The quest for syntactic dependency. Sentential complementation in Sign Language of the Netherlands
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Chapter 6

4th adventure: Wh-extraction

We are definitely back on the right track again. The previous adventure did not only confirm this, it also yielded new evidence that brings us closer to our goal. But we still lack a final piece of proof. The new adventure looks exciting, and hopefully it will give us the decisive clues.

6.1 Introduction

Wh-extraction of elements from potentially embedded clauses is another way to test whether a clause is syntactically embedded or not. Ross (1967) stated that extraction of elements from coordinate structures is universally severely restricted. This is shown for an English wh-question in (1a). Elements from subordinated clauses, however, can be extracted in a large number of languages, as in example (1b), but not if these subordinated clauses are adjunct clauses, as can be seen in example (1c).

(1) a. *What song, did Ellie buy a book and sang it for me?
b. What song, did Ellie say that she sang it for me?
c. *What song, was Daniëla angry after Ellie sang it for me?

These observations imply that if wh-extraction of an element out of the potential complement clause to the main clause is possible in NGT, this potential complement clause is not only syntactically subordinated to the main clause, but also occupies an argument position of the main predicate. The
potential complement clause is thus a not an adjunct clause but a syntactic complement clause.

For ASL, Padden (1988) used topicalisation, another type of \(wh\)-extraction, to show whether a clause is embedded in another clause. Her examples, which I have already mentioned in chapter 2, example (12), are repeated here in (2). In (2a) the second clause \(\text{GIVE}_2\) is subordinated to \(\text{INDEX} \_\text{TELL}_2\). Topicalisation of a constituent from this second, subordinated clause to the main clause is possible. In (2b), however, the second clause \(\text{GIVE}_1\) is not subordinated but coordinated to the matrix clause \(\text{GIVE}_1\ \text{MONEY}\). Topicalisation out of this second clause is therefore prohibited.

\[
(2) \quad \begin{align*}
\text{a. TICKET, INDEX TELL GIVE}_2 \\
\text{'Those tickets, I told you to give to him.'}
\end{align*}
\]

\[
\text{b. *FLOWER, GIVE}_1 \text{MONEY, GIVE}_1 \\
\text{'Flowers, he gave me money but she gave me.'}
\]

(ASL; Padden 1988:91ff., exx.32 and 38)

In this chapter I will investigate whether extraction of elements can uncover the relation between clauses in (potential) NGT complement constructions. I will look at \(wh\)-extraction in \(wh\)-questions and topicalisation. It should be kept in mind that the results from the extraction data work one way only. If \(wh\)-extraction in complex sentences is possible, this is evidence for syntactic subordination. If, however, \(wh\)-extraction is not possible, this does not prove that the clauses under investigation are not in a subordinated relation to each other. In these cases, the ban on \(wh\)-extraction may be due to other factors, such as improper government (Chomsky 1986b, Lasnik & Saito 1984).

In section 6.2 extraction of \(wh\)-signs and \(wh\)-constituents will be considered. First, I will show that extraction of \(wh\)-signs does give evidence for the subordinated status of (potential) complement clauses, but not in every case (6.2.1). Then I will go into the issue of sentence-final \(wh\)-constituents and rightward \(wh\)-movement. The data in my corpus contradict the claim that in NGT, \(wh\)-constituents, if not \textit{in situ}, always occur sentence-finally. I will propose to analyse the NGT non-\textit{in situ} sentence-final \(wh\)-constituents as a
result of doubling and "wh-drop" (6.2.2), just like some cases of pronominal right dislocation was analysed by Bos (1995). Furthermore, it is shown for ASL that although sentence-final wh-constituents occur in this language, a rightward movement analysis of these wh-constituents as proposed by Neidle et al. (2000) is not required; the doubling and drop analysis can be applied in these cases as well (6.2.3). In section 6.3 I will discuss topicalisation, another type of wh-movement. Although at first sight, this test yields promising results, it turns out that these results are deceptive. What looks like topicalisation of an element from the potentially embedded clause (section 6.3.1) turns out to be left dislocation, that is base-generation of a topic constituent with a coreferent null pronoun in the second clause (6.3.2). Nevertheless, the possibility of left dislocation is also evidence in favour of syntactic dependency between clauses in complex constructions.

6.2 Extraction of wh-signs
After I have presented the data on extraction in complex wh-questions in NGT in section 6.2.1, I will discuss the related issues of the sentence-final placement and rightward movement of wh-signs. In section 6.2.2, I will argue against the claim made in recent NGT grammars that the wh-constituent in simple NGT questions always occurs in situ or in sentence-final position. I will show that a sentence-final wh-constituent in NGT stands, in fact, in situ, or can be compared to a right dislocated pronoun. For ASL, Neidle et al. (2000) argue that a sentence-final wh-sign in this language results from rightward movement of the wh-constituent. I will dispute their arguments in 6.2.3.

6.2.1 Wh-extraction in complex NGT sentences
In NGT it is possible to extract a wh-constituent from the potentially embedded clause to the main clause in complex sentences. Strangely enough, this is only possible for wh-subjects and -objects with the complement-taking predicates to want, to see, to like, to pretend, and to know (3a-e). Extraction of a wh-constituent from the potentially embedded clause of the complement-taking predicates to believe, to doubt, to ask, and to tell is not possible. This can be seen in (3f-i). The non-manual wh-marker in NGT, glossed in the examples as 'whq',
consists of the elements lowered eyebrows and a raised chin (see the gloss conventions).¹

(3) a.  

\[ \text{WHO} \quad \text{BOY} \quad \text{POINT}_{\text{right}} \quad \text{WANT} \quad \text{rightVISIT}_{\text{left}} \quad I_{\text{who}} \]

‘Who does the boy want to visit?’

b.  

\[ \begin{array}{c} \text{WHO} \\
\text{POINT}_{\text{your}} \quad \text{signerSEE}_{\text{opposite}} \quad I_{\text{who}} \\
\text{PL} \quad \text{of signer} \end{array} \quad \text{BOOK} \quad \text{STEAL} \]

‘Who do you see stealing the book?’

c.  

\[ \begin{array}{c} \text{WHERE} \\
\text{POINT}_{\text{left}} \quad \text{LIKE} \quad \text{POINT}_{\text{right}} \quad \text{signerGO.TO}_{\text{in}} \\
I_{\text{where}} \end{array} \]

‘Where does he like her going to?’

d.  

\[ \begin{array}{c} \text{WHO} \\
\text{POINT}_{\text{your}, \text{PL}} \quad \text{PRETEND} \quad I_{\text{who}} \\
\text{BOSS} \end{array} \]

‘Who do you pretend is the boss?’

¹ In (3), the object traces are mentioned post-verbally. However, I do not assume an underlying SVO-structure, as already explained in the former chapter, section 5.4.
e. "What does the professor know that does not exist?"

f. "Who does Inge believe visits him?"

g. "Who does Marijke, doubt she, will visit?"

h. "Who does Inge ask him if (he,) went home?"
Thus, the boundary for extraction of \( wh \)-constituents from potential complement clauses lies between the complement-taking predicates *to know* and *to believe* (cf. table 2, chapter 2). Both *to know* and *to believe* belong to the third level in Functional Grammar terms, so it cannot be the level a predicate belongs to that distinguishes between extraction and non-extraction. The discriminating factor might be factivity, i.e. the speaker's attitude towards the truth of the dependent state of affairs. The predicate *to know* is factive, whereas *to believe* and *to doubt* are non-factive.

On the second level no reference can be made to truth value. The counterpart of factivity on this level is implication which says something about the logical entailment of the dependent state of affairs by the matrix predicate (Dik 1997b:114, see table 2 in chapter 2 and the discussion of presupposedness there). However, as can be seen in (3) all predicates on the second level allow \( wh \)-extraction, regardless of their type of implication (*to want* is a non-implicative verb, *to see* and *to like* are both implicative verbs, and *to pretend* is a contra-implicative verb). Moreover, factivity, or better, presupposedness does not play any role within predicates that belong to the fourth level (here *to ask* and *to tell*). Thus, designating factivity or presupposedness as the discriminating factor is not really plausible either. Furthermore, it has been reported in the literature on
extraction that factive clauses can be (weak) islands for extraction (among others, Barbiers to appear, section 4.4 for Dutch and Roorijc 1992:343 for French), rather than non-factive clauses.

Nevertheless, a combination of presupposedness and predicate level might be responsible for the appearance of the dividing line between to know and to believe. Since two different forces, that is, presupposedness and predicate level, pull as it were in two distinct directions, depicted in table 1 with a horizontal and a vertical arrow, this often results in a diagonal in the scheme with a dividing line within the third predicate level. In typological studies such a division, originating from different functional forces, is often found. For example, Hengeveld (1998:373ff.) found a boundary at the same point in the scheme with the same parameters for, among others, English and Spanish adverbial clauses.

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Table 1: a diagonal dividing line resulting from the two functional forces presupposedness and predicate level pulling in different directions; a ‘+’ indicates that extraction of a wh- constituent out of the potential complement clause to sentence-initial position is possible, a ‘-’ indicates that this is not possible

The data in (3) show that the extraction of wh-constituents from potential complement clauses gives only partial clarity about the syntactic dependency relation between two clauses in a complex sentence. For the complement-taking predicates to believe, to doubt, to ask, and to tell such a relationship cannot be inferred from extraction of wh-constituents. However, for the predicates to want, to see, to like, to pretend, and to know extraction of wh-constituents reveals syntactic dependency between the clauses, that is the second clauses are subordinated to the first. Moreover, as discussed in the introduction (section 6.1) extraction from adjunct clauses is not possible. Since extraction from the second clauses in the sentences in (3) with to want, to see, to like, to pretend, and to
know is possible, these second clauses are not adjunct clauses but occupy argument positions of the main predicates and thus are syntactic complement clauses.

I would like to look at some related topics next. First I will discuss the sentence-final position of *wh*-constituents in NGT. Finally, I will turn to the sentence-final position of *wh*-constituents in ASL and show that there is no reason for adopting a rightward movement analysis to explain the occurrence of *wh*-constituents in this position.

### 6.2.2 Sentence-final *wh*-constituents in NGT

In recent NGT grammars it has been proposed that the *wh*-constituent often occurs sentence-finally, e.g. by the Dutch Sign Centre (Nederlands Gebarencentrum) in their *Introduction Language Proficiency Sign Language of the Netherlands Workbook* (Inleiding Taalvaardigheid Nederlandse Gebarentaal Werkboek 2001:54). However, when we look at the examples given by the Dutch Sign Centre, then it must be concluded that the *wh*-constituents either appear *in situ*, as in (4), or in a separate clause, which can be inferred from the slash in the glosses, see (5). The *in situ* position can coincide with the sentence-final position if it concerns an *in situ* *wh*-object, as in (4). In cases like (5) nothing can be said about the position of the *wh*-constituent.²

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(4) **POINTyou DRINK WHAT**

"What do you drink?"

(NGT)

---

(5) **POINTyou LIVE / WHERE**

"You live, where?"

"Where do you live?"

(NGT)

---

² The examples in (4) and (5) are adapted and translated from the *Introduction Language Proficiency Sign Language of the Netherlands Workbook* 2001:4-6 and 16-3, respectively. To avoid confusion, the general question sign glossed as *A*, that just like the PT-sign is made by two hands with palms facing upwards, is left out of the NGT examples, because not every informant uses this sign. The '/' and ',' in (5) indicate a clause boundary.
In my corpus, \textit{wh}-object constituents in NGT simple \textit{wh}-questions occur in situ, as in (4), or sentence-initially, as in example (6). The sentence-initial position of the object \textit{wh}-sign in sentence (6) must result from leftward movement of this sign, because objects do normally not occur in sentence-initial position in NGT.

\textbf{(6)}

\begin{center}
\begin{tabular}{c c c c}
\text{\textit{whq}} & \text{WHAT} & \text{POINT}_{\text{signer}} & \text{LIKE} & \text{\textit{wh} \text{ POINT}_{\text{signer}}}
\end{tabular}
\end{center}

‘What do I like?’

\textit{Wh}-subjects can appear in situ, as in sentences (7a) and (8a), and in sentence-final position too, as in (7b) and (8b). However, the sentences in (7c) and (8c) with doubling of the \textit{wh}-subject suggest that the b-sentences in (7) and (8) should not be analysed as rightward movement of the \textit{wh}-subject, but rather as doubling of the initial \textit{wh}-subject in sentence-final position followed by deletion of the sentence-initial \textit{wh}-sign (‘\textit{wh-drop}’), comparable to the analysis of pronominal right dislocation given by Bos (1995:130).\textsuperscript{3}

\textsuperscript{3} It is interesting to note that just like pronominal right dislocation, the possibility of ‘\textit{wh-right dislocation}’ in NGT sentences like (7b) and (8b) seems to depend on the preference of the signer: one informant considered certain sentences with ‘\textit{wh-right dislocation}’ as questionable while the other informants judged the same sentences as perfectly grammatical (cf. chapter 4, section 4.2). Another similarity with right dislocation is that ‘\textit{wh-right dislocation}’ seems to relate to subjects mainly.
(7) a.  

```
  \___\  
  \___\  
  \___\  
  \___\  
  \___\  
  \___\  
```

WHO BOOK STEAL

b.  

```
  \___\  
  \___\  
  \___\  
  \___\  
```

BOOK STEAL WHO

(NGT)

(8) a.  

```
  \___\  
  \___\  
  \___\  
  \___\  
```

WHO rightCOME signer

b.  

```
  \___\  
  \___\  
```

rightCOME signer WHO

(NGT)

c.  

```
  \___\  
  \___\  
```

WHO rightCOME signer WHO

(NGT)

Who steals the book?

Who comes to me?
Therefore, I will assume that in NGT, wh-constituents move leftward to the sentence-initial spec,CP to check their wh-feature [+wh], even though this leftward movement is vacuous for short movement of wh-subjects. Whether this movement takes place before or after spell-out, determines the wh-constituent being in sentence-initial position or in situ, respectively. The relevant structure for NGT is in (9).

\[\text{(9)}\]

\[
\begin{array}{c}
\text{CP} \\
\text{spec} \\
\text{what} \\
\text{C} \\
\text{[+wh]} \\
\text{spec} \\
\text{AspP} \\
\text{Asp'} \\
\text{Asp} \\
\text{POINT}_{\text{signer}} \\
\text{LIKE} \\
\text{VP} \\
\end{array}
\]

In ASL, constructions with a sentence-initial and sentence-final wh-constituent occur as well (10).\(^4\)\(^5\) The wh-constituents in sentence-initial position in these sentences are analysed by Neidle et al. (2000:115ff.) as wh-topics. Since, their arguments are open to criticism (see the discussion below), I will not adopt their analysis for NGT.

\[\text{(10)}\]

\[\text{"WHAT", JOHN BUY "WHAT"} \]

'What, what did John buy?'

\[\text{(ASL; Neidle et al. 2000:115, ex.16)}\]

\(^4\) The ASL sign glossed as "WHAT" in (10) is a so-called generic wh-sign and differs in form and distribution from WHAT without quotation marks (see Neidle et al. 2000:117, and 187, fn.14 for more details).

\(^5\) The status of the ASL sentence in (10) above is dubious. On the one hand, since Neidle et al. use a comma in the glosses after the first sign "WHAT", they seem to regard this sign as an extra-clausal constituent. However, on the other hand, the whole sentence is accompanied by a continuous non-manual wh-marker.
Neidle et al.’s most important evidence for the analysis of sentence-initial wh-constituents as wh-topics in constructions like (10) comes from the distribution of wh-topics with respect to other topics (ibid.:116). First of all, they show that an ASL sentence can have two topics only (ibid.:50ff.). On the basis of this observation they predict that in a double wh-construction as in (10), only one other topic can occur. This prediction is borne out. Therefore, Neidle et al. conclude that the sentence-initial wh-constituent is a topic (ibid.:116). However, we can assume that in ASL, just like in NGT, focus elements can occur sentence-initially, too, and that sentence-initial focus elements fill one of the two sentence-initial ‘topic’ positions that Neidle et al. assume. Hence, it is not at all strange that as well as a sentence-initial wh-constituent, which is generally considered to be a focus constituent, only one other sentence-initial constituent is allowed. Thus, analysing the sentence-initial wh-constituents as topics is not necessary to explain the distribution of these constituents with regard to topic constituents.

Second, according to Neidle et al., the two sentence-initial constituents in ASL occur in a fixed order: a base-generated constituent precedes a moved constituent. They assume that the wh-constituent is base-generated and thus predict that this constituent always precedes a moved constituent. This prediction seems to be true, although Neidle et al. have to admit that “...it requires some effort to create a plausible context...” (ibid.:188, fn.15) for such a sentence. If both sentence-initial constituents are base-generated, then the order is free. According to Neidle et al. this holds, too, when one of those two constituents is a wh-constituent. The order between a sentence-initial wh-constituent and another base-generated sentence-initial constituent is, however, a matter of debate, since Lillo-Martin (1990:219-220) claims that a sentence-initial wh-constituent can only occur after another sentence-initial constituent.

Neidle et al. give two more arguments for considering the sentence-initial wh-constituent in sentences like (10) as wh-topics. Firstly, Neidle et al. claim that wh-topics have a special non-manual marking (most notably raised instead of lowered eyebrows). However, this non-manual marking does not always discriminate between wh-topics and regular wh-constituents.
The nonmanual marking associated with \textit{wh}-topics, ... thus exhibits some variability and does not always distinguish \textit{wh}-topics from nontopic \textit{wh}-phrases. (Neidle et al. 2000:115)

Secondly, Neidle et al. argue that the \textit{wh}-topic is related to the \textit{wh}-constituent in the sentence: the latter refers back to the \textit{wh}-topic. However, this also holds for the "copy and delete" analysis presented above. Moreover, topics are typically followed by a short pause, whereas \textit{wh}-topics in ASL are not (ibid.:116).

Therefore, I conclude the following for NGT \textit{wh}-sentences with the \textit{wh}-constituent in sentence-final position that cannot be analysed as being \textit{in situ}. These result from copying the sentence-initial \textit{wh}-constituent followed by optional deletion of this constituent. A similar analysis might be applicable to ASL constructions like (10) but I leave this open for further research. Sentence-initial \textit{wh}-constituents in NGT that cannot be analysed as being \textit{in situ} in regular and doubled constructions are analysed as being moved leftward to a sentence-initial spec, CP.

6.2.3 Rightward \textit{wh}-movement

Neidle et al. (2000) claim that the \textit{wh}-sign or constituent in ASL occurs \textit{in situ} or in sentence-final position. They propose that the sentence-final position of \textit{wh}-constituents in ASL results from these constituents moving rightward to Spec,CP that, like the head of CP, is located to the right of TP, as depicted in (11), (ibid.:109ff.).
In recent generative literature claims have been made that universally all movement is leftwards (most notably Kayne 1994). The ASL data are a challenge to this proposed universal. According to Neidle et al. (ibid.:110), data on word order in ASL simple questions show that movement of the wh-constituent is optional but if it occurs, then it proceeds to the right. In (12) it is shown for wh-subjects that these occur either in situ or sentence-finally. The examples in (13) show for wh-objects that these can occur in situ but not sentence-initially. Of course it is not completely clear in (13a) whether the wh-object (vacuously) moved to the right, but the TP-final adverbial yesterday in (14) is taken as evidence for rightward movement of the wh-object in ASL.

(12) a. WHO LOVE JOHN

   whq

   b. *LOVE JOHN WHO,

   ‘Who loves John?’

   (ASL; Neidle et al. 2000:110, exx.1,2)

(13) a. JOHN LOVE WHO

   whq

   b. *WHO JOHN LOVE

   ‘Who does John love?’

   (ASL; ibid.:110, exx.3,4)
However, the sentences in ASL where the $wh$-constituent occurs sentence-finally might also be analysed as sentences that consist of two coordinated clauses of which the first clause contains a null argument and the second clause the $wh$-argument that is coreferent with the null argument in the first clause. Ellipsis of the proposition has occurred in the second clause (cf. also Petronio & Lillo-Martin’s 1997 multi-sentence discourses).

Another analysis that can be proposed for the ASL data is the $wh$-doubling and drop analysis that was proposed in section 6.2.2 for the NGT sentences with a $wh$-subject in sentence-final position.

If one of these analyses of “sentence-final $wh$-constructions” is right, then a rightward movement analysis to a Spec,CP at the right of TP is no longer needed. Under the paratactic analysis, the adverbial YESTERDAY in (14b) would occur in the TP-final position of the first clause. The second clause that contains the $wh$-sign only, forms a clause in itself in which the $wh$-sign can be said to have vacuously moved leftwards to Spec,CP that is at the left of the TP of the second clause, under the doubling and drop analysis the object $wh$-sign in situ in (14b) is doubled in sentence-final position followed by deletion of the in situ $wh$-sign.

However, Neidle et al. present two more pieces of evidence for the rightward movement analysis, one of which is evidence against the paratactic analysis. This evidence for the rightward movement analysis comes from the distribution and intensity of the non-manual $wh$-marker, which in ASL consists of furrowed brows, squinted eyes, and a slight side-to-side headshake (Neidle et al. 2000:111).

First I will discuss the distribution argument. If the $wh$-constituent stays in situ, then in ASL the $wh$-marker spreads obligatorily over the whole sentence, as
in the a-examples in (12)-(14) above and in (15a) and (16a). If the \textit{wh}-constituent occurs sentence-finally, then the marker can occur over the \textit{wh}-word or constituent only, as in (15b) and (16b), or it can spread optionally over the entire sentence, as in the c-examples.

\begin{enumerate}
\item[(15)] a. \par\textit{WH} \text{O} \textit{LOVE} \text{J}O\text{HN}
\item b. \par\textit{\text{t, LOVE} \text{J}O\text{HN} \text{WHO} \text{;}
\item c. \par\textit{\text{t, LOVE} \text{J}O\text{HN} \text{WHO} \text{;}
\end{enumerate}

\hspace{1cm} \text{‘Who loves John?’} \\
\textit{(ASL; ibid.:110, exx.1, 9, 2)}

\begin{enumerate}
\item[(16)] a. \par\textit{TEACHER LIPREAD} \text{WHO} \text{YESTERDAY}
\item b. \par\textit{TEACHER LIPREAD} \par\textit{\text{t, YESTERDAY} \text{WHO} \text{;}
\item c. \par\textit{TEACHER LIPREAD} \par\textit{\text{t, YESTERDAY} \text{WHO} \text{;}
\end{enumerate}

\hspace{1cm} \text{‘Who did the teacher lipread yesterday?’} \\
\textit{(ASL; ibid.:111ff., exx.5, 10, 6)}

The optional spreading of the \textit{wh}-marker in the c-examples above is direct evidence against the paratactic analysis. As in chapter 5 on non-manual negation I assume with Padden (1980:89ff.) that a non-manual marker can spread over a clause boundary only if one of the clauses is subordinated to the other one, but not if both clauses are adjacent, as they must be in a paratactic analysis. However, the doubling and drop analysis is still a valid option to explain the ASL data in (13a) and (14).

Neidle et al. infer further evidence for a rightward movement analysis from the intensity pattern of the non-manual \textit{wh}-marker. They claim (ibid.:111) that the non-manual \textit{wh}-marker is associated with the abstract syntactic feature [+\textit{wh}]. Lexical \textit{wh}-signs have an inherent [+\textit{wh}] feature. If \textit{h}-signs need to move overtly or covertly, that is at LF, to spec,CP to check the [+\textit{wh}] feature under
specifier-head-agreement. According to Neidle et al. the \(wh\)-marker is most intense at the location of this \([+wh]\) feature. This means that if a \(wh\)-sign occurs clause-finally, thus in spec,\(CP\) in Neidle et al.’s analysis, then the marker is most intense above this \(wh\)-sign, e.g. \(WHO\) in (17). The intensity decreases in signs that are further away from \([+wh]\). Hence, \(YESTERDAY\) in (17) has a less intense \(wh\)-marking than \(WHO\) but more intense than \(TEACHER\) which has the least intense non-manual marking (the intensity of the \(wh\)-marker is reflected by the grey-and-black line: the most intense part is black, the least intense part light grey).

\[(17) \quad [ [ \text{TEACHER LIPREAD} \& \text{YESTERDAY} ]_{TP} \ [+wh]_{CP} \ [WHO, ]_{CP} \]

‘Who did the teacher lipread yesterday?’

(ASL)

If the \(wh\)-sign is \textit{in situ}, the intensity of both \([+wh]\) features is maximal between those features (Neidle et al. call this \textit{perseveration} (ibid.:118)). Thus, every sign in example (18a) is made with a \(wh\)-marker that has the same intensity throughout the sentence, whereas in (18b) only \(WHO\) and \(YESTERDAY\) occur with a \(wh\)-marker that has maximal intensity.\(^6\)

\[(18) \quad \text{a. } [ [ \text{WHO LOVE JOHN} ]_{TP} \ [+wh]_{CP} \ [WHQ]_{CP} \]

‘Who loves John?’

\[(18) \quad \text{b. } [ [ \text{JOHN SEE WHO YESTERDAY} ]_{TP} \ [+wh]_{CP} \ [ibid.:120, exx.27,28 ]_{CP} \]

‘Who did John see yesterday?’

(ASL)

\(^6\) In the actual representation of sentence (18b) in Neidle et al. (2000:120, ex.28) \(WHO\) and \(YESTERDAY\) are not represented with a \(wh\)-marker that has the same intensity. Furthermore, the \(wh\)-marker seems to begin above the sign \(SEE\) and not at the beginning of the sentence, above the sign \(JOHN\). Since this is not entirely parallel to what is asserted in their main text, I consider the representation of this sentence in Neidle et al. as containing some errors which I did not take over in my representation of (18b).
However, there is a problem with this analysis. If the intensity of the \textit{wh}-
marker was indeed determined by proximity of a manual sign in clausal
hierarchy to the node of origin of the [+wh] feature, that is the head \textit{C}, a
completely different pattern would be expected in the case of “sentence-final
\textit{wh}-constructions” than the one described by Neidle et al. It would be expected
that the intensity is maximal in \textit{C} which contains the [+wh] feature. The
intensity is a little less in the head Tense, which is the left(!) edge of the clause
in the analysis of Neidle et al., as can be seen in the structure in (11). The
non-manual marker has the least intensity in the head \textit{V} which is, although in the
middle-field linearly speaking, most far away from \textit{C} in Neidle et al.’s clausal
hierarchy for ASL (see the structure in (11)). Thus, the intensity pattern of the
sentence in (17) should be as depicted in (19): \textsc{who} is accompanied by the
most intense \textit{wh}-marking, \textsc{teacher} is marked less intensely than \textsc{who} but
more intensely than \textsc{yesterday}, that occurs with the least intense \textit{wh}-
marking.\footnote{I thank Josep Quer (p.c.) who drew my attention to this.}

\begin{center}
\textbf{(19) }[[\textsc{teacher} \textsc{lipread}\textsc{t} \textsc{yesterday}]\textsc{cp}\ldbrack \textsc{wh} \textsc{who} \textsc{c}\ldrrbrack]\textsc{cp}
\vspace{0.3cm}
\textit{‘Who did the teacher lipread yesterday?’}
\end{center}

The non-manual pattern as depicted in (19) is clearly not what is attested in
ASL. The intensity of the non-manual \textit{wh}-marker thus forms no argument in
favour of a rightward movement analysis. Rather, it is evidence for considering
the non-manual \textit{wh}-marker as prosody (cf. chapter 5 on the non-manual
negation marker and Nespor & Sandler 1999; Sandler 1999; Wilbur 2000).
Now, the optional spreading of the non-manual \textit{wh}-marker, just as the optional
spreading of the non-manual negation marker, can again be compared to
external tone sandhi phenomena in tonal languages (Pfau 2002, 2003 and
chapter 4). Unfortunately, a more detailed account of the \textit{wh}-marker as prosody
cannot be given here and must be left for future research. However, an analysis
in line with the one given for negation by Pfau & Quer (2003) and in chapter 5
cannot be proposed. If the [+wh] feature in the head \textit{C} of \textsc{cp} is considered to
be a featural affix, then some element should move to C overtly (Stray Affix Filter). For ASL it is still a matter of debate whether the verb moves from V to a functional projection above V. As is clear from the NGT example in (6) above, the verb does not move to C in wh-questions, because the subject is positioned between the wh-object and the verb.

So far, Neidle et al. have shown on the basis of word order data and the distribution of the non-manual wh-marker that the wh-constituent in ASL occurs in situ or sentence-finally. However, in my view, the evidence they provide is not convincing to assume a rightward movement analysis of wh-constituents. Neidle et al. use the distribution of the wh-marker also to show that a leftward movement analysis of sentence-final wh-constituents in the light of Kayne's anti-symmetry proposal (1994) is not possible (ibid.:145ff.). To end up with a clause-final wh-constituent in an anti-symmetry framework, the wh-sign first moves leftward to a sentence-initial spec,CP. After that, everything else, that is the whole TenseP, needs to move to the left of the wh-constituent, as in (20). By that, a leftward movement account is given for sentences where the wh-marker accompanies the wh-constituent only.

\[
\text{(20) } [\text{XP} \ [\text{TP LOVE JOHN }], \ [\text{CP WHO } [\text{C +wh }] \ldots t \ldots ]] \]

"Who loves John?"

(ASL)

To account for sentences where the wh-marker spreads over the entire sentence the head C with the feature [+wh] needs to move leftwards, again, to a position before the moved TenseP in order for the wh-marker to be able to occur over the whole sentence, see (21).

\[
\text{(21) } [\text{TP } [\text{C +wh }] ; [\text{XP} \ [\text{TP LOVE JOHN }], \ [\text{CP WHO } \ldots t \ldots \ldots t \ldots \ldots ]] \]

"Who loves John?"

(ASL)

Neidle et al. (2000:174, fn.5) claim that there is no verb raising in ASL, whereas Romano (1991) and Matsuoka (1997), among others, assert the opposite.
This second movement proposed by Neidle et al. is only necessary, because they associate the wh-marker with the syntactic [+wh] feature. If, however, the wh-marker is regarded as prosody, this optional spreading of the marker is not matched that strictly to syntax as Neidle et al. claim.

Thus, ASL "sentence-final wh-constructions" can indeed be analysed within a leftward movement approach with the doubling and copy analysis that was proposed for the NGT sentences with a sentence-final wh-sign. The only thing that still needs to be given is a trigger for the obligatory leftward movement of TenseP, and thereby an explanation for the ungrammaticality of sentence (13b) in ASL. I leave this for future research, just like the optional spreading of the non-manual wh-marker.

6.3 Topicalisation

Topicalisation is the grammatical process by which an element is extracted from its canonical position within the sentence to sentence-initial position. In general, the topicalised constituent moves to Spec,CP or Spec,TOp as depicted in (22).

\[ (22) \text{[TOP/CP } \chi, [\text{CP/IP } ... t, ... ] \text{]} \]

The topicalised constituent, that is, the topic of the sentence or what the sentence is about, is almost always in the literature put on a pair with the constituent that provides old information. Interestingly, however, in NGT it can also be the constituent that provides new information, that is the focus constituent, that is moved to a position at the beginning of the sentence. Moreover, this 'topicalised' focus constituent can occur with the same non-manual markings as the topicalised topic constituent (see also Coerts 1992:83, fn.13). This non-manual marker can consist of the following elements: raised eyebrows, a lowered chin and wide opened eyes (see the gloss conventions).

---

9 In the literature on topicalisation, two general types of analyses of topicalisation can be found. The one given above in (22) and the analysis given by Chomsky (1977) in which the topicalised constituent is base-generated in a projection outside the sentence, TOP, while the coreferent wh-argument moves to what we call nowadays Spec,CP and is deleted obligatorily (i).

(i) \[ x, \chi, [\text{wh}, [t, ... t, ... ] \text{]} \]
The occurrence of focus constituents with special prosody in sentence-
initial position is also observed by Rizzi (1997) for Italian, among others. He
calls this movement of focus constituents to sentence-initial position focalisation
and he assumes different projections for topicaised and focalised constituents
in sentence-initial position (before IP). In the remaining discussion I will not
discriminate between topicaisation and focalisation since this is not relevant
for the present analysis. I will therefore use the marker ‘...’ in the glosses for
both topicaised and focalised constituents that occur with the non-manual
characteristics as described above. What is important in this study is whether a
constituent from the potential complement clause can be extracted to the main
clause. For, this will be syntactic evidence that the potential complement clause
is a syntactic complement clause.

6.3.1 Topicalisation in NGT
Coerts (1992) has already observed for simple NGT sentences that constituents
can be topicaised to sentence-initial position. Some examples from my own
corpus are given in (23).10

(23) a. 

\[ \text{COFFEE} \quad \text{POINT}_{\text{left}} \quad \text{MAN} \quad \text{WANT} \quad \text{aff} \]

‘As for the coffee, the man wants (some).’

b. 

\[ \text{BOOK} \quad \text{POINT}_{\text{left}} \quad \text{MARIJKE} \quad \text{POINT}_{\text{right}} \quad \text{LIKE} \quad \text{aff} \]

‘As for the book, Marijke likes (it).’

10 It will become clear below why I used ‘...’ (= empty category) in the glosses instead of ‘...’ (=tracc).
In complex NGT sentences it is possible that an element from the (potentially) embedded clause occurs in sentence-initial position. This is shown in (24) for all classes of investigated complement-taking predicates. For example, in sentence (24b) the object of the second clause, BOOK POINT_{right}, is not standing in its common position before or after the verb STEAL but in sentence-initial position. Furthermore, it is accompanied by the non-manual topic marker.\textsuperscript{11}

(24) a.

\begin{itemize}
  \item MAN \quad \text{POINT}_{\text{left}} \quad \text{INGE} \quad \text{WANT}
  \item \text{POINT}_{\text{right}} \quad \text{rightHELP}_{\text{left}} \quad \theta_{\text{left}}
\end{itemize}

'As for the man, Inge, wants him/her to help (him/).'

\textsuperscript{11} As can be seen in the sentences (24d-f) subjects can also be extracted from the (potential) complement clause. No so-called that-trace effects seem to occur due to the fact that there is no overt complementizer in NGT. This might also be interpreted as NGT having no covert complementizer, or any other "barrier" that blocks proper government of the subject trace by the topicalised constituent (Lasnik & Saito 1984, Chomsky 1986b, Rizzi 1990). However, as will become clear below, in the sentences in (24) there is actually no topicalisation of object or subject constituents at all.
b.

As for the book, the two of us saw the man stealing (it) yesterday.

'As for America, Inge likes (the fact) that Marijke goes there.'
As for Marijke, the two of us pretend that (she) will visit Roland.

As for Marijke, Inge knows that (she) will fly to America.

As for goblins, the man believes that (they) exist.
g.

PARENTS POINT right MARIJKE POINT left

DOUBT TOMORROW left VISIT right e right

'As for her parents, Marijke doubts if she should visit (them) tomorrow.'

h.

SOCCEER POINT left INGE POINT right right ASK signer

TWO.OF.US signer GO TO left e left

'As for the soccer, Inge asks me if the two of us are going (there).'

i.

GRANDMOTHER POINT left MAN opposite of signer TELL signer

POINT opposite. SON signer VISIT left e left

'As for grandmother, the man tells me that his son visits (her).'

(NGT)
From the results in (24), it could be concluded that the second clauses are syntactically subordinated to the complement-taking predicates, since topicalisation of an element from the potentially embedded clause to the main clause is possible. However, we have to consider more carefully whether the sentences in (24) really involve topicalisation.

6.3.2 Left dislocation

NGT is a pro-drop language, which means that arguments can be left unexpressed. Consequently, it could well be the case that the ‘extracted’ constituent is base-generated in sentence-initial position in the above sentences and that a null resumptive pronoun is present in the canonical argument position licensed and identified by the phonologically overt or covert agreement of the potentially embedded verb, as exemplified in (25b) for sentence (24a). Following this line of reasoning, the syntactic structure of (24a) would not be the one in (25a) where a trace indicates the position from which the constituent MAN POINT\textsubscript{left} would have been moved to sentence-initial position, but rather (25b) where MAN POINT\textsubscript{left} has been base-generated and \textit{pro} indicates the location of the resumptive empty pronoun that is licensed and identified by the object agreement of the verb HELP.

\begin{enumerate}[\(\text{25}\) a.]
\item \begin{align*}
\text{[[TOP/CP MAN POINT}_{\text{left}} ; ]\, [\text{CP/IP INGE WANT} \\
\text{[CP POINT}_{\text{right}} \text{rightHELP}_{\text{left}} \text{t} ]]]
\end{align*}
\item \begin{align*}
\text{[[TOP/CP MAN POINT}_{\text{left}} ; ]\, [\text{CP/IP INGE WANT} \\
\text{[CP POINT}_{\text{right}} \text{rightHELP}_{\text{left}} \text{pro} ]]]
\end{align*}
\end{enumerate}

\text{‘As for the man, Inge, wants him/her to help (him).’}

\((\text{NGT})\)

The assumption that the topics in (24) are not extracted but base-generated is supported by the fact that overt pronouns that corefer with the “extracted” constituent can be inserted into the potential complement sentences. This is shown for the sentences in (24a) and (24b) in (26), the resumptive pronouns are in boldface. If the structure in (25b) is the right one,
then we are dealing here with *left dislocation* rather than topicalisation. In left dislocation no extraction takes place.\(^\text{12}\)

\[(26)\ a.\]

\[\text{MAN} \quad \text{POINT}_\text{left} \quad \text{INGE} \quad \text{WANT} \]

\[\text{POINT}_\text{right} \quad \text{HELP}_\text{left} \quad \text{POINT}_\text{left} \]

'As for the man, Inge wants him/her to help him.'

\[b.\]

\[\text{BOOK} \quad \text{POINT}_\text{right} \quad \text{TWO}_\text{OF}.\text{US} \quad \text{YESTERDAY} \quad \text{signer SEE} \quad \text{opposite of signer} \]

\[\text{MAN} \quad \text{POINT}_\text{opposite of signer} \quad \text{STEAL} \quad \text{POINT}_\text{right} \]

'As for the book, the two of us saw the man stealing it, yesterday.'

\[(\text{NGT})\]

Whether or not topicalisation has taken place in the sentences in (24) can be tested with *subjacency*. Topicalisation is an instance of *wh*-movement. Subjacency is a universal condition on *wh*-movement. It states that *wh*-movement cannot cross more than one 'bounding node' (Chomsky 1973:247ff.,

\[\text{\(12\) For ASL, Aarons (1994) assumes that topicalisation and left dislocation are expressed by two different facial expressions. Such a difference could not be found in NGT.}\]
1977:73). Bounding nodes are, for example, clause boundaries, or nominal phrase boundaries. Let me explain subadjacency on the basis of some examples from English.

In (27) how is extracted from the deepest embedded clause to Spec,CP1. It thereby crosses more than one (subordinate) clause boundary, namely IP2 and IP3. The sentence is still grammatical. Therefore, following the subadjacency condition, it is assumed that how in (27) does not move in one single step to Spec,CP1 but stepwise via Spec,CP3 and Spec,CP2. how crosses one boundary (IP) at a time. This stepwise movement is called successive cyclic movement: how moves from clause to clause, or from cycle to cycle.

\[
\text{(27)} \quad \text{[CP1} \text{ How, [c1 did [IP1 the policeman say [CP2 t [c2 that [IP2 the inspector thought [CP3 t [c3 that [IP3 the thief had stolen the book t ?]]]]]]]]}
\]

In contrast to that, the sentences in (28) and (29) are ungrammatical, because the extracted constituent crosses more than one boundary node at a time. In (28) who first moves to Spec,CP2 and thereby crosses one boundary node, IP2 which is fine according to the subadjacency condition. However, in the second movement, who crosses a boundary of both a noun phrase (NP) and a subordinate clause (IP1). This causes a violation of subadjacency.

---

13 Schematically represented, the subadjacency condition states that no rule can move a phrase from Y to X, or conversely in (j), where α and β are bounding nodes (Chomsky 1977:73, ex.(6)).

\[
\ldots X \ldots \beta \ldots Y \ldots \ldots \beta \alpha \ldots \ldots X \ldots
\]

14 As it is not relevant for the present analysis, I will not explain what a bounding node precisely is and what bounding nodes in different languages are. See for this Chomsky (1973, 1977) or Haegeman (1998), among others.

15 What exactly counts as a bounding node, may be subject to language-specific parametrisation. For Italian, for instance, it has been claimed that not the subordinated clause boundary IP but CP is a bounding node (Rizzi 1982).
In (29) *how cannot move successive cyclically via Spec,CP2 to Spec,CP1, because the \textit{wh}-constituent \textit{what book} already moved to Spec,CP2. Therefore, \textit{how} crosses two boundary nodes, IP2 and IP1 and thereby violates subjacency. Clauses that are introduced by a \textit{wh}-word in Spec,CP are so-called \textit{wh}-islands.

Although subjacency can be tested with many different constructions, among others with \textit{wh}-islands, complex NP-clauses, or adjunct clauses, I tested subjacency in NGT only with one kind of \textit{wh}-island. The reason for this is that for NGT it is not clear at the moment how certain sentence constructions behave, or even, if they exist at all. However, in my corpus, \textit{wh}-islands can be found as the potentially embedded clauses of the complement-taking predicates \textit{to know} and \textit{to doubt}. From the results of the distributional dependency test (cf. chapter 3, sections 3.3.6 and 3.3.8) and the non-manual negation test (cf. chapter 5, section 5.3) it can be concluded that these \textit{wh}-islands are syntactically subordinated to these complement-taking predicates.

To test what the identity of the empty category $e$ in the second clauses in (24) is, a \textit{wh}-trace left after topicalisation or an empty pronoun \textit{pro}, I will embed these clauses in \textit{wh}-islands. This is done in (30). If the empty category is a \textit{wh}-trace, a violation of subjacency will appear and the sentence will be ungrammatical or at least dubious. Subjacency is violated in those sentences, because the interrogative pronoun has already moved to the embedded Spec,CP position. Consequently, the “extracted” constituent has to cross more than one
bounding node, namely two clause boundaries. If the sentence is grammatical, then subjecancy is not violated and the empty category must be an empty pronominal. These results can then be applied to the sentences and their empty categories in (24).\(^{16}\)

(30) a. 

```
  MAN   POINT\text{left}   INGE   KNOW
```

`'As for the man, Inge, knows who helps (him).'`

b. 

```
  BOOK   POINT\text{right}   TWO.OF.US   KNOW
```

```
_who \quad \text{right}
```

`'As for the book, the two of us know who stole (it).'`

---

\(^{16}\) Note that the \textit{wh}-signs in the sentences in (30) can trigger a \textit{wh}-prosody (marked with \textit{'\_who'})."
c. 'As for America, Inge knows who goes there.'

\[\text{WHO} \quad \text{signer GO TO neutral space} \quad \text{America}\]

d. 'As for Marijke, Inge knows where (she) will fly to.'

\[\text{WHERE} \quad \text{left FLY neutral space}\]

e. 'As for her parents, Marijke doubts who will visit (them).'

\[\text{DOUBT} \quad \text{WHO} \quad \text{signer VISIT left} \quad \text{right}\]
The sentences in (30) are all grammatical which means that they do not violate the subjacency condition on 
\( wh \)-movement. This in turn means that the sentence-initial constituents that occur with topic prosody are not moved at all to this position. Rather, these constituents are base-generated in sentence-initial position. Thus, the sentences in (24) must be analysed as left dislocation constructions instead of topicalisation constructions. As a consequence, the empty categories in the sentences in (30) (and in (24)) are empty pronouns, i.e. \( pron \)-s. Empty pronouns need to be licensed and identified. This is done in (30a) and (30d-g) by the agreement of the closest verb, that is the predicate in the second clauses in (30). The second clause predicates in (30b-c), however, do not show agreement. This is no problem since, as explained in chapter 1,
section 1.4, although these verbs show no overt agreement, they possess the necessary agreement features to license and identify the empty pronouns (Zwitserlood 2003, Zwitserlood et al. 2003).

For reasons of time no subadjacency data could be obtained for the complement clause in (24f) with the complement-taking predicate to believe. However, the following sentence in (31) with believe and with a sentence-initial constituent that cooccurs with topic prosody and an overt coreferent pronoun is available in the corpus which strongly suggests that there is no topicalisation in this case either.

\[
(31)
\]

\begin{tabular}{lllll}
GOBLINS & POINT_{left} & INGE & BELIEVE & POINT_{left} & EXIST \\
\end{tabular}

'As for goblins, Inge believes that they, exist.'

(NGT)

From the results in (30) it must be concluded that no wh-extraction occurs in the complex NGT sentences in (24). Although at first sight it seemed that a constituent from the (potential) complement clause was topicalised to a position at the beginning of the main clause, subadjacency data showed that we are dealing with left dislocation instead of topicalisation in these cases. In left dislocation constructions, the sentence-initial constituent is not moved but base-generated. In NGT, its canonical position in the (potential) complement clause is filled with an overt or covert coreferential pronoun.

Nonetheless, the left dislocation constructions in (24) can be taken as evidence with respect to the syntactic relation between clauses in (potential) NGT complement constructions. In (32) it is shown for English that left dislocation cannot take place with a constituent from the second clause in a coordinated construction, whereas this is possible if the second clause is embedded to the first one.
(32) a. *As for that song, Ellie bought a book and sang it for me.
   b. As for that song, Ellie said that she sang it for me.

From the results in (24) and (30) it must be concluded that left dislocation of a constituent from the second clause is possible with all investigated classes of complement-taking predicates in NGT. This means that these second clauses are syntactically embedded.\textsuperscript{17}

6.4 Conclusion

I have shown that extraction of \textit{wh}-constituents is possible in complex sentences in NGT and can therefore be used to indicate syntactic complementation, although not for every complement-taking predicate. Topicalisation, however, is not a proper test to uncover syntactic dependency in NGT complex sentences. With the aid of a subadjacency test it could be shown that topicalisation is not possible at all in these NGT sentences. What looked like topicalisation of a constituent from the potential complement clause turned out to be left dislocation. But left dislocation data can also give information about the syntactic dependency relation between clauses in complex sentences. It has become clear from the data on left dislocation that the potential complement clauses of all investigated complement-taking predicates in NGT are syntactically subordinated to these predicates.

However, the argument status of the subordinated clauses with the predicates \textit{to believe}, \textit{to doubt}, \textit{to ask}, and \textit{to tell} has not been established yet. The extraction of \textit{wh}-constituents could establish the argument status for the subordinated clauses with \textit{to want}, \textit{to see}, \textit{to like}, \textit{to pretend}, and \textit{to know}, but not for the subordinate clauses with the former four predicates. In chapter 3, section 3.4, I already discussed the possibility that the potential complement clauses in NGT are adjunct clauses. The argument structures of these predicates are saturated then by a referential overt or null pronoun. Though, from the Dutch examples in (57) in chapter 3, it became clear that this is not possible with all classes of complement-taking predicates. In Dutch, it is possible to saturate the

\textsuperscript{17} Unfortunately, I have no data on left dislocation in complex sentences with a syntactic coordination relationship between the clauses.\textsuperscript{1}
argument slot with a referential pronoun only with predicates of the second level, as can be seen in (34a). For predicates of the third and fourth level such an option is not available, as can be seen in (34b–e). If this paradigm holds crosslinguistically, then it might also be the case that the argument structures of the third and fourth level predicates to believe, to doubt, to ask, and to tell in NGT cannot be saturated by a referential pronoun either. In that case, it can be concluded that the subordinated clauses with these predicates are argument clauses.

However, if data from other languages are taken into account, the results vary. For English and German holds that like Dutch, a referential pronoun in argument position is not possible with predicates of the third and fourth level, while this is possible with predicates of the second level, see the examples in (33)-(35). However, in Spanish a referential pronoun in argument position is possible with predicates of the third and fourth level too, see the examples in (36).

(33) a. Daniela regrets it that Ellie sang that song to me.
   b. *Daniela believes it that Ellie sang that song to me.
   c. *Daniela doubts it whether Ellie sang that song to me.
   d. *Daniela asks it whether Ellie sang that song to me.
   e. *Daniela says it that Ellie sang that song to me.

(English)

(34) a. Daniela betreurt het dat Ellie dat liedje voor mij gezongen heeft.
   b. *Daniela gelooft het dat Ellie dat liedje voor mij gezongen heeft.
   c. *Daniela twijfelt het dat Ellie dat liedje voor mij gezongen heeft.
   d. *Daniela vraagt het dat Ellie dat liedje voor mij gezongen heeft.
   e. *Daniela zegt het dat Ellie dat liedje voor mij gezongen heeft.

(Dutch)

If the Dutch verb twijfelen and the German verb zweifeln in (34c) and (35c) are replaced by the verbs betwijfelen and bezweifeln, respectively, both meaning ‘to doubt’, the sentences are judged as better or even as grammatical by native speakers. However, the argument structures of betwijfelen and bezweifeln are different from twijfelen and zweifeln.

   b. Daniela bezweifelt es dass Ellie das Lied für mich gesungen hat.
Thus, the crosslinguistic data in (33)-(36) do not give any clue with respect to the argument status of the subordinated clauses with predicates of the third and fourth level in NGT. Although I have shown in this study that the potentially embedded clauses with to believe, to doubt, to ask, and to tell in NGT are syntactically subordinated, their argument status remains unclear.