The quest for syntactic dependency. Sentential complementation in Sign Language of the Netherlands
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Preparing the quest: tests and methodology

Athough it has now been settled what the goals of this linguistic quest are, we can still not simply pack our bags and start this quest right away. Before our departure we have to determine the strategy. Foremost, we have to figure out what can be learned from former quests that had the same or a similar goal, for these will determine what equipment is needed for this current quest.

2.1 Characteristics of sentential complementation

In chapter 1 it was shown that complementation has both aspects related to syntax and aspects related to semantics. In syntax complementation involves a subordinated clause functioning as the argument of a matrix predicate, in semantics it means that one state of affairs induces the reference to another state of affairs, which is not necessarily reflected in syntactic structure. The topic of this research is to look for constructions that represent syntactic complementation and if these can be found at all in NGT. I am not going to look for the semantic relation of complementation. The literature has shown, however, that syntactic complementation not only has syntactic features but also semantic characteristics.

In the following subsections various characteristics of sentential complementation that have been described in the literature will be discussed. In section 2.1.1 I will start with semantic features on the basis of which the complement-taking predicates used in this investigation have been chosen. Various syntactic features follow in 2.1.2. It should be kept in mind that the literature on sentential complementation is quite extensive. Therefore, I cannot
give an exhaustive overview of the semantic and syntactic features. In section 2.2 I will explain what tests I have used to collect the necessary data for this investigation. These tests are based on various syntactic features discussed earlier. How the tests were carried out is described in 2.3. Section 2.4, finally, gives some background information about the informants.

2.1.1 Semantic features
It is commonly held that many characteristics of complement clauses are determined by the matrix predicate, also called the complement-taking predicate. Since not much is known about the morphosyntactic behaviour of complement clauses and complement-taking predicates in signed languages, I used semantic criteria to select the matrix predicates that I have used in the tests.

Various semantic classifications of complement-taking predicates have been proposed in the literature. The semantic features that are used for the classifications vary. I made a selection of three features mentioned in various studies and that play a role in the classifications in Cristofaro (1997), Dik (1997a, 1997b), Hengeveld (1989, 1998), and Noonan (1985). These features are entity types, time dependency, and presupposedness (factivity and implication). These features are not isolated independent features. They are embedded in each other in a way that I will explain below. Note that these semantic features are not specific for complementation. They apply to adverbal subordination too (Hengeveld 1998).

a. Entity types
Extending ideas by Lyons (1977:442-447), it is assumed in functional grammar (Dik 1997a, 1997b) that all linguistic units refer to entities of four different types based on their semantics (Dik 1997a:49ff.; Hengeveld 1989, 1998, and

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1 See however, Barbiers (to appear) who argues that it is the structural position of the complement clause that determines this. More specifically, Barbiers argues that the structural position of the complement clause in the sentence determines its semantic status.

2 Actually, ASL is the only signed language for which it has been shown that syntactic complementation exists (Liddell 1978, 1980; Padden 1988).
subsequent work).³ The entity types are characterised by the following layers: predicates, predications, propositions, and clauses.

Predicates designate properties or relations. Predications designate states of affairs and result from combining a predicate with proper arguments (so-called terms). Propositions pertain to what is said or thought about a state of affairs, they designate something that can be evaluated in terms of its truth. Clauses, finally, involve the speech situation as a whole, specifically referring to the speech act (see table 1). Note that the terms proposition and clause in functional grammar are used in a more narrow sense than in this study and linguistics in general. The term proposition usually refers to what in functional grammar is called predication, and the term clause is used in this study for units that maximally contain a predicate and the arguments and adjuncts that accompany this predicate. In functional grammar, the various layers or levels are ascribed different formal structures with their own grammatical functions (so-called operators).

<table>
<thead>
<tr>
<th>layer</th>
<th>entity type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1a</td>
<td>predicate</td>
</tr>
<tr>
<td>b</td>
<td>term</td>
</tr>
<tr>
<td>2</td>
<td>predication</td>
</tr>
<tr>
<td>3</td>
<td>proposition</td>
</tr>
<tr>
<td>4</td>
<td>clause</td>
</tr>
<tr>
<td></td>
<td>property/relation</td>
</tr>
<tr>
<td></td>
<td>entity</td>
</tr>
<tr>
<td></td>
<td>state of affairs</td>
</tr>
<tr>
<td></td>
<td>possible fact</td>
</tr>
<tr>
<td></td>
<td>speech act</td>
</tr>
</tbody>
</table>

Table 1: layers and entity types in functional grammar

In this model, a sentence is described as a structure that contains the four hierarchically ordered layers, such that a higher layer encloses the lower layers. Thus, in an independent or main clause all layers are simultaneously present; they cannot be isolated.⁴ Simple arguments can designate entities of each layer as in the following examples in (1), slightly adapted from Dik (1997b:94, ex.1).

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³ In more recent versions of Functional Grammar more than four entity types are distinguished. Since this distinction turned out to be too detailed for the present purposes, I decided to restrict myself to the four original types described in the main text.
⁴ These semantic structures can be compared with the functional projections that are distinguished in (modern versions of) generative grammar (p c. Aafke Hulk).
(1) a. Ellie is ill.
   (Ellie is ascribed a property, an entity of type 1a)

   b. Gisela is a teacher.
   (Gisela is ascribed a term, an entity of type 1b)

   c. Mar watched the cycle race.
   (Mar watched an event, an entity of type 2)

   d. Daniëla knew the facts.
   (Daniëla knew propositional contents, an entity of type 3)

   e. Henny answered my question.
   (Henny responded to a speech act, an entity of type 4)

In Hengeveld (1989) it is hypothesised that if simple arguments may refer to different kinds of entities, sentences that function as arguments may do so as well. Thus, each layer can be turned into a complement clause and complement clauses can be classified according to the highest layer that they contain, as can be seen in (2), slightly adapted from Dik (1997b:94, ex.2). I will restrict myself to complementation on the last three levels.

(2) a. Mar saw that Gisela's Chinese lantern was on fire.
   (reference is made to an event, an entity of type 2)

   b. Daniëla knows that the life of a bug is not an easy one.
   (reference is made to a propositional content, an entity of type 3)

   c. Henny asked why no one ate the French cheese.
   (reference is made to a question, an entity of type 4)

It is commonly understood that the semantics of the matrix predicate determines the semantics of the embedded clause (cf. however, fn.1 in this

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1 This does not hold for terms, entities of type 1. It does hold for properties, however, as in I am able to swim (p.c. Kees Hengeveld) which are also entities of type 1. Since the latter case involves modals mainly that are excluded from this study (see the end of this subsection), both terms and properties are not involved in the selection of complement-taking predicates.

2 In fact, Hengeveld (1989) hypothesises that all subordinate constructions can be classified according to the highest layer that they contain. Although this holds for adverbial relations, it is of limited usefulness in relative relations (Cristofaro 1997:179).

3 Barbiers (to appear), working in a generative framework, also ascribes various formal structures to different types of complement clauses.
Therefore, it is assumed in functional grammar that the matrix predicate selects an embedded clause of an entity type that this predicate belongs to. The differences between complement types are accounted for in terms of the differences between the layers underlying them. This, then, forms the validity of these layers. For example, in Nama, a Hottentot language spoken in south-west Africa, the use of a particular morphosyntactic feature for sentential complements is dependent on the layer the main predicate belongs to. This means that in this language there is overt evidence for the different layers. The following examples are from Dik & Hengeveld (1991:235, exx.5-7).

Here I use boldface to mark the morphosyntactic features that are determined by the layer.  

(3) a. 'Oo-s ke //tiisà //xaápá kë mǘ
then-3SG DECL she again REM.PAST say
/'úú-ta a tí
not.know-1SG pres quote
'She said again: “I don’t know.”'

b. //iip ke ’am’a-se kërè =/om
he DECL true-ADV REM.PAST believe
/'áé//amsà xuú-kxm /xiì hàa ìxáisà
Windhoek from-1DU come PF that
'He really believed that we had come from Windhoek.'

c. Iγù-s ke káise a !gomba te
go-NMLSTN DECL very PRES difficult to.me
'It’s very difficult for me to go.'

In Nama, utterance predicates that are used for direct speech reports, fourth order predicates, take a fourth order complement that is marked by a quote particle ti (3a). The predicate =/om ‘believe’ in (3b), a third order predicate, takes a third order complement. These may be marked in this language by the complementizer bsáisá. The commentative predicate in (3c) is a second order predicate and takes a second order complement, that is

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8 Note that the slashes and double slashes in the sentences in example (3) do not indicate pauses or sentence boundaries.
nominalised in Nama by the suffix \(-s\). This shows that entity types are relevant in the determination of complement taking predicates.

b. Time dependency
In certain complement clauses the time reference of the dependent state of affairs is determined by the time reference of the matrix predicate. This is called dependent, or determined time reference (DTR). If the time reference of the complement state of affairs is not logically bound by the time reference of the matrix predicate, the complement clause has independent time reference (ITR). Time dependency plays a role in the class of second order entity types only, since third and fourth order entity types necessarily have independent time reference (Hengeveld 1998). Two distinctions can be made in predicates with dependent time reference: the complement state of affairs necessarily has to occur simultaneously with the matrix predicate, as in (4a), or after the matrix predicate (4b).

\[(4) \quad \begin{align*}
\text{a. I see Ellie cooking a vegetarian dish.} \\
&\text{(the event of Ellie cooking a vegetarian dish necessarily takes place at the same time of the event of seeing)} \\
\text{b. I want Ellie to cook a vegetarian dish.} \\
&\text{(the event of Ellie cooking a vegetarian dish is something that might take place in the future)}
\end{align*}\]

c. Presupposedness (factivity and implication)
With respect to entity types of the third order, presupposedness says something about the speaker’s attitude towards the truth of the dependent state of affairs. In the literature this is also called factivity (Karttunen 1971, Kiparsky & Kiparsky 1970). I use presupposedness rather than factivity, because within the class of second order entity types no reference can be made to truth value. Nevertheless, presupposedness does play a role at this level too. Here it says something about the logical entailment of the dependent state of affairs by the matrix predicate. This is called implication by Dik (1997b:114).
Three distinctions can be made. Firstly, if the speaker commits himself to the truth of the complement proposition, the complement clause is (semi-)factive.\(^9\) With regard to the second layer, we can talk about implication if the matrix predicate implies that the complement state of affairs is actually realised. Secondly, if the speaker is not committed to either the truth or the falsity of the complement proposition, or if the matrix predicate carries no implication as to the realisation or non-realisation of the complement state of affairs, we talk about non-factivity and non-implication, respectively. Lastly, a complement clause is contra-factive if the speaker signals that he himself believes that the complement proposition is false. Its second layer counterpart is contra-implication: the matrix predicate implies that the complement state of affairs was in fact not realised. Examples of the three distinctions for the third layer are in (5) and for the second layer in (6).

\[(5)\]
\[
\begin{align*}
a. & \text{ Wil knows that pigs don't fly.} & \text{(semi-factive)} \\
b. & \text{ Wil believes that pigs can fly.} & \text{(non-factive)} \\
c. & \text{ Wil pretended on the phone that pigs can fly.}^{10} & \text{(contra-factive)}
\end{align*}
\]

\[(6)\]
\[
\begin{align*}
a. & \text{ I regret that I am not an astronaut.} & \text{(implication)} \\
b. & \text{ I want to be an astronaut.} & \text{(non-implication)} \\
c. & \text{ I pretend to be an astronaut.} & \text{(contra-implication)}
\end{align*}
\]

Combining the three entity types with the three differentiations of presupposedness (that play a role at level 2 and 3 only) and two different time dependencies (only relevant at level 2), ten distinctions can be made. In table 2 these are set out with some examples of complement-taking predicates (ctp-s). Note that the classification presented here sometimes fits more than one class of complement-taking predicates as distinguished in the literature (cf. Noonan 1985).

\(^{10}\) Of course, photographic phones should be excluded here. Otherwise, pretend on the phone no longer refers to a speech act solely and the predicate belongs to entities of a type 2.
Table 2: classes of complement-taking predicates

<table>
<thead>
<tr>
<th>layer</th>
<th>time dependency</th>
<th>presupposedness</th>
<th>ctp-s</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>DTR</td>
<td>implication</td>
<td>Phasal: begin, stop, be busy</td>
</tr>
<tr>
<td></td>
<td></td>
<td>contra-implication</td>
<td>Direct perception: see, hear</td>
</tr>
<tr>
<td></td>
<td></td>
<td>non-implication</td>
<td>Impediment: hinder, prevent</td>
</tr>
<tr>
<td></td>
<td>ITR</td>
<td>implication</td>
<td>Desiderative: want</td>
</tr>
<tr>
<td></td>
<td></td>
<td>contra-implication</td>
<td>Deontic modal: should, be able</td>
</tr>
<tr>
<td></td>
<td></td>
<td>non-implication</td>
<td>Commentative: regret, like</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Pretense: pretend</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>be certain, be possible</td>
</tr>
<tr>
<td>3</td>
<td>ITR</td>
<td>(semi-)factive</td>
<td>Knowledge: know, realise</td>
</tr>
<tr>
<td></td>
<td></td>
<td>contra-factive</td>
<td>Unreal wish: unreal wish, imagine</td>
</tr>
<tr>
<td></td>
<td></td>
<td>non-factive</td>
<td>Positive propositional attitude:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>think, believe, wish</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Negative propositional attitude</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>/Doubt: doubt</td>
</tr>
<tr>
<td>4</td>
<td>ITR</td>
<td></td>
<td>Utterance: tell, ask, assert, claim</td>
</tr>
</tbody>
</table>

Several classes of complement-taking predicates are excluded from this study for the following reasons. First, I do not use any modal predicates because these do not form a homogeneous group (see also fn. 5 in this chapter). Moreover, modality is such a broad topic in itself that I would have no time to investigate all the various differentiations properly. Second, I consider the impediment predicates and predicates that express an unreal wish too difficult to take into account. Especially the latter ones suppose mood distinctions about which we do not know anything in signed languages in general, let alone for NGT. And like modality, mood is a very large topic in itself. Finally, the predicates be certain and be possible are excluded as well, because in English and Dutch these take a subject complement clause. The arguments for excluding these from this study were presented in chapter 1, section 1.2. Of course, the classes excluded here form a good subject for future exploration.
There are nine different classes of complement-taking predicates remaining to use in the tests that will be discussed below. These predicates are listed in (7).11,12

(7) a. Phasal: *beginnen, bezig-zijn* (‘to begin’, ‘to be busy’)  
b. Direct perception: *zien* (‘to see’)  
c. Desiderative/volitional: *wollen* (‘to want’)  
d. Commentative: *leuk vinden* (‘to like’)  
e. Pretence: *doen alsof* (‘to pretend’)  
f. (Acquisition of) knowledge: *weten* (‘to know (something)’)  
g. Propositional attitude: *geloven* (‘to believe’)  
h. Doubt: *twijfelen* (‘to doubt’)  
i. Utterance: *vragen* (‘to ask’), *vertellen* (‘to tell’)  

2.1.2 Syntactic features

Besides semantic features, sentential complementation also has syntactic features. Since the latter features might be of help in finding out if we are dealing with syntactic complementation in certain NGT constructions, most of the tests to collect the necessary data are based on some of these syntactic features.

The syntactic features of sentential complementation that I will discuss below come from various ranges that are mentioned in the literature (Andersson 1975, Haiman & Thompson 1984, and Haspelmath 1995). In the literature on signed languages (Liddell 1980, Padden 1988) some additional syntactic features emerged. Although these features are not specific for signed languages, they have not been discussed in the literature on spoken languages. The literature in which these additional features are described considers only ASL, until now the only signed language for which sentential complementation, and subordination in general, have been investigated.13

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11 I give the Dutch names of the predicates first, because the English counterparts sometimes slightly differ in meaning.
12 In all future I will first present to want and then to see.
13 The investigation of subordination in signed languages started with Henry Thompson’s article *The lack of subordination in American Sign Language* (1977) in which, as the title already says, it is claimed that ASL has no syntactic subordination. Not long after the publication of Thompson’s article Liddell (1978, 1980) and
The syntactic features that emerge from the literature are the presence of a complementizer, a different word order within the complement clause, wh-extraction from the complement clause (topicalisation and wh-questions), the impossibility of using coordinate conjunctions, the possibility of pronominal right dislocation of a matrix clause argument at the end of the complement clause, the duration of the non-manual negation marker, and the form of the embedded verb (infiniteness). Again it should be kept in mind that none of these features is related exclusively to sentential complementation, but applies to subordination in general.

a. Complementizer

Complement clauses can be marked by a subordinating conjunction, a complementizer. The problem with this criterion is that not all languages have (overt) complementizers to mark syntactic complementation. This also holds for NGT. An NGT equivalent of the respective English and Dutch complementizers that and dat has not emerged to date. This can be seen in the NGT-sentence in (8) that contains at least a semantic subordinated complement clause (the semantic complement clause is in boldface).

\[(8) \text{POINT}_\text{signer} \quad \text{KNOW} \quad \text{POINT}_\text{addressee} \quad \text{addresseeCOME}_\text{signer} \]

'I know that you are coming to (see) me.'

(NGT)

Bos (1996:4) states for NGT that there are indications that the serial verb ROEPEN ‘to attract attention’ is developing into a complementizer. The grammaticalisation of an utterance predicate that functions as a serial verb into a complementizer is not an unknown process in languages. Bos mentions that Fischer has noticed a similar process in ASL, and Lord (1993) in different spoken languages with serial verbs. Unfortunately, Bos does not give any

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Padden (1988) convincingly falsified Thompson’s claim. The reader is referred to the latter two authors for a devastating breakdown of Thompson’s arguments.
examples nor any arguments to support her claim. In my own data I found the following NGT sentence in (9). In this sentence, at least on the basis of the meaning, the verb ROEPEN clearly does not function as a separate predicate.

(9) ‘He/she asks me: “Do you want coffee?”’

I presume that examples like (9) are quite rare because I found only one example uttered by one informant in my own data, and Bos mentions no examples at all. Moreover, when I discussed this phenomenon with the informant that expressed the sentence, he told me that he could use ROEPEN only in combination with other utterance verbs, not with the NGT verbs for ‘to know’, ‘to see’, or ‘to want’, for example. From this it can be concluded that ROEPEN in example (9) might function as, or is developing into, a complementizer that introduces direct speech complements (cf. also the Nama example in (3a)), which is a very common phenomenon in, among other languages, Andean, Indo-Pacific, and Amazonian languages (p.c. Kees Hengeveld). Nevertheless, it must be concluded as well that, at least at this moment, ROEPEN has not yet gained the status of a general complementizer in NGT.

b. Word order

Some spoken languages display a special word order in subordinate clauses. For example, in Dutch and German the order in main clauses is SVO (10a), whereas in subordinate clauses the order is SOV (10b).
(10) a. Ellie leest Nabokov.
   ‘Ellie reads Nabokov.’

   b. ..., dat Ellie Nabokov leest.
   ‘..., that Ellie reads Nabokov.’

In chapter 1, example (7a), it was already shown that the constituent order in simple declarative main clauses in NGT is SVO or SOV. However, we do not know at this moment whether NGT shows syntactically subordinated complement clauses, let alone whether it shows a different word order in these clauses. Nevertheless, we can take word order into account in our search for syntactic complementation.

c. Wh-extraction (topicalisation and wh-questions)

Ross (1967) observed that coordinate structures severely restrict the possibility of extraction (his Coordinate Structure Constraint). For example, it is not possible to question an argument, or in other words, to extract a wh-element from the second clause of a coordinate structure, as in (11a). However, elements from a subordinate clause can be extracted, as in the question in (11b).

(11) a. *What, did Daniëla dance and break t,?
       (Daniëla danced and broke a leg.)

   b. What, did Daniëla say that she broke t,?
       (Daniëla said that she broke her leg.)

Padden (1988) uses topicalisation of a constituent from the potentially dependent clause to sentence initial position to show that syntactic subordination exists in ASL. Her examples, which I have slightly adapted, are in (12).

(12) a. TICKET, INDEX, TELL2, GIVE4
       ‘Those tickets, I told you to give to him.’

       (ASL; Padden 1988:91, ex.32)
b. *FLOWER, give1 MONEY, give1

'Flowers, he gave me money but she gave me.'

(ASL; Padden 1988:93, ex.38)

In (12a) topicalisation from an element of the embedded clause is possible in ASL, whereas this is not possible from a coordinate clause, as in (12b). Coordinate clauses thus form islands for \(wh\)-extraction, whereas subordinate clauses do not.\(^{14}\) Hence, if \(wh\)-extraction of an element from the potential complement clause is possible, this clause is syntactically dependent on, and not coordinated to the matrix clause.

d. Coordinate conjunctions

Coordinate conjunctions can intervene between two coordinate clauses but not between a main and a syntactically embedded clause. For NGT we know very little about coordinate conjunctions. I have never seen equivalents of the Dutch conjunctions dus ('so', 'consequently'), en ('and'), noch ('neither', 'nor'), of ('either', 'or') and want ('for', 'because'), but there is a sign for maar ('but'). This sign is demonstrated in (13).

\[(13)\]

\[\begin{array}{c}
\text{BUT} \\
\end{array}\]

(NGT)

The problem with the conjunction in (13) is that it cannot be used in every context, because a certain contrast in the meaning of the coordinated sentences is presumed. For this reason and since not much is known about the distribution of coordinate conjunctions in NGT, these will not be considered.

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\(^{14}\) For the moment, I leave out of consideration subordinate clauses that start with a \(wh\)-constituent and, in some languages, factitive subordinate clauses that form islands for extraction. These will be discussed in chapter 6.
e. Pronominal right dislocation

Right dislocation refers to the phenomenon that an element that is related to an element in its normal position, is ‘dislocated’ to the end of the sentence. In (14a) from Norwegian a proper name that is related to a pronoun in the sentence is right dislocated. In (14b) there is a Norwegian example of pronominal right dislocation, where the pronoun is in a right-dislocated position related to the proper name in the sentence.

(14) a. Han, var gift med soskenbarnet mitt en gang i tida, Axel Aarvoll.
   ‘He, was once married to my cousin, Axel Aarvoll.’

b. Axel, var gift med soskenbarnet mitt en gang i tida, han.
   ‘Axel, was once married to my first cousin, he.’

(Fretheim 1995:34, ex.4)

In NGT (Bos 1995) and ASL (Neidle et al. 2000, Padden 1988) a similar phenomenon can be found, although it differs from plain right dislocation in that only pronouns that refer to an element in the sentence can be right dislocated. At first, it was thought that only a pronoun copy of the subject could appear at the end of a sentence. However, from my own observations I know that pronoun copies of other arguments than the subject at the end of simple sentences are possible as well. This is also reported for ASL by Neidle et al. (2000:55) (but cf. Aronoff et al. 2000 for a different view).15

For ASL, it was clear from the beginning that pronoun copies could also appear in complex sentences in which one clause is dependent on the other. In these sentences the pronoun copy of the subject of the main clause may occur at the end of the dependent clause. This can be seen in the following example.

(15) ɪFORCE; MAN ḋGIVE, BOY ḋPOSS BOOK ḋINDEX
    ‘I forced the man to give the boy his book, I did.’

(ASL; Padden 1988:88, ex.18; boldface is mine)

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15 It must be remarked that, at least in NGT, pronominal right-dislocation of subjects seems to occur far more often than pronominal right-dislocation of other arguments. However, precise figures are not available at the moment.
In (15) the subject of the matrix clause is not lexically present. However, it is present in the subject agreement on the verb \textsc{force}, (the first subscript of this sign, '1', makes clear that the signer is the subject of the main clause).

Pronoun copy in NGT has been investigated only for simple sentences and not in much depth, although Bos (1995) mentions one example of pronoun copy in a complex sentence. On the basis of this one example, she concludes that subject pronoun copies are allowed between the clauses in a complex sentence. Her example is in (16).

\begin{verbatim}
(16) SEE INDEX1 PU2 NOT-YET2 REMEMBER[+] INDEX2 PU

‘I see that you still don’t remember (how the computer works).’

(NGT; Bos 1995:132, ex.16; boldface is mine)
\end{verbatim}

In (16) the pronoun copy of the main clause subject is in boldface. According to Bos’s analysis the subject of the main clause \textit{see} \textit{index}1 has been dropped after it was copied to a post-verbal position, therefore the pre-verbal subject is not lexically present in (16). We do not know at this moment what the exact syntactic relation between the predicates in (16) is. In ASL the distribution of pronoun copies was used to indicate a syntactic dependency relation between the clauses in a complex sentence. That is, if a pronoun copy of a first clause argument follows the second clause of a complex sentence, this second clause is syntactically subordinated to the first clause. However, for NGT we cannot conclude in advance that the occurrence of a pronoun copy \textit{between} the clauses is a clue for the clauses \textit{not} being in a syntactic subordination relation. The distribution of pronoun copies in NGT might be completely different from that in ASL. Nevertheless, the occurrence of pronoun copies of matrix clause arguments at the end of a potential complement clause is something to bear in mind.

\textit{f. Non-manual negation marker}

The absolute duration of the non-manual negation marker in ASL can be used to show that a clause is syntactically subordinated. If a clause is dependent on another clause, negating the matrix clause by use of the non-manual marker will
result in a stretch of this marker over the dependent clause, too, if no lexical negation is present (Neidle et al. 2000, Padden 1988). This is shown in example (17). The non-manual negation marker is expressed by a repeated headshake in ASL (which is also the case for the non-manual negation marker in NGT).

\[
\text{neg}
\]

(17) \(\text{INDEX WANT INDEX GO-AWAY}\)

'I didn’t want him to leave.'

(ASL; Padden 1988:89, ex.23)

For NGT Coerts (1992) has shown that the non-manual negation marker covers all manual signs that fall within its scope in simple sentences. It is not clear whether this is also the case for complex sentences in NGT. In ASL the dependency relation of the clauses seems to determine the distribution of the negation marker in complex sentences rather than the other way round. In other signed languages, it could be the case that clauses are syntactically dependent without negation being possible across both clauses. Still, the duration of the non-manual negation marker is something to take into account when looking at potential complement clauses.

**g. Form of the embedded verb**

Non-finite verb forms can only occur in dependent clauses\(^{16}\). This can be seen in example (18).

(18) a. *Simon to win the tennis league.

b. Wil wants Simon to win the tennis league.

Where non-finite verb forms occur, there is therefore evidence that the clause is dependent. To use this as a diagnostic requires considerable knowledge of the forms of the verb. It must be possible to unambiguously identify the non-finite form. In NGT a rough division can be made between two types of verbs: agreement verbs, that may show agreement but do not always

\(^{16}\) There are languages in which this only holds in the interrogative and declarative moods, not in the imperative mood.
do so, and so-called *plain* verbs that never show overt agreement (Bos 1993, van Gijn & Zwitserlood 2003; cf. the discussion on agreement in chapter 1, section 1.4). For plain verbs in potential complement clauses it is hard if not impossible to decide whether these are finite or non-finite, because the form of the verb will always be the same. For agreement verbs it is not yet entirely clear what the non-finite form looks like. For this reason, the form of the embedded agreement verb will not be taken into consideration when looking at complement clauses in NGT.

2.2 Tests

Of the syntactic characteristics that we have discussed here, most can only be identified when considerable knowledge of other morphosyntactic structures is available. If there is any knowledge about these aspects in NGT, then it is very limited.

Complementizers and a special word order for subordinate clauses do not occur in every language. With respect to coordinate conjunctions, we know too little about their appearance and distribution in NGT to use them as a diagnostic for syntactic coordination. This holds for pronominal right dislocation and the duration of the non-manual negation marker as well. It might turn out that these two phenomena behave completely different from the same phenomena in ASL. The lack of knowledge that we have at the moment concerning verb forms in NGT, turn out to be a problem if we want to use non-finiteness of verb forms as evidence for syntactic dependency. *Wh-* extraction data give one type of evidence only: if *wh*-movement of a topic or *wh*-constituent from the potential complement clause is not possible, it can still be the case that this clause is syntactically dependent on the matrix verb. Therefore, what is needed for establishing such a fundamental question as syntactic subordination is a test that is universally applicable without being dependent on other structures.

Such a test is implicitly offered by van Valin & LaPolla (1997:449). In short this test boils down to the distributional dependency of the clauses in a complex sentence, hence the name *distributional dependency test*. If the clauses can stand on their own as independent sentences, they are coordinated in the
complex sentence. If one of the clauses cannot occur as an independent sentence, then there is a relation of subordination between the clauses in the complex sentence. Concerning potential complement constructions, the question will be whether the semantic main predicate can occur on its own without the semantic complement clause. If not, the semantic complement clause apparently fills an argument slot of this predicate and is syntactically subordinated to it.

Although the results of the distributional dependency test might be sufficient proof for substantiating the syntactic relation between the clauses in a complex sentence in most cases, I carried out some additional tests based on the syntactic features dealt with in section 2.1.2. It turned out that the distributional dependency test could not give sufficient proof for all types of complement-taking predicates. Therefore, I used the tests on pronominal right dislocation and the duration of the non-manual negation marker, as briefly described in section 2.1.2, to establish the syntactic relation between the clauses in a complex sentence for every type of complement-taking predicate. It will turn out that one of these additional tests cannot discriminate between subordination and coordination in NGT, whereas the other test can. After it has been established that syntactic subordination does exist in NGT, the question arises whether the subordinated clause is an argument of the complement-taking predicate. To find an answer to this question, two more tests were carried out, one on \(\text{wh}\)-extraction in topicalisation and one on \(\text{wh}\)-extraction in \(\text{wh}\)-questions.

Thus, the tests that will be carried out apart from the distributional dependency test concern the distribution of pronominal right dislocation, the duration of the non-manual negation marker, and \(\text{wh}\)-extraction in topicalisation and \(\text{wh}\)-questions. Each test will be described individually in a chapter that at the same time presents and discusses the results of this test. It should be kept in mind that even if the tests turn out not to be revealing with respect to syntactic complementation in NGT, they will give us more information about certain syntactic aspects of NGT grammar.
2.3 Method of testing
All tests had the form of judgement tasks. I presented NGT sentences with the constructions under investigation to the informant by signing the sentences myself. To date, morphosyntactic research on NGT has used signed language data that were obtained by picture tasks and in spontaneous conversations. Complement clauses and all kinds of syntactic processes, like topicalisation or pronoun copy, are difficult or almost impossible to elicit with picture tasks. Moreover, it is common knowledge that certain language constructions are rare in spontaneous conversation, so the failure to find a construction in spontaneous conversation does not prove that this construction is absent from the language altogether. Therefore, judgement tasks were considered to be the appropriate tasks to collect the necessary data for this investigation.

During the tests, the experimenter signed the sentence under consideration to the informants. The informants were asked to sign this sentence for themselves and then to judge if this sentence was grammatical in NGT. More specifically the informant was asked to judge whether the sentence was good or bad or questionable. If a sentence was judged as being good or grammatical, then the informant was asked to sign the sentence again. He was also asked to formulate the sentence in his own way; this was done in order to see if the informant had the same sentence in mind as the one offered by the experimenter. If a sentence was judged as being bad, i.e. ungrammatical, or questionable, the informant was asked to explain why, so that it could be seen if a sentence was rejected for non-syntactic reasons, such as the wrong use of facial expressions. Sometimes the informants spontaneously gave information about sentence structures that could only occur in *Nederlands met Gebaren* (*Sign Supported Dutch*, abbreviated as NmG). NmG is a sign system made up by hearing people to communicate with deaf people. It follows the syntax of Dutch supported by signs from NGT and signs made up by hearing people (Schermer et al. 1993:49ff).

As Neidle et al. (2000:16) point out, it is best to use a native speaker for carrying out tests with informants. According to Neidle et al. the informants will feel much more confident with a native speaker than with a non-native speaker. Furthermore, it is known that native speakers in general will adapt
their language to a non-native conversational partner that has problems in using this language in a grammatically correct way. That is, the native speakers will try to make themselves understood by simplifying the language they use to a kind of baby-talk. When the experimenter is a native speaker, it decreases the chance that the informants will adapt their language to the non-native experimenter. Unfortunately, since there was no native speaker available, I had to carry out the tests myself. And, although fluent in NGT, I am not a native speaker. The informants were asked to take this into account. They were asked to be careful not to adapt their language to my sometimes faulty signing. They were also asked to use the signed language that they used among their deaf family and friends, and not to rely on the prescriptive rules of NGT grammar that some of them learn in their higher education. This latter remark turned out not to be superfluous, as can be illustrated by the following comment that one informant gave as a reaction to one of the test items during a judgement task about word order in simple sentences. The offered sentence with SVO word order is in (19a). After signing the sentence in (19a) the informant gave the reaction in (19b), that I freely translated. Note that literal glosses in small capitals are used where significant.

(19) a. 

\[\text{inge \ POINT}_{\text{right}} \quad \text{right\text{\_ATTACT}} \quad \text{marijke \ POINT}_{\text{left}}\]

'Inge attracts the attention of Marijke'
b. I think I can sign this for sure but according to the books of the Gebarencentrum [the 'Dutch Sign Centre'; ivg] you have to sign

\[ \text{POINT}_{\text{right}} \text{ INGE POINT}_{\text{right}} \text{ POINT}_{\text{left}} \text{ MARIJKE POINT}_{\text{left}} \]

\[ \text{rightATTRACT.ATTENTION}_{\text{left}} \text{ [SOV order; ivg]} \ldots \]

Former research [Coerpts 1994; ivg] has shown that it should be

\[ \text{POINT}_{\text{right}} \text{ INGE POINT}_{\text{right}} \text{ POINT}_{\text{left}} \text{ MARIJKE POINT}_{\text{left}} \]

\[ \text{rightATTRACT.ATTENTION}_{\text{left}} \]

But I myself and others can put the constituent

\[ \text{POINT}_{\text{left}} \text{ MARIJKE POINT}_{\text{left}} \]

after the verb [SVO order; ivg].

\[(NGT)\]

The informant’s judgement in (19b) that SVO is a possible sign order corresponds to the positive judgements of this order by the other informants.

The tests were taped on analogue video and coded with a timecode in hours:minutes:seconds:frames, where one frame equals 1/25 of a second. The videotapes were transcribed by myself, sometimes in consultation with the informants who performed the tests. In every test, several sentences per predicate were elicited.\(^{17}\) The whole database contains minimally 600 sentences per informant. The data was collected in sessions lasting no longer then three hours with several breaks over a period of three years.

### 2.4 Informants

For this investigation, I worked with three native informants who performed the tests and helped me with the transcription whenever that was necessary. The three informants were all born deaf of deaf parents and deaf grandparents. During the elicitation period of three years, they varied in age from 25 to 35 years. All informants had attended deaf schools from childhood and have a social life primarily in deaf communities. Two informants are from the region of Amsterdam, one from the region of Voorburg (near The Hague).

The Netherlands have traditionally been divided into five regions: Groningen in the north, Amsterdam, Voorburg, and Rotterdam in the west,

\(^{17}\)The elicitation materials are available on request.
and St.-Michielsgestel in the south-east of the Netherlands. It is now commonly thought that there are hardly any lexical and grammatical differences between the sign language variants used in the west and the north of the Netherlands (Schermer 1990:61). Schermer shows that there is, however, variation between these four regions and St.-Michielsgestel (Schermer 1990:61).

When presenting the results I will always indicate if the informants gave different grammaticality judgements. Where this is not indicated, all three informants were in agreement.

I am thoroughly aware of the fact that results of only three informants are not easily generalised to the language of a whole language community. This is especially true, since NGT has no standardised grammar yet, and here I mean grammar in the sense of a set of norms and rules of the language. Nevertheless, the results presented in this investigation do reflect the (unconscious) knowledge of their language that three native speakers share. Since they conceive this knowledge as NGT, it is so presented. The internal knowledge of language of these three native speakers must be part not only of a modality specific grammar, a sort of 'Universal Signed Grammar' (UsignedG), but also of UG. Therefore, the study of the knowledge of only three speakers of NGT is very interesting and important, for language-specific, modality-specific, and language-universal reasons.