypothesize that focus plays a role in relative constructions. Alternatively, it is possible to conceive that at least contrast plays a role.

Concerning the first hypothesis, since focalization and topicalization of one element are established with respect to other pieces of information, it is not impossible that the same element is focalized with respect to the subordinate, relative clause and yet topicalized with respect to the matrix clause. Even more so, if we consider that relative constructions consist of two clauses, main clause and relative clause, which may package information independently from each other as they refer to distinct events/situations. We can see this if we present the two clauses separately, that is, if we keep the two clauses as two separate sentences. A relative construction as *Tomorrow I will read the book that my father bought yesterday* can be split into two sentences: *My father bought a book yesterday. I will read that book tomorrow*. In the first sentence, *book* is new information. In the second one it is known, given information, as indicated by the anaphoric demonstrative *that*. As such, *that book* can be also topicalized: *My father bought a book yesterday. That book, I will read tomorrow*. Crucially, the given information contained in the DP *that book* is not simply 'book', but corresponds to a specific book, namely

'book bought yesterday'. 'Book' is not given information per se. In other words, the given information of the DP of the second sentence corresponds to the whole first sentence. If we link the two sentences in a relative construction, the first sentence becomes the relative clause and is given information for the second sentence, which becomes the main clause. Within the first sentence, which becomes the relative clause, one element is new information with respect to the other elements. More precisely, the main clause would contain a topicalized, given DP_{REL} within which one element is new information with respect to other elements, that is, is focalized.

Alternatively, rejecting this hypothesis, another explanation is possible, still based on the parallelism between relative clauses and interrogative clauses. In chapter 4, it is argued that focalization gives prominence to the relevant element, to which interrogativity applies (e.g. which time vs which place; the subject vs the object etc…). Along the same lines, focalization would serve a similar purpose in relative clauses, giving prominence to the element to which identification applies. In my opinion, this operation implies a kind of contrast between different elements of a set. Identifying the book of the second clause with the book of the first clause, entails that all other possible books are discarded. In other words, a relative construction as *Tomorrow I will read the book that my father bought yesterday* can be rephrased also as: *My father bought a book yesterday. That very book (not others) I will read tomorrow*. In this perspective, both wh interrogative and restrictive relative clauses entail a sort of contrast. Accordingly, the focus feature triggering wh raising in Aboh & Pfau (2011), which I extend to PE raising here, could be a feature of contrast, instead. In saying so, I am also sharing Frascarelli & Puglielli's (2007) and Frascarelli & Hinterhölzl's (2007) claim that contrast features are distinct from both topic and focus. On the basis of Italian and German data, they argue convincingly that contrastive features can be added to both topicalized and focused information and that contrast is associated with a specific projection in the left periphery[108]. Granted this, topicalized relative clauses would not have any clash of topic and focus features because they would involve only contrast and topic features, which can co-exist. However, this hypothesis remains at the level of speculation. Whether and to which extent focus or

[108] Concerning this, see footnote 92 in § 4.2.3.

contrast features really contribute to the parallel derivations of wh interrogative clauses and relative clauses is an issue which I leave open for future research.

Along similar lines, one may want to find a parallelism between Cinque's highest CP projection, which hosts the external heads of relative clauses, and the high projection for disjunctive operators of interrogative clauses discussed in chapter 4. According to this hypothesis, the external head of relative clauses raises to the high projection to check definiteness/specificity features, which, in my opinion, entail no/zero disjunction. In fact, in my opinion, disjunction amounts to absence of identification, because a number of alternative choices are possible to identify a referent. In contrast, definiteness/specificity represents the maximum degree of identification, that is, absence of disjunction. In chapter 4 it is argued that the highest projection (there labelled WhP) of the interrogative zone encodes infinite disjunction in wh interrogative clauses. It is possible that the external head of relative clauses raises to the highest CP projection of the relative clause zone, which encodes zero disjunction. This approach would make it possible to subsume one and the same high projection for both relative clauses and interrogative clauses. Of course we are in the field of conjecture. The effectiveness of this hypothesis is a something to explore in future research.

In contrast, LIS sentences such as (239), where the rel NMM appears only on PE, cannot be explained under the present analysis. The sentence is repeated as (268) here. As seen in §5.1.3, §5.1.4 and previously in this section, LIS data suggest that the nonmanual marker is assigned independently of the presence and the position of PE. Under the assumption that at least the restrictive "tense eyes" component of the "rel" nonmanual marker is assigned to IP_{REL} because it is merged in [Spec;FP], this sentence would imply that PE is merged alone within IP_{REL}, as in a reduced relative clause, while the rest of the clause is outside. At the same time, the "raised eyebrows" NMM that Branchini & Donati (2009) report to constitute "rel" and that we have seen to be a topic marker suggests that PE is topicalized. Since we have seen that topics marked with "raised eyebrows" cannot occur to the right of their clause, this topicalized PE is not part of the first clause, or else it should be a right-peripheral topic. However, PE can well be a topic fronted to the left of the second clause. This amounts to suggesting that (268) is split in three parts and corresponds roughly to (269).

268. rel [LIS: repeated from (239)]
ONE WOMAN$_i$ MAKE-UP NOT PE$_i$ IX MEET NEVER
'I never met a woman who does not wear make-up'

269. One woman does not wear make-up, such/that one (which I have just mentioned), I have never met

I have no conclusive evidence for this hypothesis, however. Especially, in such case, prosodic breaks should be visible, which, however, are not reported. On the other hand, assuming that PE assigns the "tense eyes" NMM does not account for the fact that this nonmanual marker also appears in other relative clauses when PE is absent. It also does not account for the fact that the NMM occurs independently from the position of PE. In addition to this, the position of the raised-eyebrows-marked PE would be unexplained, as it cannot be derived with rightward movement, given that topics with raised-eyebrows cannot occur to the right of the clause. Thus, I maintain the assumption that PE does not assign the "tense eyes" NMM nor the "raised eyebrows" NMM. I claim that "tense eyes" are assigned in FP to (a possibly reduced) IP_{REL}. I also claim that the "raised eyebrows" NMM appears because topicalization occurs after relativization. I leave the issue of (239.a) = (268) for further research. Notice that also sentence (238) remains unexplained. One possibility is to assume that CITY is in situ, and the subject IX is one of Bertone's (2007) clitics occupying a position close to the verb, distinct from the position of strong pronouns. Bertone (2007) discusses the existence and the different properties of strong, weak and clitics indexes in LIS. She shows that these categories of pronouns have distinct distributions. In particular, she shows that LIS clitic pronouns cannot be separated from the verb. A clitic subject pronoun must immediately precede its verb. This implies that, unlike full NPs and strong pronouns, clitic subject pronouns must follow a full NP object, although they precede the verb. Taking this perspective, a clitic subject IX would follow the object CITY in (238) even though this object is in situ. Sentence (238) would then be a final-PE IHRC with in situ (object) head noun. The apparently unusual position of the head noun with respect to the subject would derive from independent properties of the subject itself (it is a clitic), not from a specific behaviour of the head noun. Unfortunately, I

have not been able to determine the status of the subject IX. Consequently, I cannot propose a reliable analysis for this sentence. I restrict myself to the observation that the distribution of PE and the NMM contrast with those observed in all other examples.

In conclusion, apart from these few cases, the vast majority of instances of alleged rightward movements in the CP of LIS and NGT seems to be able to be reduced to one property, namely focus or contrast, while all the rest of CP-related phenomena, as topics, imperative clauses, interrogative clauses, conditionals and external head of relative clauses can be derived with leftward raising.

5.3 Conclusions

Conditionals can be easily accounted for in LIS and NGT, with a split-CP à la Rizzi, antisymmetrically ordered with a Specifier-Head-Complement structure. According to the present analysis, conditional subordinate clauses undergo topicalization so that their distributional properties follow the same pattern as that of other topics. The restrictions observed on conditional subordinate clauses follow the restrictions that allow topics to stack to the left of the main clause while preventing them from appearing on its right. Moreover, conditional clauses bear the same "raised eyebrows" NMM that marks topicalized constituents. The fact that conditional clauses and other topics are not allowed to follow the (main) clause in LIS and NGT appears then to derive from independent properties of these languages, which still need be investigated. These restrictions, albeit still unexplained, support the hypothesis that conditionals and topics behave alike with respect to the (main) clause and also fit in with the assumption that raising movements are only possible toward the left, as predicted by an antisymmetric structure with Specifier-Head-Complement configuration. In principle, then, Rizzi's split-CP hypothesis, with topic projections to the left of the main clause (above InterP), is able to explain the distribution of conditional clauses in these languages, although more research is required to determine if their topic projections are freely recursive or encode distinct features. Also the fact that conditional clauses in both LIS and NGT can be optionally introduced by clause-initial elements IF/SUPPOSE, as in languages with [Spec;CP] on the left (such as Italian or English), supports the view of a structure with specifiers on the left, rather than a structure with specifiers

on the right. It thus supports (indirectly) the point of view of antisymmetry.

With relative clauses, things are a little more complicated. I have analysed only restrictive relative clauses, not appositive ones. Nevertheless, the data reveal considerable crosslinguistic and intralinguistic variation. Most LIS EHRCs and (circumnominal) IHRCs can be accounted for on the basis of Cinque's (2005, 2008) unified structure underlying different relative clauses of different languages. The analysys of LIS EHRCs is also based on the similarities between LIS and DGS relative clauses. In Cinque's approach relative clauses involve the double merging of the head noun: as external head in the relativized DP_{REL} and as an internal head in the subordinate IP_{REL} embedded in this DP_{REL}. The different relative constructions emerge then as the result of different raisings which lead to identification and deletion alternatively of the internal or the external head, with the internal head being either in situ or raised outside the subordinate. For most LIS and NGT relative clauses, a simplified structure à la Cinque with two CP projections is sufficient. Relative clauses in LIS can be derived under the assumption that LIS PE is an anaphoric demonstrative raised from within the subordinate clause (but still within the relativized DP). The raising of PE in LIS relative clauses patterns with the raising of wh elements, especially WHICH, in interrogative clauses. Both PE and WHICH can remain in situ, within IP_{REL} or the interrogative clause respectively. Alternatively, both can be extracted alone, followed by remnant movement of the clause which strands them in final position. Both of them can also raise together with the noun which they accompany, namely with the NP in complex wh-phrases and with the internal head noun in initial-PE EHRCs. The only difference is that in EHRCs also the external head noun raises and deletes the internal one. In fact, the distribution of signs in LIS and NGT (and DGS) and that of LIS NMMs supports Cinque's view of a position for the external head, distinct from the one hosting the internal head and to the left of the relative clause, which is Cinque's IP_{REL}. Notice that, in principle, according to the present account, PE would raise together with the internal head noun even in correlative IHRCs (if any). However, these are not attested in LIS according to Branchini & Donati (2009).

However, deriving the sign order of other LIS cases require the assumption of a third CP projection, as suggested in Cinque (2008). I have then made some tentative speculation about the possible reason for

an additional projection. Basing on the observed parallelism between the highly varying distribution of wh elements and the equally varying distribution of PE, I argue that one projection is comparable to the focus projection proposed for wh interrogative clauses (and extended to polar interrogative clauses) in chapter 4. Consequently, I argue that this projection of relative and interrogative clauses may have to do either with focus features (Aboh & Pfau 2011) or, at least, with contrastive features (under Frascarelli & Hinterhölzl's (2007) assumption that contrast is a feature independent from topic and focus).

Both these hypotheses need to be verified in future research on the distribution of focalized and contrasted constituents in LIS and NGT. However, the fact that focus/contrast features are assumed for independent reasons in a number of other constructions in different languages should avoid an unmotivated proliferation of projections. A further possibility to explore is that the highest of Cinque's CP projections of the relative clause zone corresponds to the high WhP projection of the interrogative zone.

The core of Cinque's proposal, however, lies in the assumption that the relative clause is merged within the DP above the noun and its numerals and adjectives. Restrictive relative clauses are merged under DemP and appositive relative ones are merged above QP. From this perspective, the existence of postnominal restrictive relative clauses in LIS is in line with its having "rolling-up" pied-piping movements inside the DP, as discussed in chapter 2. These pied-pipings raise the noun to the left of the relative clause, also dragging along other elements. Within the present framework, this suggests that the noun raises across the relative clause, piedpiping the adjective. In LIS, both the adjective and the relative clause follow the noun as, for instance, in (248.a). However, their N-A-RC order is again in line with the assumption that noun and adjective raise together above the restrictive relative clause. The noun pied-pipes the adjective with inversion obligatorily in LIS. As with conditionals, different nonmanual markers accompany relative clauses in this language. In particular, LIS relative clauses bear the "tense eyes" NMM observed on conditional clauses. However, at the same time, the crosslinguistic comparison of data suggests that the relativized DP, i.e., the DP containing the relative clause that modifies it, can be merged in the matix clause either in canonical argument position or in topic position.

In LIS (as in DGS), the "raised eyebrows" NMM, which marks topics, is layered onto the DP (and the relative clause) when it is topicalized.

The vast majority of the cases discussed in this chapter are compatible with Cinque's antisymmetric derivation. However, some few residual relative clauses remain unexplained. In addition to this, the combination and the (possibly different) functions of the NMMs must be still investigated in order to reach definite conclusions. Also the status of the LIS demonstrative PE requires further research before a full-working account can be proposed for LIS relative clauses.

Nevertheless, even though some LIS relative clauses are not covered by the present antisymmetric account, they remain the only case that requires rightward movement, given that topics, conditionals and final-wh interrogative clauses pattern with leftward movement constructions attested in Spec-Head-Compl structured spoken languages (see this chapter for conditionals and chapter 4 for a discussion of topics and the clause-final position of wh elements). In general, even if one were to reject antisymmetry, all instances of rightward movement in the CP of LIS seem to be able to be reduced to one property (of focus or contrast) affecting both LIS and NGT wh questions and LIS relative clauses. Even taking such a perspective, the issue would concern only some wh and some relative clause. This appears not sufficient, in my opinion, to assume a head-final branching structure of the CP domain.

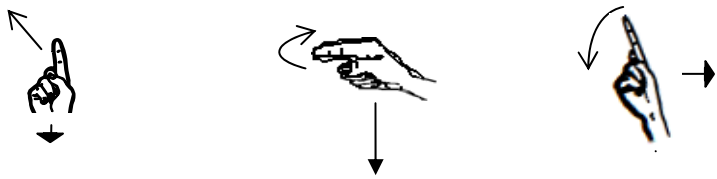
Before concluding this chapter, I would like to make some speculations about the fact that LIS conditional protases and restrictive relative clauses share the "tense eyes" NMM, as well as the "raised eyebrows" NMM. Also, other similarities between relative constructions and conditionals exist, which involve both LIS and NGT. Notice that the signs for IF of the two languages (Italian *SE* in Romeo (1997:129, 136), Dutch *ALS* in www.kegg.nl/egg_gebaren.php) share the handshape-1, also called handshape-G (). They also share a "lateral" movement, somehow orthogonal to the axis of the forefinger, instead of the usual pointing movement of pronouns and demonstratives[109]. They have a single and nonrepeated, "resolute" movement similar to the one of the sign PE of LIS. Concerning LIS, Radutzky (2002:187.1) describes a variant of IF

[109] Although LIS IF and NGT IF are different from each other, neither of them moves in the direction indicated by the tip of the index finger. Rather, both move toward the direction indicated by the outer side of the finger (the side that is far from the signer), as the pictures show.

with reduplicated movement, in addition to Radutzky's (2002:459.1) and Romeo's (1997: 129, 136) nonreduplicated IF forms. It appears then that repetition of the movement is optionally possible, albeit not obligatory. Demonstratives and pronouns, too, can be reduplicated optionally, by repeating the movement of their base form. In contrast, as far as I have observed, obligatorily repeated movement (possibly circular as in LIS WHERE) is often associated to the base form of wh signs in LIS and NGT, regardless of the hand configuration. For instance, WHICH, WHERE, WHAT all have a repeated movement in both sign languages[110]. In (270) the NGT sign IF has a downward and forward wrist rotation, while the LIS sign IF lacks rotation and moves forwards and slightly upwards. Despite this difference, the characteristics of these signs suggest that they have some "definite" feature like LIS PE and are not suitable for interrogative constructions. In fact, I have not found any occurence of interrogative clauses containing these signs, in the literature. In (270), the signs IF of LIS and NGT and the LIS sign PE are sketched and compared.

270. Comparing LIS and NGT signs 'if' (SE/ALS) and LIS PE

a. IF (LIS) b. PE (LIS) c. IF (NGT)



It is no new observation that conditionals and relative clauses display similiarities. In fact, the relevant feature of conditionals is that they have an operator (Bhatt & Pancheva 2005; Arsenijević 2009; Haegeman 2009a, 2009b) instead of the "usual" internal head. In other words, conditional clauses are "world-restrictive" relative clauses containing a world operator. Roughly speaking, they restrict a situation, a possible world (among all conceivable worlds) to the one where a specific condition occurs. It is thus attractive to extend Cinque's unified account for relative clauses also to conditionals. In such a perspective, the "tense eyes" NMM

[110] Not all wh signs contain a repeated movement (LIS/NGT WHO, LIS WHY). However, also in spoken languages, not all wh signs contain a wh part (English 'how').

observed in LIS conditionals would be assigned in a restrictive projection FP, as in restrictive relative clauses. The presence of a topic "raised eyebrows" NMM would indicate that, like (other) relative clauses, these "world-restrictive" relative clauses can be merged in the topic projection of the left periphery of the main clause. This would be in line with the intuition that topicalization takes a (real or imaginary) referent as the center of the predication, that is, as the starting point for determining further information, i.e., the the truth-value of the sentence[111], while conditionals take the truth-value of an(other) event as a starting point for determining further information. The features of sign languages, with their NMMs and signs (which can be decomposed in parameters that highlight parallelisms between functional elements) are evidence that supports a unified theory "Conditional-Relative". The observation, however, remains at the level of speculation until definite conclusions can be reached about the status and the structure of LIS relative clauses and their nonmanual markers.

[111] By this I mean that a sentence like *As for vegetables, I prefer tomatos* means roughly *'If we now speak/turn to/mean vegetables, I prefer tomatoes*. However, the same statement (I prefer tomatoes) may not be valid if the topic is food in general, in which case the speaker could prefer meat to tomatoes.