Modal and Focus Particles in Sign Languages

Sign Languages and Deaf Communities 2

Editors
Annika Herrmann
Markus Steinbach
Ulrike Zeshan

Editorial board
Carlo Geraci
Rachel McKee
Victoria Nyst
Marianne Rossi Stumpf
Felix Sze
Sandra Wood

De Gruyter Mouton · Ishara Press

Modal and Focus Particles in Sign Languages

A Cross-Linguistic Study

By
Annika Herrmann

De Gruyter Mouton · Ishara Press

Acknowledgements

Contents

List of figures

List of tables

Notational conventions

These initial comments on notational conventions exemplify the transcription that is used throughout this book. As is common in sign language linguistics, small capitals represent signs (SIGN). Small letters on lines above the manual glosses indicate the nonmanual features that are used simultaneously. The extension of the lines above the words indicate the scope and distribution of the respective nonmanual markers. For the purpose of discussing the examples with deaf informants and other native signers, the glosses are in German, Dutch and English for German Sign Language (DGS), Sign Language of the Netherlands (NGT) and Irish Sign Language (ISL), even though the sign languages investigated have no direct relation to the surrounding spoken language. Of course all foreign glosses are accompanied by English translations. For illustration, see the following example in (1) from DGS.

(1) a.
$$\overline{f}\qquad\overline{r,ht\text{-}f}$$

IX$_2$	GLAUB	WAS	:	TIM	SCHON	ZU-HAUSE
ix$_2$	think	what	:	tim	already	at-home

‘What do you think? Is Tim at home already?’

b.
$$\qquad\overline{hn}\qquad\qquad\overline{hs}$$

TIM	IX$_3$	NUR$_2$	BLUME	GIESS	:	BAUM	SCHEID	BFF
tim	ix$_3$	only	flower	water	:	tree	cut	neg

‘Tim only watered the flowers, he did not cut the trees.’

A colon ‘:’ between the glosses stands for a pause or prosodic break. A prosodic break may be marked by different manual and nonmanual means. Thus, I do not explicitly transcribe prosodic cues such as prosodic head nods or eye blinks in the examples. I usually display the nonmanual features that are relevant for my studies, the later analysis, and the correct interpretation. This also means that regular subject marking, some confirmative nodding, and emotional facial expressions or nonmanual gestures are neglected in the transcriptions. Of course, topics, interrogatives, conditionals, role shifts, etc. are indicated by their representative nonmanuals. Compared to the fine-grained annotations, however, the examples show only a minimal transcription selected for the purpose of illustration.

Manual signs

SIGN	regular signs
SIGN-SIGN	one single sign that is described by more than one word in the glosses
S.I.G.N.	fingerspelled sign
g-word	gestures are written in small letters and are initialized by a 'g-'
SIGN (rep)	reduplication of a sign (e.g. for pluralization or aspect marking)
$IX_{1,2,3}$	IX stands for *index* and represents the reference to a location in the sign space indicated by indices (e.g. used for pronominalization or localization of referents in the sign space)
$POSS_{1,2,3}$	possessive pronoun

Nonmanual markers

r	raised eyebrows
f	furrowed eyebrows
w	wide eyes
sq	squint
hn	head nod
hs	head shake
ht	head tilt
bl	body lean
b	blink

It is important to bear in mind that most abbreviations refer to the form of a specific nonmanual marker. However, it may also be the case that they refer to the function of a nonmanual marker or a set of nonmanual markers (e.g. in the case of nonmanuals for *even*). Specific nonmanuals are always introduced in the respective sections. For a full list of all the abbreviations see the transcription conventions in the appendix 9.4.

Sign language acronyms

This list provides an overview of all sign language acronyms that are used throughout the book. Note that ISL is commonly used for Irish Sign Language as well as Israeli Sign Language. Thus, I indicate Israeli Sign Language by an extra superscript. To clarify the acronyms, I also indicate the name of the sign language in the language of the respective country.

ABSL	Al-Sayyid Bedouin Sign Language
AdaSL	Adamarobe Sign Language
ASL	American Sign Language
Auslan	Australian Sign Language
BCSL	Brazilian Cities Sign Languages
BSL	British Sign Language
DGS	German Sign Language (Deutsche Gebärdensprache)
DSL	Danish Sign Language
GSL	Greek Sign Language
HKSL	Hong Kong Sign Language
IPSL	Indo-Pakistani Sign Language
ISL	Irish Sign Language
ISL^2	Israeli Sign Language
ISN	Nicaraguan Sign Language (Idioma de Señas de Nicaragua)
KK	Sign Language of Desa Kolok (Kata Kolok)
LIS	Italian Sign Language (Lingua Italiana dei Segni)
LIU	Jordanian Sign Language (Lughat il-Ishaara il-Urdunia)
LSB	Brazilian Sign Language (Língua de Sinais Brasileira)
LSC	Catalan Sign Language (Llengua de Signes Catalana)
LSE	Spanish Sign Language (Lengua de Signos Española)
LSF	French Sign Language (Langue de Signe Française)
MSL	Mauritian Sign Language
NGT	Sign Language of the Netherlands (Nederlandse Gebarentaal)
SSL	Swedish Sign Language
TİD	Turkish Sign Language (Türk İşaret Dili)

Chapter 1
Introduction

Since Stokoe's groundbreaking work "Sign Language Structure" in 1960, modern linguistics has shown that sign languages are complex natural languages on a par with spoken languages in all respects. Sign languages exhibit the same structural and neurological foundations as any other human language and their syntax is discrete, algorithmic, recursive, and formal (cf. Roberts 2007: 428). Theories on all levels of grammar can be equally applied to sign languages and we find equivalent features to phonological elements, morpho-syntactic processes, as well as semantic and pragmatic aspects in their manifold variety. The linguistic and cognitive properties of language have been shown to be modality-independent. Modality specific aspects of sign languages are merely surface phenomena due to the articulatory system of signed languages. The findings from sign language research have now been widely acknowledged by linguists around the world. The field of linguistics benefits from sign language research in various ways and the results promote, test, and challenge linguistic theories of any kind.

1.1.   SIGN LANGUAGE STUDY TOPIC WHAT?

The most important recent desiderata within sign language research today are typological studies and the implementation of the results into linguistic theory. As the title of this book points out, I provide a cross-linguistic study of three sign languages, namely German Sign Language (DGS), Sign Language of the Netherlands (NGT), and Irish Sign Language (ISL). Taking into account the three spoken languages German, Dutch, and English for comparative reasons, the study thus investigates a sample of six languages, but focuses on the triple set of sign languages: DGS, NGT, and ISL. Therefore, this work clearly addresses the need for a more detailed comparison of different sign languages across the world and contributes to answering the general question whether sign languages are more similar to each other than spoken languages.

The topics of this book are modal particles and focus particles and how they are realized in signed languages. Particles are non-inflecting words that

do not belong to any other word category such as conjunctions or preposi-
tions. The two subgroups of the particle class that are the main subject of this
study have different properties and language-specific equivalents that make
them a very interesting starting point for research on sign language syntax,
semantics, and pragmatics. The primary question of how sign languages real-
ize modal particles and focus particles sheds light on the strategies that DGS,
NGT, and ISL have available and employ to express these particular items or
meaning nuances that the respective particles trigger. Importantly, the results
are implemented into linguistic theories of spoken and signed languages. This
book tests existing syntactic, semantic, and pragmatic approaches and argues
for particular frameworks and assumptions, thus pushing the debates in lin-
guistic sign language research one step further.

Being visual and highly simultaneous languages, the various sign lan-
guages have articulators such as hands and arms (manual), and body, head,
and face (nonmanual) that may layer and combine in manifold ways to ex-
press words, phrases, sentences, and utterances in discourse. Sign language
linguistics has revealed that the so-called nonmanual markers play an impor-
tant role on all levels of sign language grammar. Apart from general affec-
tive and emotional, and therefore nonlinguistic functions, they have system-
atic and clear lexical, morphological, information structural, and syntactic
functions. Their functions on other levels of grammar, however, have not yet
been thoroughly investigated. Nonmanuals strongly influence sign language
prosody and may have semantic-pragmatic and intonational functions. Thus,
nonmanual markers have been highly interesting for recent linguistic debates
and sowed the seeds for theoretical and methodological discussions. Non-
manual features turned out to be most relevant for the realization of particles
in sign languages. This book therefore explores how nonmanuals behave with
respect to the investigated phenomena of modal particles and focus particles.

1.2.   Methodology and data

The experimental elicitation of video data and the development of an anno-
tated small scale corpus resulted in a data set that built the basis for a thorough
analysis of the three sign languages under investigation. Four basic tasks were
developed as an elicitation battery. A picture task, a context adjustment and
modulation task, a translation task, and a picture story task were created in
order to elicit the specific target sentences of interest, particularly taking into
account contextual information.

Using the same technical equipment and keeping the setting as constant and comparable as possible, I recorded native and near native signers in the three different countries. Native status was defined as sign language acquisition with deaf parents and the near native status as early sign language acquisition before the age of five. Two camcorders captured the torso and the face of the signers in a two hour session for each signer. The data set comprises 770 video files for the modal meaning tasks and 405 files for the focus particle tasks. As each file contains a target sentence or contexts and stories including a target sentence, the results equal the sentences investigated for this study. The videos were synchronized and annotated using the specific annotation software ELAN that allowed me to create individual tiers and annotation dictionaries. A thorough annotation guarantees a systematic transcription and is a basic prerequisite for a valuable analysis of sign language data. For the notational conventions used throughout the book, see Notational Conventions in the front matter. For a full list of all abbreviations see the transcription conventions in the appendix 9.4.

1.3.   Theoretical framework

This book is both a typological and a theoretical study. I compare typologically very different languages and analyze them within the linguistic framework of generative grammar. Even though I am not strictly following the most recent approaches within the theory of minimalism, the minimalist program discussed in Chomsky (1995) is taken to be the underlying linguistic framework guiding the analysis.

Based on the results of the process described above, I provide syntactic, semantic-pragmatic, and prosodic analyses to explain the findings of the presented studies and implement them in general linguistic theory. The concept of modality as well as the basic restrictive and additive items of focus particles are thought to be universal across human languages. Thus, this book is a descriptive work showing how focus particles and modal particles are expressed in sign languages, and a theoretical work testing the existing linguistic theories whether they are adequate for the results from sign languages found in my data.

Semantically, I decompose the target sentences according to the analyses proposed for spoken languages. Assuming that meaning is conveyed on different levels, I investigate how sign languages express the different

components of meaning. With regard to information structure, the broader framework adopted here engages the works of Jackendoff (1972), Jacobs (1983), Stechow (1991), König (1991), Krifka (2006), and their follow ups and focuses on alternative semantics (Rooth 1985, 1992 and Büring 1997, 2007). With regard to modal particles and research on modality, I follow Weydt (1977), Meibauer (1994), Jacobs (1991), Thurmair (1989), and Portner (2009).

Taking into account traditional approaches and recently debated aspects of focus particles and modal particles in spoken languages, I discuss how sign languages realize the issues investigated and whether the results confirm or disconfirm certain hypotheses about the levels of meaning that generate terminological and conceptual debates.

Syntactically, the structure of the three sign languages under investigation should be explicable within the assumptions of generative grammar. I basically follow the structural analyses within government and binding theory (Chomsky 1981, 1995, and Haegeman 1996 among others) and further apply approaches as discussed in Rizzi (1997), Cinque (1999), and Büring (2005). I take into consideration different approaches and use the linguistic tools and mechanisms provided by syntacticians working on spoken and signed languages to account for the distributional and structural properties of focus particles and modal particles and their signed or otherwise expressed equivalents, as found in this study.

As research on sign languages is still in its early stages and the target sentences did not aim at eliciting the most complex structures possible, I adopt the above mentioned linguistic tools and apply them to the results in order to find a consistent analysis of the investigated phenomena. Specific terminology and individual theoretical approaches will be discussed in the respective chapters.

In sum, taking a typological perspective based on empirical research of different languages combined with a theoretic implementation of the data into generative theories of grammar, this book aims at providing a comprehensive overview of how the sign languages under investigation express linguistic phenomena such as focus particles and modal particles. Many researchers have taken the linguistic analyses of sign languages to test and challenge the universal properties of human languages that were stated so far. As mentioned above, detailed analyses of signed and spoken languages have shown that the underlying properties of language are modality-independent. The means to express and realize the modality-independent aspects of the language system,

however, are very language-specific and might be influenced by modality-specific properties of sign language production and perception (cf. Meier 2002, 2012). The research questions guiding this work are thus:

1. Do the sign languages under investigation show universal concepts such as modal meaning and focus particles?
2. How are these phenomena expressed in sign languages?
3. How do the spoken and signed languages that build the basis for this study interrelate and behave among one another?
4. How can the findings be implemented into a generative framework of linguistic theory?
5. How can the data be analyzed syntactically and semantic-pragmatically?

The respective hypothesis and the results with regard to the above posed questions are summarized below.

1.4. Hypothesis and results

1.4.1. Modal particles in sign languages

Modal particles do not appear in many languages of the world. As a colloquial phenomenon in German, Dutch, Frisian, Italian, and some other spoken languages, Modal particles have long been ignored by linguistic research. Nevertheless, many recent studies are dedicated to the investigation of modal meaning in spoken languages and various modal particles in particular (cf. Krivonosov 1977; Bublitz 1978; Borst 1985; Helbig 1988; Thurmair 1989; Jacobs 1991; Lindner 1991; Abraham 1991b; Meibauer 1994; Foolen 1995; König 1997, Ormelius-Sandblom 1997, Kratzer 1999, Waltereit 2001, Authenrieth 2002, Karagjosova 2004; Coniglio 2007b; Cardinaletti 2007; Ikoma 2007; Gutzmann 2008).

Previously, research was done in the form of descriptive work, but since then many authors have investigated the syntax and semantics of modal particles in various languages. Modal particles have inherent properties that lead researchers to assign them a separate particle class. The interaction of semantic, syntactic, and pragmatic properties of modal particles have always made it a difficult task to define their contribution to the meaning of a sentence.

Various syntactic, semantic-pragmatic and also prosodic accounts have been proposed and each explains certain characteristics of these language items.

First of all, this book investigates whether modal particles have manual equivalents in sign languages. Previous studies of DGS and ISL have shown that modal particles have no signed equivalents (cf. Herrmann 2007). This is confirmed by the results in the present study and can also be applied to NGT and probably all other sign languages of the world. Hypothesizing that the meaning triggered by a modal particle or equivalent expressions in spoken languages is communicated mainly by nonmanual means in sign languages, I studied the nonmanuals that were used for modally modified sentences in DGS, NGT, and ISL.

Interestingly, the nonmanual expressions for specific categories of modal meaning were quite similar in the three sign languages. Minimal pairs of regular sentences and the modified target sentences clearly displayed differences in facial expressions and articulation patterns. The results showed that the elicited nonmanuals convey the modal meaning evoked by modal particles and operate on the sentence level in the same way as modal particles in spoken languages. By testing the context elicitation tasks with native speakers of German, for instance, it was possible to compare the target sentences in both modalities.

The nonmanual features used to modify an utterance spread across the entire sentence in most cases. All signers systematically and intuitively used the same nonmanuals in the elicited contexts. Furthermore, the clear alignment patterns of nonmanuals and manual signs suggest a grammatical analysis. Analyzing nonmanuals with sentential scope leaves different options for analysis. Discussing syntactic and prosodic analyses of certain nonmanuals, the data seem to support a prosodic account assuming an intonational patterning and interpretation of nonmanuals (cf. Sandler & Lillo-Martin 2006; Dachkovsky & Sandler 2009; Sandler 2010). The data reveal interesting aspects pointing towards a compositional account of various nonmanuals that can be combined to derive complex meanings. Syntactically, modal particles and modal meaning in spoken languages are assumed to be represented in a relatively high projection in the left periphery that would account for the spreading of the nonmanual features across the clause in sign languages. Contributing to the discussion about the syntax-semantics-phonology interface, this book directly hits the mark of recent debates and challenges current findings from other sign languages.

1.4.2. Focus particles in sign languages

Focus particles are another subset of the particle class with particularly interesting properties. They associate with the highlighted part of a sentence and directly relate to this focus constituent, contributing to the meaning of the sentence in a specific way. The classical representatives of the focus particle class are *only*, *also*, and *even*. *Also* is an additive particle opening up alternatives to the focused constituent, whereas *only* is a restrictive quantitative particle that excludes all other alternatives to the associated part of the sentence. *Even* is an inherently scalar additive focus particle that presupposes the existence of other alternatives and furthermore posits the focused constituent on a specific scale in relation to the alternatives. Some focus particles such as *only* have quantitative variants and evaluating, and therefore scalar variants. In this study, I investigated the three above mentioned particles in sign languages and expected all of them to have manual equivalents because of their semantic content and already known lexical items from dictionaries and language experience. Nonmanuals were hypothesized to play only a minor role and rather mark focus and information structure.

As opposed to modal particles, signed variants of additive and restrictive focus particles were observed in all of the sign languages investigated. I analyzed the syntactic and semantic-pragmatic properties of the equivalents that were found. They relate to focus constituents in a similar way to spoken languages. Different variants, however, show various distributional patterns and require different analytic tools. A syntactic analysis on the basis of spoken language theories accounts for the different variants of focus particles and interesting combinatory behavior. In general, I follow an adverbial account for most of the focus particles in the data.

Surprisingly, there has not been a single sign for the scalar focus particle *even* in any of the scrutinized sign languages. The target sentences were mainly translated and performed using an additive manual sign such as ALSO, combined with specific facial expressions such as raised eyebrows, wide eyes, and head tilts to convey the meaning of *even* in the elicited contexts. The nonmanuals spread across the focus particle and the focused constituents indicating that the facial features are not merely lexical in nature. In certain cases, the manual features were even used without a manual base. Looking at scalar variants of ONLY, the same combination of manual signs plus facial expression that spread along the associates could be found. Sign languages thus explicitly realize the two semantic features ([+additive] and [+scalar] in case

of *even*, [+restrictive] and [+scalar] in case of *only*) by two different articulatory channels and represent the two aspects of meaning as two syntactically different features. In spoken languages, on the other hand, these features are syntactically combined in one single word such as English *even* or German *sogar* (even), for instance.

First, the manual realization of the basic focus particles that were found in DGS, NGT, and ISL shows that sign languages universally behave as any other natural language. The concepts of additive and restrictive focus particles find their equivalents in many signs such as NUR$_1$ and NUR$_2$ for *only* in DGS and AUCH and DAZU for *also*. NGT exhibits two additive variants glossed as OOK$_1$ and OOK$_2$, and ALLEEN and EEN for *only*. In ISL, the signs ALSO, SAME, SAME-TIME, and AS-WELL were used in different additive contexts, whereas restrictive target sentences contained signs such as ONLY, JUST, ONE, and COMPLETION.

Second, however, nonmanuals were found to play an important role on the level of scalarity and the picture would not be complete without the analysis of these scalar aspects of focus particles. In this book, the specific scalar nonmanuals are analyzed as representations of syntactic features that c-command the focus constituents and spread along predefined domains. In sum, the hypothesis that focus particles only have manual equivalents has to be refined. The simultaneous patterns of the visual modality allow sign languages to express different features on distinct articulatory levels and use the nonmanual articulators such as body, head, and most importantly the face to express the scalar meaning nuances as an extra level of meaning triggered by certain focus particles. Sign languages thus have modality-specific means to express universal concepts of language.

1.5.   Outline of the book

This book is divided into three parts. Part I provides introductory information about the investigated sign languages (Chapter 2), the functions of nonmanual features in general (Chapter 3), and a chapter on methodology (Chapter 4). Part II and Part III are dealing with the two basic research topics modal particles (Chapters 5 and 6) and focus particles (Chapters 7 and 8) and how they are represented in sign languages. A last chapter summarizes the findings in a conclusion (Chapter 9).

As a typological cross-linguistic study, this book basically investigates the three sign languages DGS, NGT, and ISL. Thus, chapter 2 provides histori-

cal and socio-linguistic information about each language and its signers and briefly sketches the structure of the three different sign languages. The historical background and the metadata about the informants are of great importance to sign language research in general as they provide information about language change and the language acquisition status of the signers.

A separate introductory chapter is dedicated to the nonmanual articulators of sign languages as they are an essential part of sign language grammar. Thus, chapter 3 discusses the various functions that nonmanuals may have and provides examples from the three sign languages for illustration. As nonmanuals play an important role with respect to modal particles and focus particles, this overview sets the foundations for a better understanding of the simultaneous and three-dimensional use of different articulators in signed languages. Chapter 4 provides an overview of the methodology used in this study and introduces the combined comparative and experimental approach taken in this study. General issues about data elicitation and settings, informants, data processing, and data annotation are explained. The elicitation battery and the individual tasks are described in the respective chapters on modal particles and focus particles. Starting with the concept of modality and modal particles in spoken languages in chapter 5, I define the relevant notions and terms and analyze particles on the basis of a moderate minimalistic account. A description of the respective particle subclasses and their characteristics classifies modal particles as a research field. I present modal particles in German and Dutch and show the equivalent expressions for modal particles in English. Chapter 6 presents the actual task and the findings of the investigation into modal particles and modal meaning in sign languages. Some basic aspects of modality such as modal verbs have already been studied for a few sign languages and a brief state of the art summarizes these findings. Nevertheless, modal meaning triggered by modal particles has not been the topic of sign language studies so far. I present the experimental setting and the procedure of the task and list a broad selection of examples from the data set. The results are tested against syntactic and prosodic approaches and are analyzed systematically with respect to spreading behavior and compositional meanings. Focus particles received much attention in spoken language research and chapter 7 provides a systematic overview of the relevant aspects for an analysis of signed focus particles. I present the characteristic properties of focus particles that assign them a separate particle class. Based on information structural assumptions following Krifka (2006) and others, I furthermore define the related notion of 'focus' as a discourse relevant issue.

From a semantic point of view, I describe the different variants such as re-strictive, additive, and scalar, and explain their contribution to the meaning of a sentence. The syntactic behavior of focus particles has led researchers to analyze them either as adverbial-like elements or as adnominal elements forming a constituent with their associates. The advantages and drawbacks of both approaches are discussed in order to provide a theoretical basis for the analysis of sign languages in the following chapter. The data elicitation tasks, the results, and the analysis concerning focus particles in sign languages are displayed in chapter 8. After summarizing some work on focus and focus particles in sign languages, initial results of a corpus search show that ex-perimental data are necessary to guarantee a systematic investigation. The results for each sign language are presented in detail and the transcriptions in the examples illustrate the various target sentences of the three different tasks. Completed by the results of the control group and initial findings from other sign languages, the data build the basis for a thorough syntactic anal-ysis of *only*, *also*, and *even* in sign languages. Proposing a combination of an adverbial account for adjacent focus particles and a right C° position for sentence-final focus particles, my analysis accounts for the different distri-butional behavior and the different status of certain signs analyzed as focus particles. The spreading of the nonmanuals with respect to *even* provides ev-idence for a syntactic approach and a division of additive and scalar features in sign languages. Chapter 9 summarizes this book and provides a system-atic outline of the findings with regard to modal particles and focus particles in sign languages. The results reveal new and interesting facts about further grammatical functions of nonmanual features, aspects of modal meaning, and the use of focus particles in DGS, NGT, and ISL. The findings have an im-portant impact on both spoken and sign language theories as they promote a contemporary controversial prosodic theory of nonmanuals and intonation, and a particular syntactic structure that has been much debated in recent dis-course.

   This book provides an innovative contribution to recent cross-linguistic and theoretical sign language research and emphasizes the relevance of trans-parent data and a systematic analysis. Further, this study opens up new re-search fields and interesting ideas. At the end of the chapter, I therefore in-dicate some remaining questions and unresolved issues, a few suggestions for an improved data elicitation, and recommendations for further promising studies investigating sign languages and their fascinating grammar.

Part I

Typological, theoretical, and methodological background

Chapter 2
Sign language typology

DGS	NGT	ISL
SCHÖN	BLIJKEN/LIJKEN	BOY
(nice)	(appear/seem/resemble)	(boy)
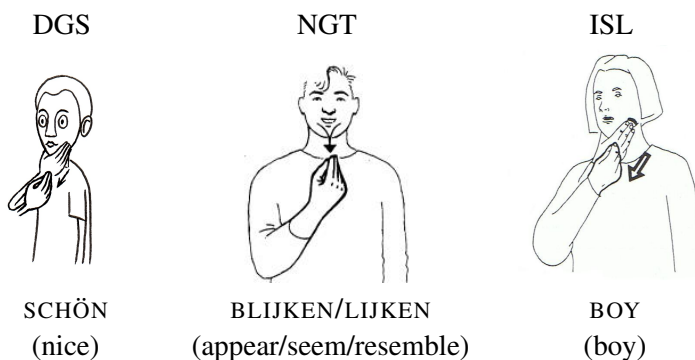
Figure 1. One sign - Three sign languages - Three meanings[1]

This book is a cross-linguistic study that systematically investigates modal particles and focus particles in three sign languages: DGS, NGT, and ISL. In Herrmann (2004, 2007), DGS was only compared to ISL. The decision to include NGT as a third sign language was motivated by the following reasons. First of all, DGS, NGT, and ISL are not directly historically related and thus each offers unique insights into the structure of sign languages from different language families.[2] Second, Dutch is a spoken language that exhibits modal particles similar to German and in contradiction to English. By considering the respective spoken languages in my analysis, I could also test whether or not the surrounding spoken languages had any influence on the realization of specific particles and meaning nuances. The latter is assumed to be more likely based on the well known fact that sign languages - compared to their surrounding spoken languages - behave very differently in many respects. Third, NGT is a well investigated language with open access to data sets from different corpora. Furthermore, because contact with research colleagues had already been established, this cooperation could facilitate and improve the search for informants. Experimentally elicited video data of native signers were taken as the basis for this cross-linguistic project comparing DGS, NGT, and ISL (see chapter 4 for methodological issues).

The following sections briefly present the cultural and historical backgrounds of the sign language communities under investigation. I provide some socio-linguistic figures and outline the linguistic structures of the respective sign languages. Generally, the Deaf communities in Germany, Ireland, and The Netherlands share many common aspects with regard to historical developments, oppression, and the problems they have faced in the past.[3] On the other hand, the history of education and external influences on language change is slightly different for each of the three countries. I summarize socio-linguistic figures and institutional aspects for each community and describe the linguistic structure of the respective sign language. Section 2.1, looks at DGS, section 2.2 is dedicated to NGT, and section 2.3 provides the relevant information about ISL.

In a concluding section 2.4, I explain some common characteristics and oppose differing features with regard to historical developments and structural properties of the three sign languages. DGS and NGT are related in various respects. ISL on the other hand was more isolated and strongly influenced by French educators, French Sign Language (LSF, Langue de Signes Française), and British Sign Language (BSL) in the past.

All of the three sign languages are established languages with a long history and they linguistically exhibit a complex morphology and an elaborate syntax, semantics, and pragmatics. The structural differences on the surface are visible in basic word order, vocabulary, particular sign creation mechanisms, and many language-specific properties. Section 2.5 summarizes the findings against the background of the variation hypothesis, which provides the fundament for a cross-linguistic comparison.

2.1.   German Sign Language (DGS)

As the native language of many deaf, hard of hearing, and also hearing people such as children of deaf adults in Germany, DGS (Deutsche Gebärdensprache) is the central issue in the Deaf Community and is seen as their social as well as linguistic heritage. This section provides an overview of the social, educational, and cultural situation of the Deaf in Germany. In addition, this section describes the structure of DGS from a linguistic perspective and provides an insight into the grammar of sign languages in general.

2.1.1.   Cultural background information

DGS has been officially recognized as a language with equal rights in Germany since 2002. An estimated 80.000 Deaf people use DGS in Germany, but the actual number of DGS signers is much higher when considering family members, interpreters, researchers, social workers, etc. However, taking into account the complicated situation of sign language acquisition in Germany, the actual number of native signers is difficult to define. Less than 10 percent of deaf children receive their language input from deaf or signing parents. Usually, the children learn their language from other signing children in preschool institutions or when entering the school environment. They often lack the important adult input because a bilingual education in the German school system is still limited to pilot projects.[4]

The difficulties with regard to sign language acquisition and the poor instances of bilingual education programs in Germany can be traced back to the historical developments in the 18th and 19th centuries. The so-called 'methodological debate' ("Methodenstreit") between the French Abbé de l'Épée (1712-1789), who supported a sign-based education in his school in Paris, and the German teacher Samuel Heinicke (1727-1790), who founded an oral school in Leipzig in 1778, was symptomatic for the two antagonistic camps fighting for the application of different methods in the education of the deaf at that time. For all sign languages of the world, the Congress of Milan in 1880 was a significant event with radical consequences for sign language as a teaching device and as a language in general. The German oral tradition supported by various representatives and followers of Heinicke in Germany was strengthened by the enactment of this congress and signing was suppressed, eliminated, and figuratively squeezed out of the deaf schools in Europe (see Schuhmann 1940; Leonhardt 2002; Wolff 2008a,b for further reading).

In the past few decades, the Deaf community around the world has successfully started to stand up for their rights and needs. Taking America and the Gallaudet University in Washington as an example and ideal model, many Deaf people in Germany actively participate in the recently evolving Deaf Pride movement. The many forms of emancipation and the commitment to Deaf associations and the Deaf society have resulted in initiatives to achieve subtitles in all German television and improved the rights to call interpreters in certain formal situations, for example. Sign language interpreting is a fully accepted profession, and more and more universities and institutions professionally train interpreters and offer different levels of apprenticeship. In cer-

tain German states, however, Deaf people sometimes still have to pay the interpreter by themselves for official purposes such as parent-teacher conferences in school. Thus, another aim of the Deaf Pride movement is to improve this situation.

Debates and presentations about concepts like 'Audism' and 'Deafhood' and an increasing interest in linguistic research testify to the growing awareness of the importance of sign languages for Deaf identity. Linguistic studies have played an influential role and support the ongoing process in many ways. After many initiatives and protests in 2008, the election of the first Deaf Professor at the Institute for German Sign Language (IDGS) in Hamburg, Prof. Dr. Christian Rathmann, can be seen as a great success within the process of the emancipation of the Deaf community in Germany. Furthermore, many Deaf researchers and academics actively take part in linguistic research and provide a positive outlook for future developments.

The following section 2.1.2 provides an overview of the basic linguistic structure of DGS and summarizes some general grammatical properties.

2.1.2.   The structure of DGS

Due to the lack of an established written system and the fact that a committee for a DGS standardization process does not exist in Germany, there is no official version of a standard DGS on the market.[5] However, some linguistic grammar books give a comprehensive overview of the basic structure of DGS (see Happ & Vorköper 2006; Papaspyrou et al. 2008; Eichmann et al. 2012).[6]

On a phonological level, DGS displays 35 different handshapes. Pfau (1997: 8-9) lists a handshape matrix for DGS and opposes basic and complex handshapes. The handshape repertoire is not the same in each sign language. The TENT-handshape in American Sign Language (ASL) cannot be found in DGS, for instance (see section 2.4 for another example of this sort). In all sign languages, the four manual components - handshape, orientation, location, and movement - are the basic distinctive phonological features and minimal pairs can be found for each phoneme.[7] See figure 2 for an example of a minimal pair for the handshape feature.

GEB (give) and BESUCH (visit) or GESUND (healthy) and SOLDAT (soldier) are minimal pairs for orientation, the signs WARM (warm) and VERGESS (forget) are only distinguished by the place of articulation (forehead and face), and ANTRAG (application) and ERZIEHUNG (education) are an example of a distinguishing movement phoneme.

Syntactically, DGS is analyzed as having an SOV word order in both main and subordinate clauses (cf. Happ & Vorköper 2006; Keller 1998; Pfau & Glück 2000; Rathmann 2000). Time and location occur sentence-initially, whereby tense precedes the local expressions. DGS is regarded as recursive and exhibits complex structures like coordination, subordination such as conditionals or relative clauses, cleft-constructions, etc. (see chapter 3 for further details). Topic constructions are possible and topicalization is a frequent strategy in signed discourse. The dialectal variants and regional deviations of DGS commonly exhibit the same basic structure and only vary in vocabulary and some instances of morphological variation, such as the use of PAM as an agreement marker, for instance.[8]

Furthermore, the figure-ground principle controls the word order due to the physical properties of the entities involved. Big and inanimate or stiff entities precede small and animate or agile entities (see example (2)).[9]

(2)   BAUM VOGEL SITZ$_{auf}$
        tree   bird   sit$_{on}$.
        'A bird sits on a tree.'

Concerning the hierarchical syntactic structure, I take DGS to have a similar IP and VP structure as German subordinate clauses. DGS is thus a head-final language. Following Petronio & Lillo-Martin (1997) and others, I assume a left CP with a right-branching C° for DGS. This will be further elaborated in chapter 7, where focus particles are analyzed in relation to the syntactic structure of the sign languages under investigation. As is also the case for some spoken languages such as Nilo-Saharan language like Kanuri, Lugbara, and Bagirmi, for instance, we do not find copula verbs in DGS (see Tucker & Bryan 1966: 52-53,58,190). In Russian, copula verbs are almost always

ANFANG (begin)   FIND (find)
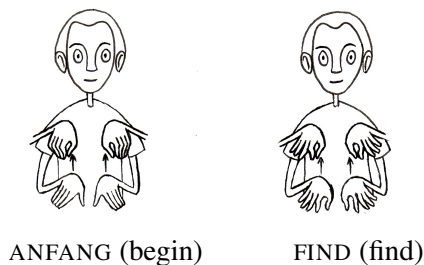
Figure 2. Minimal pair for handshape feature in DGS

omitted in the present tense existential context. Postnonimal adjectives (HAUS SCHÖN (house nice), 'a nice house') and postverbal postpositions (see SIT$_{on}$ in example (2)) like in DGS are typologically not unusual either. Breton (see Ethnologue) and many Bantu languages (cf. Heine 1976) exhibit postnominal adjectives, and in Japanese (cf. Ethnologue), postpositions can be found as well.

Unlike spoken languages, sign languages generally have three different types or verbs. The verbal system in DGS also follows this distinction and consists of three classes: (1) plain verbs, (2) agreement verbs, which are verbs that agree with a subject and/or an object, and (3) spatial verbs, which are verbs that agree with local indices in the sign space (cf. Happ & Vorköper 2006; Papaspyrou et al. 2008; Steinbach 2007, 2008; Eichmann et al. 2012). Plain verbs cannot be modified and show no overt agreement. They are lexically specified and do not alter their citation form (e.g. MÖG (like), VERSTEH (understand), SCHLAF (sleep)). Agreement verbs and spatial verbs change according to loci with which they agree referentially or locally. Agreement verbs in DGS can either be subject-object-agreement verbs (e.g. GEB (give), HELF (help)) or object-agreement verbs (e.g. FRAG (ask), INFORMIER (inform)). The class of spatial verbs is split into local (e.g. SITZ (sit), STEH (stand)) and directional verbs (e.g. GEH (go), FAHR (drive)). Both types of agreement mainly differ in the use of sign space. Agreement verbs use space grammatically, whereas the use of space with spatial verbs is more likely motivated semantically. The pictures in figure (2) provide examples of all three verb classes in DGS.

MÖG (like)   HELF (help)   FAHR (drive)
plain verb   agreement verb   spatial verb

Figure 3. Verb classes in DGS

As for most investigated sign languages of the world, nonmanual features play an important role in DGS grammar. Apart from affective facial expressions, which are used to express emotions, sa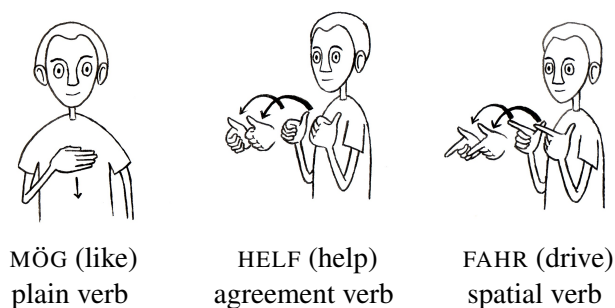rcasm, irony, etc., nonmanual features encode various grammatical functions such as sentence types, subordinate clauses, topicalization, negation, and adverbial modification. They have scope over a specific spreading domain and are distinctively and obligatorily used to mark the construction. Example (3) shows the nonmanuals that mark a conditional clause in DGS (r = raised eyebrows, hn = head nod).

(3)
$$\overline{\phantom{\text{BUCH IX}_3\ \text{GUT}}}^{\text{r}}\quad \overline{\phantom{\text{IX}_1\ \text{KAUF}}}^{\text{hn}}$$

BUCH	IX$_3$	GUT	:	IX$_1$	KAUF
book	ix$_3$	great	:	ix$_1$	buy

'If the book is great, I buy it.'

Some wh-interrogatives may even lack a manual wh-element in a few investigated sign languages. In these cases, the nonmanuals are sufficient to mark the wh-interrogative as seen in (4) for DGS (f = furrowed eyebrows, s = squint, ht-f = head-tilt forward). In the following, the individual features are not explained or specified any further, as a detailed overview of all features and its abbreviations can be found in appendix 9.4.

(4)
$$\overline{\phantom{\text{SATZ BEDEUT IX}_3\ \text{SATZ BEDEUT}}}^{\text{f,s,ht-f}}$$

SATZ	BEDEUT	IX$_3$	SATZ	BEDEUT
sentence	mean	ix$_3$	sentence	mean

'What does this sentence mean?'

Many grammatical nonmanual features are analyzed as the realization of syntactic features (cf. Wilbur & Patschke 1999; Neidle et al. 1996, among others). Some researchers analyze nonmanual features as compositionally superimposed intonational contours that follow the prosodic structure of an utterance (see section 3.3 in chapter 3 for further details and Sandler & Lillo-Martin 2006 for an overview of the issue). Lexical facial expressions, on the other hand, are lexically determined expressions that belong to the lexeme and are part of the lexical entry. For more information about nonmanual features and their various functions in sign languages see chapter 3.

2.2.   Sign Language of the Netherlands (NGT)

NGT (Nederlandse Gebarentaal) is the native language of Deaf people in the Netherlands and one of the three sign languages that are investigated in this book. In section 2.2.1, I present a brief socio-linguistic overview of the historical and cultural development of NGT and provide information about the educational system and recent activities of other related institutions. Section 2.2.2 summarizes work on the structure of NGT and lists relevant literature for further reading. Leading some of the linguistic research fields especially with regard to corpus studies, the researchers on NGT often raise important questions and present innovative findings and ideas that initiate fruitful debates. As NGT seems to be quite similar to DGS, it is especially important to look at these languages in detail to disentangle commonalities and differences.

2.2.1.   Cultural background information

Estimating the approximate number of deaf people that live in the Netherlands today is not a trivial task. In the literature, researchers often estimate that approximately 0.1% of the Dutch population, around 16.000 people, use NGT and constitute the Deaf community in the Netherlands (Crasborn 2001: 27-28).[10] In 1997, the Commissie Nederlandse Gebarentaal estimated 17.500 potential deaf and hearing sign language users (cf. CommissieNGT 1997: 53; Baker 2000). Note, however, that these are always estimated numbers. Most interestingly, NGT has not yet been legally recognized as part of the Government's constitution in the Netherlands.

There are five main schooling institutes for the deaf: Groningen, Zoetermeer (Den Haag), Rotterdam, Sint-Michiels-Gestel, and Amsterdam. Furthermore, many advisory consulting institutes for families with deaf children were established over the past decades (cf. Knoors 2000: 30).

NGT has mainly been influenced by French signs as taught by Abbé de l'Épée. The first institute for the Deaf was founded in 1790 by the protestant Henri Daniel Guyot in Groningen. Before, he had visited L'Épée and Sicard in Paris and studied their manual methods. The institute soon included a boarding house and the children were encouraged to establish and cultivate their own culture. By 1808, 52 pupils attended the school and additional boarding houses for boys and girls were built in 1822 (cf. Wingerden 2003:

406). The curriculum included the use of natural signs and the sign alphabet. The training of written language skills was conducted with the help of manual instructions. Speech and articulation training was not given priority, but seen as a necessary condition for the deaf to participate in the society and therefore oral speech was also taught in school. "Speaking, however, was a goal and not a method of instruction" (Wingerden 2003: 407). Due to funds and state subsidies, education for the deaf was free. In 1854, 160 pupils were educated at the Guyots Institute in Groningen which was quite successful and praised by many official visitors.

In 1840, the catholics founded a second institute for the deaf in the south of the Netherlands in Sint-Michiels-Gestel. It gave residence to 46 pupils, the manual method was adopted, and deaf assistant teachers were employed (cf. Wingerden 2003: 408). Even though religion was given priority, the school gained a public character and was supported by the national government like the Groningen school.

The third institute in Rotterdam originated with a group of deaf pupils taught by the Jewish teacher D. Hirsch, who had practiced the oral method in Germany. By the time of the school's foundation in 1853, he taught 18 pupils, rejected the manual method, and preferred foster families for the deaf children to integrate them in society (cf. Wingerden 2003: 409). D. Hirsch and his followers promoted their method and distributed their ideas in England and Belgium, for instance. Sign language was banned in his school and speech was used as a method for instruction. The debate between oralists and manualists was revived at the expense of the manual method. As Wingerden (2003: 411) notes, the new schools in Den Haag (1892) and Amsterdam (1910) were already biased towards the oral method by the time they were founded. Even though the Milan Congress in 1880 is always cited as the turning point towards oralism in deaf education, the historical developments in the Netherlands show that it was more of a gradual process.

The government played an important role in the development of deaf schools. The state had a general interest in education, so they subsidized the institutes for the deaf. The regulatory influence of the government on regular schools by legislations, however, did not affect deaf schools. It was not until 1920 that deaf schools were regarded as a form of primary education and therefore received respective treatment. The schools were required to be denominationally neutral, but after the Education Act of 1857, private Catholic or Protestant schools for the deaf were still financially supported (cf. Wingerden 2003: 412).

Due to research in linguistics and cultural studies, the need for an official recognition of sign languages and special educational changes became obvious all over the world. In the Netherlands, the eighties brought some preliminary changes such as the use of 'total communication' in deaf schools (cf. Crasborn 2001: 28). This is a combination of various communication methods such as speech, lip-reading, gestures, and sign, which often resulted in the use of Manually coded Dutch (NmG, Nederlands met Gebaren).

The Dutch sign language commission for NGT was founded in 1996 and published a report in 1997 about the situation of the deaf in the Netherlands and the status of NGT. They advocated an official recognition of NGT as a minority language and promoted access to bilingual education for every deaf child by using NGT as the main method of instruction in schools (cf. Knoors 2000: 31-32).

Pilot projects in Rotterdam and Sint-Michiels-Gestel testing bilingual education were conducted from 1994-1996/1997 with positive results. Since then, bilingualism is more and more implemented in deaf schools across the Netherlands. The method of 'Team Teaching', with a hearing and a deaf/signing teacher or assistant in the same class, is particularly challenging because of financial and coordinative reasons. Nevertheless, two languages have to be offered to the children to exhaust given potentials and preferences, and achieve the best results. Constant evaluation is done by researchers and proofs necessary to analyze and improve the concepts of bilingual education and multimodal teaching (see Knoors 2000 for details on these issues).

The Netherlands often enjoy the status of a role model within the field of sign language research and deaf education (see Hulst et al. 1999 and Baker et al. 2008 for overviews). Many institutions deal with cultural and linguistic issues concerning the Deaf and their sign language NGT. Recent developments show that schools successfully implement the bilingual and bi-cultural methodology. Progress can also be seen in the training of professional interpreters and the institutionalization of interpreter services. In addition, Deaf and hearing researchers are currently working at the University of Amsterdam and support deaf students who are given access to study at the university through the help of interpreters.

Furthermore, a committee has been established in the Netherlands concerned with a standardization process of NGT. In 1999, all institutions, schools, and federations involved in deaf education, culture, and institutionalization, and also the government decided to authorize the Sign Language Center of the Netherlands (Nederlands Gebarencentrum) to address the task