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D 2.4 DGS, LSC, LSE, LIS, NGT, TID First Descriptions

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¹ R: Report, DEM: Demonstrator, pilot, prototype, DEC: Websites, patent fillings, videos, etc., O: Other

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1.1	28-03-2018	Comments on version 1.0.	Jordina Sánchez Amat
1.2	29-03-2018	Incorporation of comments.	Meltem Kelepir

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1. Scope of the document

This document reports on the status of the first descriptions of DGS, LIS, LSC, LSE, NGT and TID. Its main focus is evaluating to what extent the aim of completing the grammars based on descriptions found available in the existing literature (as indicated in the State-of-the-Art reports submitted as Deliverable 2.1) has been achieved. However, other issues such as the methodology adopted to achieve uniformity among grammars and the challenges faced during the writing process are also discussed.

2. Overview of the First Descriptions of DGS, LIS, LSC, LSE, NGT and TID

2.1. Introduction

First descriptions of five SIGN-HUB languages have been completed (LSE grammar first description has not been developed yet due to temporary lack of manpower). These grammars can be found as Annexes to this document. Since the grammar writers were advised to submit the grammars in pdf formats to avoid losing crucial formatting in the process of compilation such as alignment of non-manual markers with glosses, there is no internal page numbering in the grammars. However, the beginning of each grammar can be found by referring to the page number of the Table of Contents of this document.

This version of the grammars contains, in addition to the linguistic descriptions, visual representations of some of the examples as still images. The grammar writing teams have also recorded video clips of some of the examples where video representations are preferred. However, due to the size of the video clips, these are not submitted with this Deliverable. They will be available on the SIGN-HUB platform in the later stages of the project. Regarding the sources of the visual materials, the ultimate aim is to produce visual material within the project either as completely new material based on the descriptions or as reproductions of material available in the literature. There are two reasons for this: to minimize permission and copyright issues and to ensure high quality of visual materials.

Each grammar consists of 6 Parts: Socio-historical background, Phonology, Lexicon, Morphology, Syntax and Pragmatics. These Parts are not numbered since they will not be numbered in the final versions of the grammars. Each Part consists of a number of Chapters. Each Chapter, in addition to the sections and subsections related to the linguistic topics, contain three non-numbered short sections which can be found at the end of the chapters: Information on data and consultants, Authorship Information and References.

2.2. Achieving uniformity among the grammars

Since the Grammar Writing Tool is still being developed by WP3, the grammar writers were instructed to write the descriptions using a Word document that contains the Checklist (Table of Contents) of the grammars which is part of the Sign-Gram Blueprint. Task 2.1 leaders had prepared a document "Guidelines for Grammar Writing". This document both explains what the language and style of the descriptions should (and shouldn't) be like, with good and bad ex-

amples, and also provides instructions on more technical matters such as formatting, example representation, etc.

The grammar writers were also instructed to use the Checklist as a template but not to delete the sections that do not have content in them. So, these current versions have “empty” sections and subsections. There are two reasons behind this choice: (i) to let the reviewers see the context within which the provided descriptions are contained, and (ii) to avoid the risk of unintended automatic changes in the section numbering during the deletion process. In the final version of the grammars on the SIGN-HUB platform, the headings of these “empty” sections will be grey and unclickable. Since grammar writing is an on-going process, and we hope that it will continue even after the project ends, we hope that content for these sections will eventually be provided.

The Chapters and Sections for which content has been provided should not be considered the final versions, at least for most of the grammars. Some of these sections are in fact incomplete, to be completed in the following periods of the project. The grammar writers were also instructed not to indicate the incompleteness of the sections since such remarks are not appropriate for a grammar. Moreover, needless to say, the versions submitted as part of the Deliverable are the first drafts and they will be reviewed and revised several times until the grammars are made public by the end of the project.

Finally, we consider these first versions as products of a “pilot study” in the sense that producing the first versions of these grammars by a certain deadline have enabled us, the grammar writers and the Task 2.1. leaders, to develop and constantly update guidelines for grammar writing to achieve uniformity among the grammars, to identify challenges created by multi-membered grammar writing teams with differing levels of expertise, and develop solutions to overcome the challenges. Detailed and comparative reviews of these currently submitted versions by the leaders of WP2 and Task 2.1 will help us provide improved versions by the end of the project.

2.3. Evaluation of the current status of the grammars

All the grammar writing teams have been able to submit the first descriptions of five languages (LSE being the exception at this point). The amount of content as predicted by the SoA reports (see deliverable 2.1) varies among the teams due to the insufficient human resources in some of them and to the uneven amount of preexisting research across the languages described. These we explain in more detail in 2.4 below.

As explained in detail in the Current Status reports of each grammar in Section 3 of this document, the LIS and TID teams have submitted content for almost all the sections that had existing descriptions in the literature. The LIS team decided to leave some sections empty either

because they realized the studies in the literature did not provide sufficient explanations of the phenomenon or what is reported is not the results of systematic analysis. Both teams also provided content for some sections based on their original research conducted during the grammar writing process and incorporated those findings into the grammars. Both teams have both senior and junior researchers that were involved in grammar writing.

The DGS team suffered from a hiatus during the grammar writing process due to the maternity leave of the junior researcher who was the designated grammar writer of the team and the unavailability of a replacement for a period of five months. Still, the team has accomplished to submit most of the sections of the DGS grammar that were indicated in the SoA report. Their submission contains Chapters and Sections from each of the six Parts of the grammar.

The NGT team has only one PhD student who is the designated grammar writer, due to budgetary restrictions. Thus, the current version of the NGT grammar contains only Socio-historical Background and Syntax. The former is mostly complete. All the literature mentioned in the SoA report has been integrated. Most of the existing descriptions reported for Syntax in the SoA report have also been integrated. In addition, the team also provided content for some sections that were marked as "not studied" in the SoA report. This additional content is based on the findings of their original research they conducted during the grammar writing process.

The LSC team has concentrated in developing the main chapters/sections for which there is existing research. Given the limited human resources that can be devoted to it (collaboration of some predoctoral students and contributions by senior members), a few sections are still to be completed, but the bulk of the work is already part of the draft of the LSC grammar. Sections where the reported research was deemed to be insufficient have been left for a further stage of research and writing. Some of the research that underlies the description relies on consolidated results of the work being carried out currently at the UPF unit.

The draft of LSE grammar, for which the UPF team is responsible, has not been delivered yet for this deliverable. Since the available human resources for grammar writing at the UPF unit are already limited and thus insufficient to develop the LSE grammar next to the LSC one at the same path, they relied on collaboration with two LSE experts at the Basque Center on Brain and Language specialized in linguistic research on LSE, but their other commitments have prevented them for carrying out this task so far. They are still committed to this collaboration, but they will need rescheduling. They trust that the delay with the LSE grammar can be made up for by the end of this year with additional measures described in the report.

2.4. Challenges

Writing the grammar of a sign language within a limited time period has a number of challenges that slow down the process. Among these are: (i) the insufficient number of grammar writers in the team, (ii) differing levels of experience and expertise, (iii) ensuring uniformity of style (and conventions) among multiple authors even within a single language team, and (iv) writing the grammar of a language which does not have an established "standard".

The effect of (i) is obvious. As for (ii), the teams include junior researchers who are qualified sign language researchers. However, they are used to writing research papers and not reference grammars. Training them to write the descriptions appropriate for a reference grammar is a long but rewarding process which involves several drafts of chapters reviewed and revised by senior researchers. Regarding the issue in (iii): Since most of the grammars have had multiple authors, ensuring a uniform language and style within one grammar required extensive discussions and revisions. Moreover, since certain grammatical phenomena, e.g. negation, agreement, or indefinite determiners, occur under different Chapters in the Checklist and these different Chapters may be written by different authors, keeping descriptions and for instance, English glosses for the same signs consistent across these Chapters and avoiding too much overlap requires careful cross-reading and supervision. Finally, issue (iv) poses a challenge unique to writing the grammar of understudied languages with no established standard and, in some cases, with large variation among its speakers. This variation is not only a challenge of incorporating the findings of original research, but also those findings that are found in the studies in the literature. As is well known, linguistic studies conducted on similar topics may have differing or contrasting empirical generalizations offered by the writers. The reasons for these differences are not always clear. That is, it is not always possible to attribute these differences to regional dialects, generational differences or differences in the competence level of the signers if these factors are not clearly identified in the studies. In order to reflect this variation, each team has developed ways to integrate it into the descriptions. Sometimes with relatively vague statements such as "some signers articulate this as that whereas others..." and sometimes by specifically referring to regional dialects if that information is available.

3. Current Status Reports

The following sections include the Current Status reports for each grammar submitted by each language team.

3.1. The Current Status of the DGS Grammar

This section focuses on the current status of the DGS grammar that has been written based on existing literature as reported in the State-of-the-Art (SoA) report (Deliverable 2.1). The grammar contains the chapters and sections where most research has been conducted. Most, but not all of the due chapters were written through the work of the group (i.e., [**Socio-Historical Background** – Chapter 2], [**Phonology** – Chapter 1, Chapter 2], [**Lexicon** – Chapter 3 (Section 3.1-3.2.3 and Section 3.7-3.7.7)], [**Morphology** – Chapter 3 (Section 3.1-3.1.3)], [**Syntax** – Chapter 1 (Section 1.5-1.5.2.4), Chapter 2 (Section 2.1-2.1.5.2), Chapter 3 (Section 3.1-3.2, Section 3.3.3-3.3.3.5 and Section 3.5.1-3.5.1.6)], [**Pragmatics** – Chapter 1, Chapter 2, Chapter 4 and Chapter 8]).

As planned, the chapters and sections for which no findings are available in the literature have been left empty. Moreover, some more sections for which we indicated available literature were still left empty (see below). This was due to the early maternal leave of the researcher that was hired for the grammar writing and the unavailability of a replacement for a period of more than five months (from August 2017 to January 2018). Furthermore, there are also sections for which only partial descriptions were available. In most cases these descriptions have also been integrated into the sections but need to be developed further in the following periods of the project. Note that the incompleteness of these sections has not been marked as such in the grammar itself.

In sum, most of those sections that were marked in the State-of-the-Art Report as completely or partially described in the literature have been at least partially integrated into the grammar sections except for: [**Socio-Historical Background** – Chapter 1, 3 and 4], [**Lexicon** – Chapter 1], [**Morphology** – Chapter 1, 2, 4 and 5], [**Syntax** – Chapter 1], [**Pragmatics** – Chapter 5, 6 and 7] as well as some subsections, where literature is rare [**Phonology** – Section 3.4], [**Lexicon** – Section 2.2, Section 3.3-3.4 and Section 3.8.2], [**Morphology** – Section 3.2-3.5], [**Syntax** – Section 2.2 and Section 3.4]. These were listed as described in the literature in the SoA report but have not been integrated into the descriptions submitted now due to the abovementioned reasons. These parts are currently written and/or will be completed within the following six months of the project.

Some sections [**Syntax** – Section 2.1.4.2], [**Syntax** – Section 3.1.5-3.5.1.6] include descriptions that were not described in the previous literature but are results of research conducted in

relation to the SIGN-HUB project. Moreover, these sections as well as the completed chapters/sections include additional references which were not included in SoA report (Deliverable 2.1) but were found to be relevant and necessary to integrate during grammar writing stage. Thus, we provide an updated version of the reference list for the DGS grammar.

Lastly, the visuals provided at this stage are provisionally done and mainly taken from the existing literature on DGS. The ones which will be used for publication will be created and included in the grammar parts by us in the following period.

3.2. The Current Status of the LIS Grammar

This section is intended to discuss the current status of LIS grammar. The Italian unit (University of Milan-Bicocca and Ca' Foscari University of Venice) has been mainly focusing on the topics for which existing literature is available.

For the most part, the sections that were marked in the State-of-the-Art Report as completely described in the literature have been integrated into the Grammar chapters. Specifically, the following chapters/sections have been completed:

Socio-Historical Background	<ul style="list-style-type: none"> – Chapter 1 (History) – Chapter 2 (The sign language community) – Chapter 3 (Status) – Chapter 4 (Linguistic study, with the exception of 4.1. Grammatical description)
honology	<ul style="list-style-type: none"> – Chapter 1 (Sublexical structure)
Lexicon	<ul style="list-style-type: none"> – Chapter 1 (The native lexicon, except for 1.3.2 and 1.3.3) – Chapter 3 (Parts of speech: 3.3. Lexical expressions of inflectional categories, 3.4. Adjectives, 3.5. Adverbials, 3.6. Determiners, 3.10. Numerals and quantifiers)
Morphology	<ul style="list-style-type: none"> – Chapter 3 (Verbal inflection, except for 3.3.1.3, 3.3.2.2, 3.4) – Chapter 4 (Nominal inflection) – Chapter 5 (Classifiers, with the exception of 5.2)
Syntax	<ul style="list-style-type: none"> – Chapter 1 (Sentence types, except for 1.4) – Chapter 2 (Clause structure: from 2.1.1 to 2.1.2.5 and

	2.5) – Chapter 3 (Coordination and subordination: 3.4 and 3.7) – Chapter 4 (The Noun Phrase, except for 4.2 and 4.4)
Pragmatics	– Chapter 2 (Reference tracking)

The chapters and sections for which no findings are available have been left empty. In a few cases, we had marked some sections as covered in the literature in the State-of-the-Art Report, however we decided to leave them to the next stages of the project. Our decisions are briefly motivated hereafter.

There are sections for which only partial descriptions are available. For example, in the Syntax Part, section 3.5 (Adverbial clauses) is partially covered since there are previous studies on conditional clauses (3.5.1), temporal clauses (3.5.2), and locative clauses (3.5.3). However, the other types of adverbial clauses (manner, reason, purpose, concessive, substitutive, additive, and absolutive clauses) are severely under investigated. In cases like this, we decided not to work on short subsections, but rather to leave the comprehensive development of the whole section to a later stage of the project.

In the Socio-Historical Background, section 4.1 (Grammatical description) is meant to provide a structured overview of previous studies on LIS grammar. In order to establish coherent and adequate connections between them and the topics discussed in the Grammar chapters, we decided to develop this section in the following periods of the project.

In the Lexicon Part, sections 1.3.2 (Modification of core lexicon signs), 1.3.3 (Simultaneous constructions and use of the non-dominant hand), and 3.3.3 (Modality markers) were not developed because they have not yet been extensively studied.

In the Morphology Part, we decided to leave section 5.2 (Size and Shape Specifiers) for the following periods because these elements are just partially described with respect to the other categories of classifiers detected in LIS; therefore, further analyses investigating their characteristics will be developed in order to provide a proper description. Sections 3.3.1.3 (Conative), 3.3.2.2 (Inceptive/inchoative), and 3.4 (Modality) deal with topics that have not been addressed in the literature and therefore require the collection of new data.

In the Syntax part, even though we had marked section 3.6 (Comparative clauses) as covered in the literature, we realized that our initial evaluation was inaccurate since there is no systematic examination of this syntactic construction. As for section 2.3 (Word order), after careful examination, we realized that what is available in the literature is not sufficient to write the relevant sections and therefore it is necessary to elicit new data. As for chapter 6 (The structure of adverbial phrase, sections 6.1-6.3), a closer inspection has shown that the existing literature on the structure of the adverbial phrase is too limited to write the corresponding

chapter in this deliverable, which is devoted to topics for which there is already a fairly solid research.

In the Pragmatics part, even though we had marked some chapters as covered in the literature (Chapter 5, Discourse structure and Chapter 9, Figurative meaning), we realized that the findings reported in previous studies do not provide a complete picture of these linguistic aspects. Chapter 6 (Reporting and role shift) will be developed once section 3.3.3 (Role shift) in the Syntax part is completed.

3.3. The Current Status of the LSC Grammar

This first phase of grammar writing has concentrated on the compilation and integration of existing research on LSC for those chapters or sections where there was enough information to develop a reasonable description. In this process, we realized that many of the topics that were reported as partially covered turned to contain insufficient material to write even a draft of a section and were left for future development. As for those sections initially reported as covered in the literature, most have been covered in the current version of the draft submitted, and are integrated in the parts on Lexicon, Morphology, Syntax and Pragmatics.

Lexicon	<ul style="list-style-type: none"> – Chapter 1, 1.2 Non-core lexicon – Chapter 1, 1.3. Interaction core-non-core lexicon – Chapter 3, 3.2 Verbs – Chapter 3, 3.3 Lexical expressions of inflectional categories – Chapter 3, 3.7 Pronouns
Morphology	<ul style="list-style-type: none"> – Chapter 3, 3.1. Agreement – Chapter 3, 3.2. Tense
Syntax	<ul style="list-style-type: none"> – Chapter 1, 1.2 Interrogatives – Chapter 2, 2.1.2.3 Verb agreement – Chapter 2, 2.1.2.4 Classifier handshape – Chapter 2, 2.1.5 Existentials and possessives – Chapter 2, 2.3 Word order – Chapter 3, 3.1 Coordination of clauses – Chapter 4, 4.2 Possessive phrases
Pragmatics	<ul style="list-style-type: none"> – Chapter 1 Deixis

- Chapter 2 Reference tracking
- Chapter 4 Information structure
- Chapter 5 Discourse structure
- Chapter 8 Signing space
- Chapter 9 Figurative meaning

A number of topics for which there is existing research (most noticeably, Socio-Historical Background, Negation, Reporting and Role Shift) have not been included in this draft due to lack of time and manpower, but will be incorporated in the coming months.

The chapters/sections included in this draft feature few visuals, mostly because they need to be reproduced (due to copyright issues or to the quality of the original visual) or created anew, and due to time constraints, it turned out to be more efficient to do that in a concentrated fashion. Therefore, they are currently represented in glosses or translations, ready to be produced.

Despite the limited human resources available for this task, the coverage is quite satisfactory. There exist issues of uniformity in style and depth of description that will be addressed in a more comprehensive way in future stages of the compilation of the grammar.

3.4. The Current Status of the LSE Grammar

Against our expectations, it has turned out to be impossible to deliver the draft of LSE grammar for this deliverable. Since the available human resources for grammar writing at the UPF unit are already limited and thus insufficient to develop the LSE grammar next to the LSC one at the same path, we crucially relied on collaboration with two LSE experts at the Basque Center on Brain and Language specialized in linguistic research on LSE. However, their other commitments have prevented them for carrying out this task so far. They are still committed to this collaboration, but they will need rescheduling. We have agreed on that, as well as on additional support from our UPF team. Another line of action has been to try to find a predoctoral student with independent financing from our Department that can take up this task as center of her research, but this is not under our control at this point. We trust that the delay with the LSE grammar can be made up for by the end of this year.

3.5. The Current Status of the NGT Grammar

This section focuses on the current status of the NGT grammar that has been written based on existing literature as reported in the State-of-the-Art (SoA) report (Deliverable 2.1). First, we provide an overview of work that has been done on the Socio-historical background and on Syntax, as these are the Parts that we have written (partially) since Deliverable 2.1. Second, we account for the Parts that have not been written yet and provide a short prospective on forthcoming work.

Socio-historical background

As we wrote in the SoA report Part I, all chapters could be covered at least partially based on the available literature, and this is indeed what we did. All the literature that was mentioned in SoA report Part II was consulted and used in writing the chapters. Furthermore, we added recent information that could be found online, for instance on the website of the National Hearing Foundation, to provide recent statistics on the number of deaf people in the Netherlands (Chapter 2, The sign language community).

Yet, some Chapters are not complete, and the reasons for this are twofold: For Section 2.1 (Community characteristics), 2.2 (Sign language users), 2.3 (Deaf culture) and 3.3 (Language attitudes), we can state that not enough research is available to describe all the relevant topics. For Chapter 1 (History), Section 2.4 (Deaf education) and Chapter 3 (Status), we conclude that enough research is available but that we could not manage to include the information fully due to limited time and human resources. Note that the incompleteness of Sections has not been marked as such in the Parts themselves.

Syntax

As we wrote in the SoA report Part I, the available research related to Syntax is limited to a certain number of topics (namely declaratives, interrogatives, and negatives). So far, the available information from these studies is covered quite thoroughly in the relevant Sections (Section 1.1 (Declaratives), 1.2 (Interrogatives), and 1.5 (Negatives)). In addition, Chapter 3 (Coordination and subordination) includes descriptions that were not available at the time of writing of the SoA report and that are therefore not mentioned there: Section 3.1 (Coordination of clauses) and 3.5.1 (Conditional clauses) are the results of original research conducted by an MA student and a PhD student during the past year.

Some Sections (parts of Section 1.2 (Interrogatives), Section 1.3 (Imperatives), Section 1.4 (Exclamatives), Section 2.1 (The syntactic realization of argument structure), Section 2.5 (Clausal ellipsis), parts of Section 3.1 (Coordination of clauses), Section 3.2 (Adverbial clauses), Section 3.6 (Comparative clauses), Section 3.7 (Comparative correlatives), Chapter 4 (The noun phrase), Chapter 5 (The structure of adjectival phrase) and Chapter 6 (The structure of

adverbial phrase)) are not filled because of a lack of research. Other Sections (Section 2.1 (The syntactic realization of argument structure), parts of Chapter 4 (The noun phrase)) involve topics that are currently studied, as part of an ongoing research project on argument structure in NGT. Therefore, writing these sections will be done when the first results of this project are available. The remaining Sections (Section 2.2 (Grammatical functions), 2.3 (Word order), 2.4 (Null arguments), parts of Section 3.3 (Argument clauses), Section 3.4 (Relative clauses)) are not complete due to limited time and human resources. Note that the incompleteness of Sections has not been marked as such in the Parts themselves.

Future work

Unfortunately, it was not possible for us to work on Phonology, Lexicon, Morphology and Pragmatics. Again, reasons for this are twofold: As we described in the SoA report Part I, none of these topics have been studied completely, which makes describing them more challenging. Furthermore, as we only have one grammar writer available for NGT, who also has to conduct original research, we are limited by time and human resources.

Considering the above-mentioned Parts Phonology, Lexicon, Morphology and Pragmatics, Phonology will be the most logical choice for the next step in the description, since relatively speaking, a considerable number of studies on phonological topics are available. We therefore plan to start working on this Part in the near future. Meanwhile, we supervise MA students who are performing small-scale studies, mainly on Phonology, Morphology and Syntax, which will provide us with results that can directly be implemented. In addition, we will conduct original research on under-studied subjects related to Morphology, e.g. compounds. Once the previous research and current research have been implemented in the Parts on Phonology, Morphology and Syntax, we will focus on Lexicon and Pragmatics. This way, we expect all previous work to be covered by the end of the project, and to be able to add some new, original results.

3.6. The Current Status of the TiD Grammar

This section focuses on the current status of the TiD grammar that has been written based on existing descriptions which were reported in the State of the Art (SoA) Report of TiD (Deliverable 2.1) as mostly or partially available in the literature.

The TiD grammar writing team has accomplished to incorporate all the existing descriptions into the chapters and sections.

In the following, we summarize the Chapters for which some content has been provided. In addition to those descriptions as reported available on the SoA report, a number of sections have also been written based on new research conducted by the Boğaziçi University team. These are also indicated as such.

SOCIO-HISTORICAL BACKGROUND

Chapter 1 (History)

Chapter 2 (The sign language community)

Chapter 3 (Status)

Chapter 4 (Linguistic study): Recent studies were added.

Considering the immensely large scope of the subjects, this part overall includes only the most important aspects judged by the author.

PHONOLOGY

Chapter 1 (Sublexical structure): New research has been done for subsections Hand Configuration, Location, Movement, Two-handed Signs. Relevant quantitative findings were added.

Chapter 2 (Prosody): New research has been done for subsections on Foot, Prosodic Word and Phonological Phrase. Also more findings have been added to Syllable and Intonational Phrase.

Chapter 3 (Phonological processes): The SignGram Blueprint Manual suggests that the topics discussed in this chapter can be described in Chapter 2 (Prosody). This has been done for Chapter 3 with related links to Chapter 2 in subsections.

LEXICON

Chapter 1 (The native lexicon)

Chapter 2 (The non-native lexicon): The internal composition of the manual alphabet was not described before. This has been done.

Chapter 3 (Parts of speech): Interjections were not studied before. New research has been conducted and its results have been added to the descriptions.

MORPHOLOGY

Chapter 1 (Compounding)

Chapter 2 (Derivation)

Chapter 3 (Verbal inflection): Some potential inflectional patterns have been tested and added to the descriptions. Some descriptions were available in the literature, but no examples were provided. Those examples have been elicited.

Chapter 4 (Nominal inflection): Some potential inflectional patterns have been tested and added to the descriptions. Some descriptions were available in the literature but no examples were provided. Those examples have been elicited.

Chapter 5 (Classifiers)

SYNTAX

Chapter 1 (Sentence types): A new negative particle (EMPTY) which has not been described in the literature has been added (Section 1.5).

Chapter 2 (Clause structure): Only description for 2.2 Word Order was available.

Chapter 3 (Coordination & Subordination): Adverbial clauses (Section 3.5) were not studied before. Some preliminary research, as part of a PhD thesis, has been conducted and these preliminary results have been added to this section.

Chapter 4 (The Noun Phrase): New findings have been added to determiners and possessives.

Chapter 5 (The Adjective Phrase): Only description for 5.1 Intensifiers and modifiers was available.

PRAGMATICS

Chapter 1 (Reference)

Chapter 2 (Reference tracking)

Chapter 5 (Discourse structure): Only description for 5.3 Foregrounding and backgrounding was available.

Chapter 6 (Reporting and role shift)

Chapter 8 (Signing space)

Chapter 9 (Figurative meaning)

The grammar descriptions submitted with this Deliverable are by no means the final versions. This is partly because in many of the sections, the descriptions are not complete and require further research, and partly because in order to achieve a uniform style, the sections have to be reviewed and revised several times until the end of the project.

Notes on some conventions used in this version of the grammar:

Many of the sections contain partial descriptions (not complete) and many sections have no descriptions. We marked sections neither as incomplete nor as empty since such remarks are not appropriate for a grammar. However, we hope to complete at least some of them in the later stages of the project.

We tried to reproduce visuals to minimize permission procedures. In a few cases, when reproduction was not possible or was not preferred, we included the visuals from another source and added to the reference "permission pending". We hope to obtain permission for these visuals in the 3rd period of the project. If no permission can be obtained, these visuals will be removed from the final version of the grammar.

For those visuals that were reproduced (from gloss only or as reproduction of a visual in a reference) we wrote "r.f. ..." next to the visual.

As a principle, all TID glosses are provided in English, both in the examples and in the text. However, some glosses also have Turkish glosses in parentheses next to them. The reason for this is that in some cases, certain signs have specific Turkish “glosses”/“names” commonly used by the Deaf community and these may be lost in translation. We would like them to be recovered easily when the grammar is translated into Turkish, whenever that is possible.

There are links to other sections, but those sections may not have been filled yet. We plan to fill those sections until the end of the project. Whether or not they are filled will be checked at various stages of grammar writing, including the process of uploading the descriptions to the platform and several editing stages of the grammar during the project.

Annex 1. DGS (German Sign Language) Grammar

A Reference Grammar
of
German Sign Language (DGS)

Socio-Historical Background

Chapter 1. History

Chapter 2. The sign language community of Germany

The World Federation of the Deaf (WFD) reports that there are over 70 million deaf people in the world. And the WFD represents the Deaf people in over 135 member states at the United Nations. One of their members is Germany with around 80,000 to 300,000 deaf persons. Indeed, this number differs in reports of different organizations. The German Federal Association of the Deaf (in German: *Deutscher Gehörlosenbund - DGB*) mentions on its website 80,000 deaf persons. The German Federal Association of Hard of Hearing Persons (in German: *Deutscher Schwerhörigenbund – DSB*) claims that 16 million are hearing impaired and around 140,000 of them need access to sign language. The German Federal Statistical Office counted that in 2015 ca. 310,000 strongly hearing impaired are living in Germany, but the spectrum and definition of a hearing loss is broad. Here the focus is on sign language users rather than the hearing status. Deaf, hearing impaired and actually hearing people are or can be members of a Sign Language Community, if their first language or preferred language is sign language. In this case the German Sign Language, called *Deutsche Gebärdensprache* (DGS).

2.1. Community characteristics

To be a member of a Sign Language Community the most important requirement is to be able to use the national sign language of the country, e.g. in Germany German Sign Language, DGS. The members can be Deaf, hard of hearing, people with a Cochlea Implant and even hearing persons working as teachers, interpreters, church persons, social workers and so-called CODAs (hearing Children of Deaf Adults, who acquired a sign language as their first language).

Being a member of the core of the Sign Language Community, the Deaf Community, there are other criteria to satisfy of being a member: shared experiences. Most of the Deaf people went to a Deaf School together, most of the Deaf go to Deaf clubs and associations/national and international events, and/or most of the Deaf fight together for equality and their human/linguistic rights in a mainstream, thus hearing, society. The shared experiences unite them and lead to establish a visible community with shared experiences, history, values, traditions and codes.

In Germany, currently there are around 70 Deaf Schools, mainly in bigger cities (>200.000 habitants, e.g. Hamburg, Berlin, Munich, Essen), but also in middle-size cities (<200.000 habitants, e.g. Würzburg, Halberstadt, Nürtingen). Some of these schools are vocational schools specialized for deaf pupils with a small range of chosen and adapted professions like tailor, dental technician and carpenter. Many of the Deaf children and teenagers learn DGS at these Deaf schools and make friends with other deaf

children. During school or after graduation they attend the Deaf club or association to have their own recreational place, in many cases it is a Deaf Sport Club for football, basketball, tennis, bowling or shooting. Deaf people share information about politics, health issues, news around the world, play games or do sports and look for a partner with no barriers there. The DGB represents around 600 Deaf clubs and associations with 30,000 members. At the moment the number of such clubs and their members is decreasing because old members (>65 years) die and younger Deaf (<50 years) are not interested to become a member there. Younger Deaf people organize themselves via Facebook, WhatsApp, Twitter or other social media channels on smartphones and computers. The Deaf clubs in smaller and middle-size cities are facing the danger to lose their members and eventually to close.

2.2. Sign language users

Sign language users of German Sign Language Community differ in sociolinguistic features such as living circumstances, age and migration origin. Germany has only three big cities with over one million inhabitants (Berlin, Hamburg and Munich) and several hundred cities that are medium-sized. 35% of the German population live in bigger cities and 42 % in medium-sized cities. The German population is not centralized as in France (approx. 20% of the whole French population live in the metropolitan area of Paris). It means that Deaf Germans are also settled in smaller regions and use their variety of DGS. German Sign Language has a high number of varieties, due to the high quantity of Deaf Schools, associations and groups in bigger and smaller regions.

If we do an axial cut in the German Sign Language Community, it's possible to see that the number of older (<65 years and older) and Deaf people with a migratory background is noticeable. Referred to the general demographic change of Germany's population (the older become older and less babies are born) it can be calculated that 16,000 of 80,000 Deaf persons are more than 65 years old (if we follow the statistics of the DGB). That means every fifth Deaf person is in this age group. However it is not clear whether the number of Deaf seniors is actually decreasing due to the medical-technical innovations or increasing due to the forced sterilization of Deaf people by the former Nazi-government. Older Deaf people sign also a variety of DGS that differ from the current DGS because they were not allowed to learn it openly in their school time fifty and more years ago due to the oralist tradition. They often use a communication supporting system, the LBG (in German: *Lautsprachbegleitendes Gebärden*), similar to SEE (Sign Exact English). Therefore, in many cases they don't know the one-handed finger spelling system which is practiced today in Germany, because this manual alphabet was introduced in the 1980s.

The next sociolinguistic feature in the German Sign Language Community is also the migration origin. During World War II German speaking Sudetes and Silesian refugees fled to Germany. After this war many immigrants from Turkey, Poland, Greece,

Italy came, years later even late repatriate from Russia and Kazakhstan returned. Presently refugees from Syria, Afghanistan, Iraq and other countries fled to Germany. They all bring their culture and language with them. Many Deaf (family) members from these countries or their Deaf descendants are involved in both cultures. That means they are usually grown up multi-culturally and multi-lingually and have their own linguistic requirements during their language acquisition here. Around 16,000 Deaf have multicultural/-lingual background within the German Sign Language Community, that is 1/5 of all German Deaf people. They sometimes have learnt DGS, sometimes they use their own country's sign language (e.g. TID, Turkish Sign Language; PJM, Polish Sign Language; RSL, Russian Sign Language; Syrian Sign Language), a mixture of DGS and another national sign language or even International Sign. In some cases, illiterate and/or semi-lingual Deaf with migratory background appear because they hadn't learnt a signed and/or written language before the age of 6. This depends either on the education and social circumstances of their countries of origin and/or the German special education system cannot offer resources adapted to them.

2.3. Deaf culture

The German sign language community is itself a linguistic and a cultural minority group. As mentioned before, they come together in schools, Deaf clubs or associations. However, there are also other ways to express their culture in Germany. The well-known 30-minute TV-programme *Sehen statt Hören* is broadcasted every Saturday at 9:30 am at the *Bayerischer Rundfunk* (the Bavarian TV channel, accessible in the whole Germany, Austria and Switzerland, even by internet). Since 1975 this program shows news from the Deaf world, current political occurrences which can impact the sign language community, sport and cultural events with Deaf leaders as moderators. It is broadcasted in DGS with German subtitles and dubbing. Since a few years it is also possible to see some popular German News Journals as *Tagesschau* and *heute journal* signed by a (deaf) sign language interpreter at the TV channel *Phoenix*.

To share information about cultural and sport events as festivals, talks, Poetry Slams, DGS-courses, interpreting courses at universities, parents counseling, surveys and more, the sign language community use the website *Taubenschlag* (www.taubenschlag.de). And the monthly newspaper *Deutsche Gehörlosen-Zeitung* (DGZ, established in 1872 and re-established in 1950) is a very popular medium to inform and discuss about various and current topics within the sign language community and worldwide. Editors and journalists of those are mainly Deaf persons.

The Association of Deaf Culture and History called *Kultur und Geschichte Gehörloser* (KUGG) provides research, exchanges and dissemination of the German Deaf History and Culture. For example, information about the attitudes and experiences of Deaf people during the Nazi-fascism 1933-1945 (Deaf Jewish club members were excluded, genetically Deaf children and teenagers were sterilized, some Deaf youngsters organized themselves in a special sector in the *Hitlerjugend*). Another website,

www.taubwissen.de, is a resource offered by the University of Hamburg for the mainstream and sign language community to learn about history, organization, sports, sign language and literature.

Additionally, the German Federal Association of the Deaf (DGB) organizes the *Kulturtage*, a three day culture festival taking place every four or five years since 1993 in different cities across Germany. This is the biggest event related to this community with around 3,000 visitors. Other great festivals are the theatre festival called DEGETH (*Deutsches Gehörlosentheater*) traditionally held in Munich every two years and the sign language festival called *Gebärdensprachfestival*, which usually takes place in Berlin. There some theatre groups with deaf actors (and rarely hearing bilingual actors) like the DGT-*Deutsches Gehörlosentheater* or *Theater Türkis* enter in a competition. The other festival in Berlin is a sign language contest and famous poets such as Jürgen Endress, Giuseppe Giuranna, Gunter Trube (1960-2008), other newcomers, and even signing teenagers and children or groups compete with others for a golden hand prize.

In fine arts, painting and sculpturing, Deaf artists like Albert Fischer (1940-2003), David Ludwig Bloch (1910-2002), Claudia Krämer and Dieter Fricke are quite popular. In filming the Deaf twins Reiner and Manfred Mertz are well known with their movies as “Lautlose Flucht” (2013) and “Stille Angst” (2015), mainly having Deaf actors.

2.4. Deaf education

The history of German Deaf education, the development of German Sign Language and its community started with the foundation of the first public deaf school in Leipzig in 1778 by Samuel Heinicke. Heinicke has chosen to teach deaf children with the oralist approach, the ‘German one’. In this method deaf children are taught to use spoken language, because they have to adapt themselves to the hearing mainstream society. Until 1900, 90 deaf schools were founded in the whole German territory (today’s Germany was established later, in 1949, and its frontiers differ a lot to those in the 19th century).

For a long time, until 1880, various methods existed in all deaf schools. In many deaf schools there was also a Deaf teacher who worked with sign language and was a role model for deaf children, such as Johann Karl Habermaß (1783-1826, Germany’s first documented Deaf teacher), Margaretha Hüttmann (1789-1854, Germany’s first Deaf woman teacher) and Otto Friedrich Kruse (1801-1880, a Deaf teacher who was well-known as a writer). The combined method, a mixture of signed and written, at times spoken, language was very common until 1880. After the Congress of Milan in the same year, Deaf teachers and sign language at these schools were expelled.

In the 20th century a new idea to combine the oral method with new elements such as musical instruments, rhythmic-musical education, lip reading and speaking training was born. This new method and the increasing hearing aid technologies have led to separation of former deaf schools into schools for the Deaf and schools for the Hard of Hearing. This is a unique phenomenon in the German history of Deaf education, which might stress the origin of the long oral tradition in Germany.

In the 1970s Deaf people have begun to teach sign language in courses and protest against the oral tradition. Then, in 1980s the first research in the Deaf Community and in DGS started, led by Siegmund Prillwitz from Hamburg and Gundula List from Cologne. In 1987 Prillwitz founded the *Institute of German Sign Language and Communication of the Deaf* at the University of Hamburg, with courses and research in sign language linguistics and interpreting.

Since 1990 the separation of Deaf and Hard-of-Hearing-schools has dissolved. New *Special Schools for Communication and Hearing* are gradually opening and are using a methodology which combines sign language and spoken/written language, currently named as *bilingual method*.

Since 2010, after Germany's ratification of the *UN-Convention on the Rights of Persons with Disabilities* in 2008, there is a trend to include deaf children with sign language interpreters in the mainstream schools for a better and higher education.

Now D/deaf children have three options to attend a school: a deaf school with the bilingual method, a deaf school with the oralist method or a mainstream school with sign language interpreters, depending on their communicative and educational needs and/or purposes.

Information on Data and Consultants

See the references below for information on data and consultants

Authorship Information

Liona Paulus

References

- Becker, Claudia., Bengt Förster., François Grosjean, Barbara Hänel-Faulhaber, Klaus-B. Günther, Johannes Hennies, Verena Krausneker, Katja Müller & Katerina Fraim. 2012. In Bettina Hermann (ed.), *Bilingual aufwachsen. Gebärdensprache in der Frühförderung hörbehinderter Kinder. Booklet*. Berlin: Deutscher Gehörlosenbund e.V. [2.4]
- Bundesvereinigung für Kultur und Geschichte Gehörloser e.V. (KUGG). 2018. <https://www.kugg.de> (1 February 2018) [2.3]
- Deutscher Gehörlosenbund. 2017. *Aufgaben und Ziele des Deutschen Gehörlosen-bundes*:<http://www.gehoerlosen-bund.de/dgb/aufgaben%20und%20ziele> (31 January 2018) [2]
- Deutscher Gehörlosenbund. 2018. *6. Kulturtag der Gehörlosen*. <http://www.gehoerlosen-kulturtag.de>. (2 February 2018) [2.3]
- Große, Klaus-Dietrich. 2003. *Das Bildungswesen für Hörbehinderte in der Bundesrepublik Deutschland. Daten und Fakten zu Realitäten und Erfordernissen*. Heidelberg: Universitätsverlag Winter. [2.1], [2.4]

- Haage, Anne; Ingo Bosse & Gudrun Kellermann. 2017. Bundesweite Studie zur Mediennutzung von Menschen mit Beeinträchtigungen. *Das Zeichen* 106, 214-223. [2.1]
- Institut für Deutsche Gebärdensprache. Universität Hamburg. <https://www.idgs.uni-hamburg.de> (1 February 2018) [2.4]
- Karar, Ege. 2014. Respektiere meine Kultur. *Deutsche Gehörlosen-Zeitung* 5. 9. [2.2]
- Kaul, Thomas.; Anne Gelhardt, Susanne Kliner & Frank Menzel. 2009. *Zur Situation gehörloser Menschen im Alter (SIGMA). Abschlussbericht der wissenschaftlichen Untersuchung*. Cologne: Universität zu Köln. [2.2]
- Ladd, Paddy. 2008. *Was ist Deafhood? Gehörlosenkultur im Aufbruch*. Seedorf: Signum Verlag. [2.1]
- Leonhardt, Annette. 2010. *Einführung in die Hörgeschädigtenpädagogik*. Munich/Basel: UTB E. Reinhardt. [2.4]
- Löwe, Armin. 1992. *Hörgeschädigtenpädagogik international. Geschichte – Länder – Personen – Kongresse. Eine Einführung für Eltern, Lehrer und Therapeuten hörgeschädigter Kinder*. Heidelberg: HVA. [2.4]
- Mally, Gertrud. 1993. Der lange Weg zum Selbstbewusstsein Gehörloser in Deutschland. In R. Fischer, H. Lane (eds.), *Blick zurück. Ein Reader zur Geschichte von Gehörlosengemeinschaften und ihren Gebärdensprachen. Internationale Arbeiten zur Gebärdensprache und Kommunikation Gehörloser*, vol. 24, 211-238. Hamburg: Signum Verlag. [2.4]
- Statistisches Bundesamt. 2017. *Statistik der schwerbehinderten Menschen. Kurzbericht 2015*. Wiesbaden: Statistisches Bundesamt (Destatis). [2]
- Statistisches Bundesamt. 2016. *Statistisches Jahrbuch 2016. Deutschland und Internationales*. Wiesbaden: Statistisches Bundesamt. [2]
- Taubwissen - Universität Hamburg. 2018. <http://www.taubwissen.de/content/index.html> (1 February 2018). [2.3]
- Vogel, Helmut. 2001. Otto Friedrich Kruse (1801-1880). Gehörloser Lehrer und Publizist. Teil I. *Das Zeichen* 56, 198-207. [2.4]
- Vollhaber, Thomas. 2012. Gebärdensprachkunst: Fremdheit erfahrbar machen. In H. Eichmann, J. Hessmann & M. Hansen (eds.), *Handbuch Deutsche Gebärdensprache. Sprachwissenschaftliche und anwendungsbezogene Perspektiven*, 399-424. Seedorf: Signum Verlag. [2.3]

Chapter 3. Status

3.1. Current legislation

3.2. Language policy

3.3. Language attitudes

Chapter 4. Linguistic study

4.1. Grammatical description

4.2. Lexicographic work

4.3. Corpora

4.4. Sociolinguistic variation

Phonology

Chapter 1. Sublexical structure

For the sublexical phonological structure of signs in DGS, the following four manual components are constitutive: handshape, orientation, location and movement. The autonomy of these parameters can be verified with minimal pairs. Furthermore, slips of the hands show that these parameters can be independently affected by linguistic mistakes. Hence, they are real psychological elements of the language planning. These four parameters are defined by distinctive features. However, to date, there are no comprehensive corpus studies on all distinctive features in DGS. The detailed properties of the manual and non-manual components in DGS are discussed below and illustrated with examples.

1.1. Active articulators

1.1.1. Contrastive handshapes

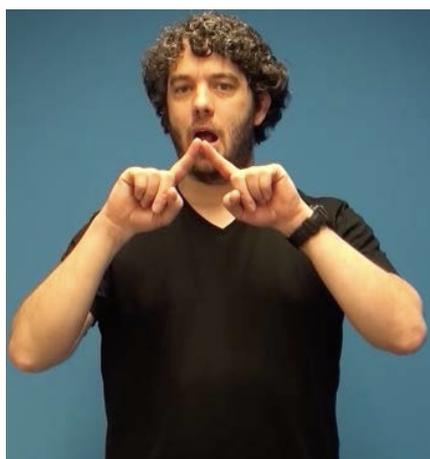
The lexicon comprises a specific handshape inventory, i.e. not every possible handshape is part of DGS. Approximately 28 to 32 different handshapes with a distinctive function are used in DGS.

Figure to be included, following Papaspyrou et al. 2008, 20 and Pfau 1997, 8-9.

The signs FAMILY and ROOM form a minimal pair regarding handshape. Both two-handed signs are articulated with a circular movement in front of the signer's torso. The only difference between both signs is the use of the different handshapes: 🖐 versus 🖕.



FAMILY



ROOM

Further minimal pairs regarding handshapes are: DUCK – BIRD, COURAGE – MY, BROKEN – FRESH, FARMER – WHEN, YES – RIGHT, SIGN – MACHINE, SALAD – PRACTICE, ELECTRICITY –

CONTROL, and ASK – THANK. Handshapes are defined by the following four groups of features:

- Activated fingers: thumb, index finger, middle finger, ring finger, pinkie
- Thumb: oppo (thumb in opposition to the other fingers), closed (contact between thumb and activated fingers)
- Form of the activated fingers: angle, arc, straddled
- Non-activated fingers: stretched

Whereas the activated fingers can be specified for different features, the non-activated fingers have solely the feature [+/-stretched]. According to the Finger Selection Rule, a handshape change in a conventionalized simple sign concerns solely the fingers involved in the first handshape. The non-activated fingers have the feature [+/-stretched]. One example is FIND. The thumb and index finger are activated. In the first handshape, both fingers are directed to one another (👉👈) and, in the second handshape, both fingers have contact (👉👉).



The sign FIND as an example of the Finger Selection Rule

It can be distinguished between marked and unmarked handshapes. Unmarked handshapes such as 👉 and 👈 are easy to articulate, are learned early in language acquisition, are used in all investigated sign languages, and are crucial for the non-dominant hand in two-handed signs. Examples of marked handshapes in DGS are 👉 and 👈.

1.1.2. Orientation

For the definition of the orientation of the manual articulators, the direction of the fingers and the orientation of the palm are essential. Reference coordinates are the torso (towards the torso / away from the torso) and the signing space (top / bottom, left / right). So far, an empirical study on distinctive orientations of the hand is not available for DGS. One example of a sign pair with a minimal distinction in the orientation is PEDAGOGY –

TYPICAL. Both signs are articulated with the -hand in the neutral signing space and a reduplicated forward movement.



PEDAGOGY

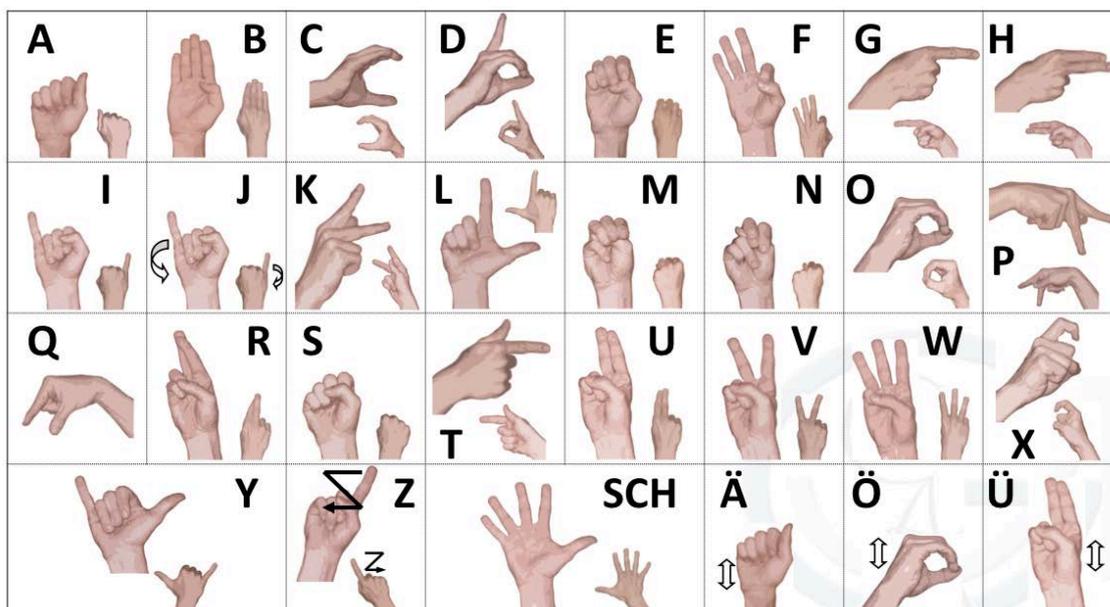


TYPICAL

Further examples of minimal pairs concerning orientation are IMPORTANT – TEACHER, MONTH – A-HUNDRED, BICYCLE – MACHINE.

1.1.3. The manual alphabet & number signs

The handshapes of the manual alphabet represent letters. In DGS, partially, these handshapes imitate the letters in their form, e.g. C, D, I, and O. In contrast, the manual alphabet signs B, G, and S are examples without direct resemblance. In DGS, 25 alphabet signs are articulated with a handshape without a movement and five alphabet signs are articulated with a handshape combined with a movement (J, Z, Ä, Ö, and Ü). Some alphabet signs solely differ in their orientation: U – H, K – P, and G – D.



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The manual alphabet in DGS

Not all handshapes of the manual alphabet occur in lexical signs in DGS. For example, the M-handshape and the N-handshape are not used as lexical components. Moreover, there are handshapes in lexical signs in DGS which have no counterpart in the manual alphabet.

The handshape of signs in DGS may be derived from German as the surrounding spoken language. In such cases, the handshape of the sign corresponds to the initial letter of the written word in German. Examples are the signs FAMILY (= 'Familie') articulated with the -hand and EUROPE (= 'Europa') articulated with the -hand. But, in DGS, the manual alphabet is not frequently used for the generation of loan signs. The manual alphabet mainly applies for the rendition of unknown signs (foreign words, technical terms, proper names) or nonexistent signs and abbreviations. Overall, the manual alphabet is used rather rarely in DGS.

With respect to number signs in DGS, the following basic rule is crucial: The handshape indicates the number. For the numbers from one to five, the dominant hand counts. For the numbers from six to ten, the non-dominant hand functions as a placeholder for the number five and the dominant hand continues with counting. This rule applies for all higher numbers as well.

Within the numbers one to nine, the hand is orientated with the palm towards the torso. The numbers from eleven to nineteen are articulated with the same handshape as the numbers one to nine but in combination with a movement in the neutral signing space and palm orientation towards the bottom. The numbers from twenty to ninety are performed with the same handshapes as the numbers two to nine and the palm orientation is the same as in the numbers one to nine but in combination with a secondary movement in the form of a change in degree of curvature. The numbers 100, 200, 300 etc. are signed with the same handshapes as the numbers one to nine as well in combination with another

hand orientation. Within these numbers the palm of the dominant hand faces towards the non-dominant hand and the palm of the non-dominant hand faces towards the dominant hand. The path movement is specified as a straight downward movement in the neutral signing space. The numbers 1000, 2000, 3000 etc. are again articulated with the same handshapes as the numbers one to nine. Thereby, the palm is orientated away from the body. The straight path movement occurs from the side of the non-dominant hand to the side of the dominant hand.

Figure to be included, following Kleyboldt & Hillenmeyer 2016, 115-116.

Repdigits like 22 and 44 are articulated by the respective single digits side by side. Ordinals are signed with a rotation of the wrist. This is only possible for ordinals from first to tenth.

1.1.4. Other active articulators

For DGS, the dictionary by Kestner and Hollmann (2009-2010) lists the following non-manual signs: SOB, SULK, TWITCH, and WHISTLE-WITH-THE-LIPS. Here, MUSICAL-WHISTLE and SHRUG-ONE'S-SHOULDERS could be added. But, it has to be questioned whether these non-manual articulations can in fact be considered as lexical signs. SHRUG-ONE'S-SHOULDERS could be considered as a gesture and SOB, SULK, TWITCH, WHISTLE-WITH-THE-LIPS, and MUSICAL-WHISTLE could be analyzed as action role shifts.

1.2. Location

In DGS, signs may be articulated at the body or in the neutral signing space in front of the signer. So far, 23 locations are taken as distinctive in DGS. The coordinates in the signing space may be defined by the following aspect:

- horizontal → far in front of the body, neutral space (in front of the chest), next to the body (right / left), near the body, body contact, “behind” the body
- vertically → body-related height: forehead, eye, nose, cheek, mouth, chin, shoulder, chest, belly, abdomen, hip, upper arm, elbows, crook of the arm, forearm, wrist, back of the hand, palm, side of the hand, side of the fingers, finger tip, nail

One example of a minimal pair regarding the location is DISTRESS – ASK. Both signs are articulated with the -hand, palm orientation towards the torso and a straight path movement away from the body. The only difference is the location neck versus chin.



DISTRESS



ASK

Further examples of minimal pairs concerning the location are BIRD – MEAN and NASTY – RESPONSIBLE. In principle, the neutral signing space has an indefinite amount of locations for the articulation of signs. However, these different locations are not used for the differentiation between two signs, but gain importance within the contextual use of signs. In DGS, there are no minimal pairs based on an articulation of either the sight of the articulating hand or the opposite sight in the signing space.

The following phonological restriction is essential for locations in DGS and other sign languages: In non-derived signs with a path movement, the two locations of the sign have to be in one of the four areas of the body, namely, the head, the torso, the non-dominant hand, and the opposite arm. However, there are a few exceptional cases in DGS. These are iconic signs such as the two-handed sign NUN which is articulated by tracing the typical headgear. The sign starts at the head and ends below the shoulders. This means that the hands move in two body areas. Such examples can be seen as exceptions based on the competition among iconicity and a phonological rule.

1.3. Movement

Signs can be articulated with two different types of movements: (i) The hands may move between two locations and perform a path movement. (ii) The hands may articulate an internal or secondary movement. Both types of movements can be used either separately or simultaneously. If the latter is the case, they have to be synchronized with respect to the starting and ending point of the sign.

In contrast to the other parameters (handshape, orientation, and location), there are a few signs in DGS without the manual parameter movement. Examples are the signs GERMAN and PIPE which are both articulated without a manual path movement or a manual secondary movement. GERMAN is articulated with the -hand, orientation of the palm to the side of the non-dominant hand and a hold at the forehead. The sign PIPE is performed with the -hand, orientation of the palm to the side of the non-dominant hand, a hold laterally to the dominant side of the face, and a reduplicated non-manual marking on the

lower face in the form of blow, chin raiser, and lip presser (for further information on non-manuals, see the section on [\[Phonology – Section 1.5\]](#)).

1.3.1. Path movement

Movements in space occur in various forms and can be classified in terms of the following aspects:

- direction: relation to body(part), relation to points in space; horizontal / frontal / vertical; towards the side of the active / non-active hand, forward / backward, upward / downward
- course: straight, bend, circle etc.
- sort: tempo, intensity, size, amount of repetition

The arched movement of the sign FATHER goes from the forehead upward to the chin and occurs in a usual tempo, intensity, and size. The zigzag movement of the sign CHRISTMAS runs in the neutral signing space upwards and occurs in a usual tempo, intensity, and size. Moreover, it is essential whether a movement is reduplicated or not. The minimal pair READY – ALREADY is distinguished solely by this property. Whereas the sign READY is articulated with a single downwards movement to the non-dominant hand, within the sign ALREADY this movement is reduplicated.



READY



ALREADY

Further examples for minimal pairs with respect to movement are SON – DAUGHTER, YELLOW – GOLD, SECURE – BE-A-PITY, CALCULATE – HOW-MUCH, IDEA – IDEOLOGY.

1.3.2. Secondary movement

Within this movement type, it has to be distinguished between (i) changes in orientation and (ii) changes in handshape. The sign TREE articulated with the -hand includes an internal rotation of the arm and is an example of a change in orientation which is reduplicated. The sign GATE is articulated with the -hand, orientation of the palm towards

the body and a reduplicated internal movement of the forearm. The sign NOD is performed with the -hand in the neutral signing space, palm orientation towards the bottom and a secondary movement in the form of nodding with the wrist. DGS comprises three different types of secondary movement in the form of changes in orientation:

Types of changes in orientation	Examples in DGS
Shaking movement	WHO, WHY, LILIES-OF-THE-VALLEY
Rotating movement	KEY, INTERNET, TREE
Bending movement	CAN, YES

Types of secondary movement in the form of changes in orientation

The signs WHO, WHY, LILIES-OF-THE-VALLEY, KEY, TREE, CAN, and YES are articulated solely by a change in orientation. In other cases, a change in orientation may be combined with a path movement. The sign INTERNET is articulated with two -hands and the straight path movements of both hands are combined with a change in orientation in the form of a rotating movement.

With respect to secondary movement in the form of changes in handshape, DGS shows the following six types:

Types of changes in handshape	Examples in DGS
Opening / closing	PICK-UP, SPEAK, JUICE, BIRD, BEGIN, LAMP, FLOWER
Finger wriggling	GO, COUNT, SNOW, THINK-ABOUT, A-LOT, RAIN
Rubbing	SALT, MONEY, NUT, FEEL, SILK, ALMOST
Change in degree of curvature	THIRTY, JELLYFISH, CATERPILLAR, BALL-PEN, GUN
Gradual change in the angle / kinking	SOFT, MUD, NAME, CRY
Shift between straddling and lateral contact of the fingers	SCISSORS

Types of secondary movement in the form of changes in handshape

The signs PICK-UP, JUICE, BEGIN, FLOWER, GO, COUNT, SNOW, THINK-ABOUT, A-LOT, RAIN, JELLYFISH, CATERPILLAR, CRY, and SCISSORS include a change in handshape combined with a path movement. For example, the sign COUNT is articulated with the -hand, orientation of the palm towards the body, a path movement downward in the neutral signing space and a secondary movement in the form of finger wiggling. The other signs in the table above are articulated solely by a change in handshape.

Combinations of path movement and secondary movement within a lexical sign are restricted by the rule that both movements are synchronized with respect to the start point and the end point of the sign. Interestingly, there is a difference between the combination possibilities of secondary movement with path movements and holds. Whereas a path movement can always have a secondary movement, for holds, there is a crucial constraint.

They may have a secondary movement solely in absent combination with a path movement (for syllables in DGS, see [Phonology – Section 2.1.1]).

Furthermore, for the classification of secondary movement, the factors tempo and the number of reduplications have to be considered. An example of tempo is the sign FLOWER because a flower may flourish fast or slow. Regarding reduplication of secondary movement, finger wiggling and rubbing show relatively diffuse innumerable movement reduplications.

1.4. Two-handed signs

Signs may either be articulated with one hand (e.g. BEAUTIFUL) or with two hands (e.g. SYNTAX). Two-handed signs are subject to specific phonological constraints. Within symmetrical signs, both hands are specified for the same handshape and perform the same movement (simultaneously or alternating). The orientation must be symmetrical or identical (= rule of symmetry). If both hands take on different handshapes in a lexical sign, the non-dominant hand is the location for the articulation of the sign and is specified for one of the unmarked basic handshapes (= rule of dominance). Such signs are called asymmetrical signs. In some asymmetrical signs in DGS, the non-dominant hand is specified for a marked handshape but only if the non-dominant hand has the same handshape as the dominant hand.

One-handedness and two-handedness do not seem to function as a distinctive feature in DGS. But, phonetic variation is possible. For example, for the purpose of emphasis a one-handed sign may be articulated with two hands. This can be often observed with the sign CAN in DGS, for instance.

1.4.1. Symmetrical signs

In symmetrical signs, the dominant hand and the non-dominant hand function as echo-articulators. This means both manual articulators have the same handshape and perform the movement. Regarding the articulation of movements within symmetrical signs, three types have to be differentiated:

- Parallel movement: Both hands perform an identical movement. Examples are the signs HELP and TRANSFER.
- Mirror-inverted movement: Both hands articulate the same movement but in opposite directions. Both hands act like mirror images. Examples are the signs SYNTAX and MUSIC.
- Alternating movement: Both hands perform the same movement but the movement sequence is alternating. Examples are the signs BICYCLE and COMMUNICATION.



Parallel M.: HELP



Mirror-inverted M.: SYNTAX



Alternating M.: BICYCLE

1.4.2. Asymmetrical signs

In asymmetrical signs, the non-dominant hand functions as location for the articulation with the dominant hand. One example is the sign APPOINTMENT.



APPOINTMENT



DEMONSTRATE

Within the sign APPOINTMENT solely the dominant hand performs the movement. In some asymmetrical signs in DGS, both hands stay in contact and move jointly. Examples are the signs DEMONSTRATE and SUPPORT.

A further phonological restriction implies that only the dominant hand may perform a secondary movement in asymmetrical signs.

1.5. Non-manuals

In DGS, non-manuals may be an obligatory, inherent part of certain signs. Non-manuals which are part of the internal structure of a sign are synchronized with the manual parts of the respective sign. Non-manuals can be split up into the following four components: (i) facial expressions on the lower face, (ii) facial expressions on the upper face, (iii) head actions, (iv) and torso actions. Regarding the lexical level in DGS, the lower face seems

to be the most productive non-manual component. But, all the four non-manual components carry essential phonological functions. In addition, mouthings have to be considered. However, they have to be regarded as a special category of non-manuals and have to be analyzed in differentiation to the other non-manuals.

With respect to the articulation of non-manuals, it has to be underlined that they appear in two different action types: (i) constant and (ii) dynamic. An example of constant non-manuals is the sign ANNOY. The sign BITE-OFF is an example of dynamic non-manuals. A further interesting characteristic of non-manuals is the lateral alignment between the dominant hand and unilateral non-manuals. An example of this lateral alignment regarding the lower face is the sign SUPER which is articulated with a blow.

1.5.1. Mouth gestures

Actions by the lower face can be subdivided into the following eight sub-components: nose action, cheek action, mouth aperture, lip or corner of the mouth action, tongue action, chin action, air action, and neck action.

One clear example is the sign RECENT which has a slight tongue show as obligatory part. Variations between a central or a lateral tongue show seem to be a matter of phonetic variation, probably due to dialectal differences. Further examples of signs with a obligatory mouth gesture are RELIEF, LIFE-PARTNER, ENVIOUS, KISS, SPIT, POSSESS, THIN, and NO-DESIRE.



RELIEF



LIFE-PARTNER



ENVIOUS

The signs ALWAYS – LEAD form a minimal pair for the component lower face. Whereas the sign ALWAYS has a unilateral blow as an inherent part, the sign LEAD includes no non-manuals. Both two-handed signs are specified for the -handshape, palm orientation away from the body and a straight movement in the neutral signing space.

1.5.2 Mouthings

Movements of the mouth which are based on the articulation of German words have to be distinguished from the other non-manuals. Mouthings are articulated simultaneously

with manual and non-manual parts of signs and are mostly voiceless. Nouns seem to occur more often with a mouthing than the other sign classes.

The status of mouthings in DGS is a controversial issue. They are often associated with the former dominant oral educational system in Germany. Mouthings reveal quantitative variation because signers use them in differing extent. At this different sociolinguistic variables play a role (e.g. familiar language background). Moreover, one part of mouthings seems to be ascribable to ordinary cross-channel situations of language contact. Such mouthings appear as loan elements which occur frequently and obviously have a function in DGS. There are many signs for which native signers state that the mouthing is obligatory.

Mouthings may be reduced to the basic form or the stem of the German word. Such reductions may be due to an adjustment to the structure of the respective sign. The identification of German words used as mouthings is usually not possible by means of the visually visible movements of the mouth alone. For the identification, a contextualization is needed which is provided by the manual and non-manual parts of signs. Reversely, mouthings may act as a hedging or specification for the interpretation of signs. They function in different ways: (i) Mouthings seems to be often redundant. Such mouthings do not add lexical, morphological or syntactic information. In such cases, they convey the same information as the manual articulators. (ii) Mouthings disambiguate between diverse meanings of manually identical signs. The signs BUTTER, JAM, and COLOR are articulated manually in the same form. The only difference are the mouthings *Butter*, *Marmelade* and *Farbe*. Furthermore, mouthings play a role within hypernym and hyponym relations, e.g. BIRD – BLACKBIRD. (iii) Additional information may be expressed by mouthings, e.g. a signed noun combined with a mouthing as an adjective. These functions show that mouthings and signs are characterized by a productive dynamic relationship.

1.5.3 Other non-manuals

In addition to lower face action, the three components upper face action, torso action, and head action function as inherent parts of signs in DGS. These components operate either jointly or separately on the phonological level. Upper face actions can be further split up into the following three sub-components: eyebrow action, eye aperture, and eye gaze.

DGS seems to imply a channel-specific pattern of lexicalization. Some lexical signs for affective concepts are articulated with a corresponding facial expression, head action, and/or torso action. Two examples are the signs SAD and ANGER:



SAD



ANGER

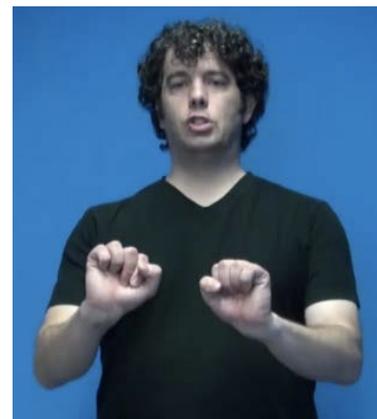
Examples for lexical non-manuals which are not related to affective states are the signs WINK, SLEEP, and PROTECTION. The former is articulated with a lexical facial expression in the upper face in the form of winking. The sign SLEEP is performed with a head tilt to the side of the articulating hand and an eye closure. The sign PROTECTION is specified for the component torso action (body backward action vs. body forward action).



WINK



SLEEP



PROTECTION

One example of a non-manual minimal pair are the signs ARROGANT – PROUD. Whereas the sign ARROGANT is articulated with a facial expression and a head up action, the sign PROUD includes a head up action and a mouthing.

Information on Data and Consultants

The descriptions in this chapter are based, on the one hand, on the references below. Please see the data and consultant information in these references. On the other hand, some of the descriptions are based on consultation of three male deaf informants.

Authorship Information

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References

- Becker, Claudia. 1997. *Zur Struktur der Deutschen Gebärdensprache*. Trier: WVT (Fokus 20). (29-39) – [1.1.1], (39-41) – [1.1.2], (15) – [1.1.3], (52-53) – [1.3.1], (43-46) – [1.4]
- Becker, Claudia. 1998. Lautlose Phoneme – die Bausteine der Deutschen Gebärdensprache. *Convivum. Germanistisches Jahrbuch Polen*, 245-265. (248) – [1.3.2]
- Becker, Claudia. 2016. Die Bausteine der Gebärdensprache. In Ulrike Domahs & Beatrice Primus (eds.), *Laut, Gebärde, Buchstabe. Handbücher Sprachwissen*, 203-221. Berlin: de Gruyter. [1], [1.1.1], [1.1.2], [1.2], [1.3], [1.4], [1.5.2].
- Becker, Claudia & Alexander von Meyenn. 2012. Phonologie: Der Aufbau gebärdensprachlicher Zeichen. In Hanna Eichmann, Martje Hansen & Jens Heßmann (eds.), *Handbuch Deutsche Gebärdensprache. Sprachwissenschaftliche und anwendungsbezogene Perspektiven*, 31-61. Seedorf: Signum Verlag. (37-40) – [1.1.1], (40-41) – [1.1.2], (42, 44-45., 48) – [1.2], (45) – [1.3.1], (46) – [1.3.2], (48) - [1.4], (47) – [1.4.1], (49-51) – [1.5]
- Dümig, Sascha & Helen Leuninger. 2013. *Phonologie der Laut- und Gebärdensprache: Linguistische Grundlagen, Erwerb, sprachtherapeutische Perspektiven*. Schulz-Kirchner Verlag. (33-34) – [1], (35) – [1.1.1], (47) – [1.3]
- Ebbinghaus, Horst. 2012. Gebärdensprache und Lautsprache im Kontakt. In Hanna Eichmann Martje Hansen & Jens Heßmann (eds.), *Handbuch Deutsche Gebärdensprache. Sprachwissenschaftliche und anwendungsbezogene Perspektiven*, 225-245. Seedorf: Signum Verlag. (235-239) – [1.1.3], (232-235), (240-243) – [1.5.2]
- Ebbinghaus, Horst & Jens Heßmann. 1994. Formen und Funktionen von Ablesewörtern in gebärdensprachlichen Äußerungen (Teil I). *Das Zeichen* 30. 480-487. (480-481, 483-484, 486) – [1.5.2]
- Ebbinghaus, Horst & Jens Heßmann. 1995. Formen und Funktionen von Ablesewörtern in gebärdensprachlichen Äußerungen (Teil II). *Das Zeichen* 31. 50–61. (50, 54-59) - [1.5.2], (51) – [1.5.3]

- Glück, Susanne & Roland Pfau. 1998b. Sprachtheorie und sprachliche Wirklichkeit. Eine Stellungnahme zu dem Beitrag von Horst Ebbinghaus. *Das Zeichen* 44. 258-260. [1.5.2]
- Happ, Daniela & Marc-Oliver Vorköper. 2006. *Deutsche Gebärdensprache. Ein Lehr- und Arbeitsbuch*. Frankfurt: Fachhochschulverlag. (51) – [1.1.1], (53) – [1.1.3], (52) – [1.4], (52) – [1.4.1], (241) – [1.5.1], (240, 242-243) – [1.5.3]
- Hohenberger, Annette & Daniela Happ. 2001. The Linguistic Primacy of Signs and Mouth Gestures over Mouthings: Evidence from Language Production in German Sign Language (DGS). In Boyes Braem, Penny & Rachel Sutton-Spence (eds.), *The Hands are the Head of the Mouth. The Mouth as articulator in Sign Languages*. Hamburg: Signum Verlag, 153-189. (177) – [1.5.1], (155, 164-165, 167, 175, 182-183, 185) – [1.5.2]
- Hohenberger, Annette, Daniela Happ & Helen Leuninger. 2002. Modality-dependent Aspects of Sign Language Production. Evidence from Slips of the Hands and their Repairs in German Sign Language. In Richard Meier, Kearsy Cormier & David Quinto-Pozos (eds.), *Modality and Structure in Signed and Spoken Languages*, 112-142. Cambridge: Cambridge University Press. [1]
- Keller, Jörg. 1998b. *Mundbilder und Sprachkontakt. Prolegomena zu einer Kinematik und Phonologie von Mundbildern in der DGS. Das Zeichen* 45. 424–442. (424, 426-428, 430, 437) – [1.5.2]
- Keller, Jörg. 2001. Multimodal Representations and the Linguistic Status of Mouthings in German Sign Language (DGS). In Penny Boyes Braem & Rachel Sutton-Spence (eds.), *The Hands are the Head of the Mouth. The Mouth as articulator in Sign Languages*, 191-230. Hamburg: Signum Verlag. (193) – [1.5.1]
- Keller, Jörg & Helen Leuniger. 2004. *Grammatische Strukturen- Kognitive Prozesse. Ein Arbeitsbuch* (2. Auflage). Tübingen: Gunter Narr. (268) – [1.1.2], (269) – [1.3.1], (299) - [1.5.3]
- Kestner, Karin & Tiemo Hollmann. 2009-2010. *Das große Wörterbuch der Deutschen Gebärdensprache*. Verlag Kestner.
- Kleyboldt, Thimo & Margit Hillenmeyer. 2016. *DGS. Deutsche Gebärdensprache. Teil 1. Grundkurs für Anfänger* (2. Auflage). Hamburg: Viko-Medien. (111-117) – [1.1.3]
- Metz, Roland. *Seminarskript*. [1.1.3]
- Papaspyrou, Chrissostomos, Alexander von Meyenn, Michaela Matthaei & Bettina Herrmann. 2008. *Grammatik der Deutschen Gebärdensprache aus der Sicht gehörloser Fachleute*. Seedorf: Signum. (16, 18-30) – [1.1.1], (10, 14-15, 31-38) – [1.1.2], (15, 39-50) – [1.2], (11) – [1.3], (15, 33-34, 50-52, 58–64) – [1.3.1], (53-58) – [1.3.2], (65-67) – [1.4], (66-67) – [1.4.1], (65-66) – [1.4.2], (78) – [1.5.2], (71) – [1.5.3]
- Pendzich, Nina-Kristin. 2014. Lexikalische Mimik in der Deutschen Gebärdensprache (DGS). Eine nichtmanuelle Schnittstelle zwischen Gestik, Betonung und Gebärden. *Das Zeichen* 98. 424-435. (432) – [1.5.2], (427, 430) – [1.5.3]

- Pendzich, Nina-Kristin. 2016. Die Silbe in Gebärdensprachen. In: Ulrike Domahs & Beatrice Primus (eds.), *Laut, Gebärde, Buchstabe. Handbücher Sprachwissen*, 222-244. Berlin: de Gruyter. (232-233) – [1.3], (234) – [1.3.2], (237) – [1.5.2]
- Pendzich, Nina-Kristin. To appear. *Lexical nonmanuals in German Sign Language (DGS). An empirical and theoretical investigation*. Berlin: Mouton de Gruyter/Ishara Press. (44-45) – [1.1.4], (191) – [1.3], (12-13, 35, 187-196, 200-2002, 237) – [1.5], (13, 19, 181, 218) – [1.5.1], (46-49) – [1.5.2], (13, 19-20, 27-28, 56, 57-58, 76-77, 84-86, 94, 103, 116, 177-181, 185-186, 201, 204, 206-209, 218, 227, 237, 238) – [1.5.3]
- Pfau, Roland. 1997. Zur phonologischen Komponente der Deutschen Gebärdensprache: Segmente und Silben. *Frankfurter Linguistische Forschungen* 20. 1-29. (23) – [1], (7-10) – [1.1.1], (4-6) – [1.1.3], (13) – [1.3.2], (6-7., 17) – [1.4], (16) – [1.4.1], (17) – [1.4.2]
- Pfau, Roland & Josep Quer. 2010. Nonmanuals: their grammatical and prosodic roles. In Diane Brentari (ed.), *Sign languages (Cambridge language surveys)*, 381-402. Cambridge: Cambridge University Press. (383-384) – [1.5.3]
- Prillwitz, Siegmund. 2005. Das Sprachinstrument von Gebärdensprachen und die phonologische Umsetzung für die Handformkomponente der DGS. *Linguistische Berichte Sonderhefte* 13. 29-58. (39-50) – [1.1.1], (34) – [1.1.2], [1.2], [1.3.1], [1.3.2], (40) – [1.1.3], (50-52) – [1.3.2], (33) – [1.5.3]
- Steinbach, Markus. 2007. Gebärdensprache. In Markus Steinbach, Ruth Albert, Heiko Girnth, Annette Hohenberger, Bettina Kümmerling-Meibauer, Jörg Meibauer, Monika Rothweiler & Monika Schwarz-Friesel. (eds.), *Schnittstellen der germanistischen Linguistik*, Stuttgart: Metzler 137-185. (143) – [1.1.1], (151-152) – [1.1.3], (145) – [1.3.2], (146-147) – [1.4], (149) – [1.5.2]
- Steinbach, Markus, Nivedita Mani, Matthias Schlesewsky. 2016. Gestörte und ungestörte Verarbeitung von Gebärdensprachen. In Ulrike Domahs & Beatrice Primus (eds.), *Laut, Gebärde, Buchstabe. Handbücher Sprachwissen*, 302-320. Berlin: de Gruyter. (314) – [1.5.2]
- Zahwe, Claudia. 1995. Zur Phonologie der Deutschen Gebärdensprache. *Das Zeichen* 34. 490-504. (491-492) – [1.2]

Chapter 2. Prosody

DGS exhibits a full-fledged prosodic system and clearly expresses rhythm, prominence, and intonational patterns and distinguishes between (at least most of) the levels of the prosodic hierarchy and shows phonological processes such as assimilation, reduction, etc. DGS exhibits prosodic marking for the force of utterances such as interrogatives and imperatives as well as for irony and sarcasm.

2.1. The lexical level

On the (sub)-lexical level, manual and non-manual markings are used to express prosodic prominence patterns. We find manual markings such sign lengthening, tense articulation and a change in velocity, which can be classified based on movement patterns, but also non-manual markings such as facial expressions and head and body movements that are attached to a single sign to mark prosodic emphasis.

2.1.1. Syllable

The syllable in DGS is defined by a sequence of holds (H) and movements (M), [Phonology – Section 1.3]. Signs in DGS are mono- or disyllabic and show different combinations of these units such as HMH, HM (and its reduplicated version), MH (and its reduplicated version), M (primary/path movement (M1) and/or secondary/internal movement (M2) such as finger wiggling) and very rarely. Examples of the types of syllables that can be found in DGS are given below.

- a. FATHER (HMH)
- b. THINK (HM)
- c. CULTURE (HM)²
- d. ARRIVE (MH)
- e. DOCTOR (MH)²
- f. FLY (M1)
- g. TREE (M2)
- h. INFLUENCE (M1+2)
- i. GERMANY (H)

The syllable and a DGS prosodic word mostly coincide. The movement represents the nucleus of a sign language syllable in DGS. Single movements are light syllables (a., b., d., f., g.) and combinations of movements (such as in c., e., h.) represent more syllabic weight than single movements. Syllables including a handshape change as in man, for instance, constitute heavy syllables as well. In case of disyllabic syllables and an

expressed emphatic marking, there is a tendency to show a stress pattern on the first syllable.

- a. EXAM (disyllabic, reduplicated sign stressed on first syllable)
- b. TABLE (disyllabic, different movement sign stressed on first syllable)

The non-manual markers accompanying the syllable such as head nods or facial expressions generally show an alignment with the syllable.

2.1.2. Foot

Due to the fact that signs are at most disyllabic in DGS [Phonology – section 2.1.1], there is no evidence so far, that this part of the prosodic organization is relevant to DGS.

2.2. Above the lexical level

In DGS, we find manual and non-manual markers of prosodic cues that are used above the lexical level and we can distinguish between domain markers (spreading markers) and boundary markers (punctual markers).

2.2.1. Prosodic word

According to what has been said for other sign languages, DGS exhibits assimilation processes between signs. For instance, for inherent compounds [Morphology – Section 1.1], DGS shows systematic assimilation of the two units that form a single prosodic word. For example, THINK#SAME means ‘agree’ and is composed of one syllable structure (HMH) that is derived from two syllable structures (HM+(MH)²). Other instances of assimilation concern functional elements, such as the index sign, which may assimilate to nouns or referents (as in cliticization) and also elements such as the personal agreement marker (PAM), where handshape assimilation takes place such as the  - handshape in PROUD-PAM. Furthermore, mouthing has been shown to spread onto adjacent functional signs, such as person. Negative head shake has been said to be able to spread onto the subject in cases where the subject is a pronoun only, even though DGS negation does not in principle allow spreading over the subject.

2.2.2. Phonological phrase

The phonological phrase in DGS is marked by rhythmic markers such as pauses and holds, and also by the change of non-manuals usually at the right edge of phonological phrases, very often by head nods and sometimes eye blinks. As opposed to a more systematic boundary marking at the intonational phrase level [Phonology – Section 2.2.3], the marking is more subtle and generally less markers are at play. Furthermore, the

marking often co-occurs parallel to the rightmost sign of a phonological phrase. The spreading of intonational domain markers for sentence types, parts of coordinative and subordinative structures, for instance, may cross a phonological phrase boundary (see example below, where a head tilt backwards accompanies three smaller prosodic units).

<u>w, ht-f</u>	_____	<u>hs</u>
_____	_____	_____
r		ht-b
IX ₃ COME :	DOOR OPEN LEAVE :	SHUT-DOOR NEVER gesture ANNOY
[b]	[b]	[b] [b]

‘When he comes, he leaves the door open and never shuts it. That’s annoying.’

(Herrmann 2010: 9)

For DGS, the literature mostly mentions total spreading instead of partial spreading of the non-manual markers.

2.2.3. Intonational phrase

The intonational phrase is a domain in DGS that is systematically marked by rhythmic breaks such as pauses, holds, lowering of the hands, lengthening and in many cases discourse structuring gestures such as the palm-up gesture. The modulation of movement also includes the tension of the signing and the involvement of non-dominant hand spreading and hand switching [Phonology – Section 2.2.4]. Non-manual domain markers such as facial expressions, head and body movements that spread over the intonational phrases in DGS do change and/or stop at intonational phrase boundaries. In DGS, we find the layering of those markers incl. eye brow movements, eye aperture, and mouth patterns. Punctual non-manual boundary markers such as head nods and eye blinks also accumulate at intonational phrase boundaries. Over half of the prosodic eye blinks appear at intonational phrases in DGS.

2.2.4. Phonological utterance

Phonological utterances are structured by various means and the interplay of manual and non-manual markers may also signal bigger chunks of discourse such as embedded sentences, multi-clausal utterances, up to full stories. The structure of discourse units may involve certain phenomena that may even signal cohesion beyond the clausal level. In DGS, we find hand-dominance shift that may signal different referents in quotation role shift or the discussion of opposing issues in discourse. Furthermore, buoys [Lexicon – Section 1.2.3] / [Pragmatics – Section 2.2.3] may be held over several prosodic phrases during continuous signing of the other/usually dominant hand. These devices may

2.4. Interaction

2.4.1. Turn regulation

In DGS, the palm-up gesture is regularly used to signal turn taking and turn regulation.

2.4.2. Back-channeling

Information on Data and Consultants

See the references below for information on data and consultants.

Authorship Information

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References

- Dümic, Sascha & Helen Leuninger. 2013. *Phonologie der Laut- und Gebärdensprache: Linguistische Grundlagen, Erwerb, sprachtherapeutische Perspektiven*. Schulz-Kirchner Verlag. (40-47) – [2.1]
- Happ, Daniela & Marc-Oliver Vorköper. 2006. *Deutsche Gebärdensprache. Ein Lehr- und Arbeitsbuch*. Frankfurt: Fachhochschulverlag. (54-61) – [2.1]
- Herrmann, Annika. 2016. Wortakzent und Intonation in Gebärdensprachen. In Domahs, Ulrike & Beatrice Primus (eds.), *Laut - Gebärde - Buchstabe. Handbücher Sprachwissen*. Berlin: Mouton de Gruyter, 245-263. [2.3]
- Herrmann, Annika. 2015. The Marking of Information Structure in German Sign Language. In Kügler, Frank & Stefan Baumann (eds.), *Prosody and Information Status in Typological Perspective. Special Issue of Lingua 165, Part B*, 277-297. [2.3]
- Herrmann, Annika & Nina-Kristin Pendzich. 2014. Nonmanual Gestures in Sign Languages. In Müller, Cornelia, Alan Cienki, Ellen Fricke, Silva Ladewig, David McNeill & Sedinha Tessoroff (eds.), *Body – Language – Communication: An International Handbook on Multimodality in Human Interaction. Volume 2*. Berlin: de Gruyter Mouton, 2147-2160. [2]
- Herrmann, Annika. 2012. Prosody in German Sign Language. In Prieto, Pilar & Gorka Elordieta (eds.), *Prosody and Meaning*. Berlin: Mouton de Gruyter, 349-380. [2.3]
- Herrmann, Annika. 2010. The interaction of eye blinks and other prosodic cues in German Sign Language. *Sign Language & Linguistics* 13:1, 3-39. [2.2]
- Papaspyrou, Chrissostomos, Alexander von Meyenn, Michaela Matthaei & Bettina Herrmann. 2008. *Grammatik der Deutschen Gebärdensprache aus der Sicht gehörloser Fachleute*. Seedorf: Signum. (182-183) – [2]

- Pendzich, Nina-Kristin. 2016. Die Silbe in Gebärdensprachen. In: Ulrike Domahs & Beatrice Primus (eds.), *Laut, Gebärde, Buchstabe. Handbücher Sprachwissen*, 222-244. Berlin: de Gruyter. [2.1]
- Pfau, Roland & Josep Quer. 2010. Nonmanuals: their grammatical and prosodic roles. In Diane Brentari (ed.), *Sign languages (Cambridge language surveys)*. Cambridge: Cambridge University Press, 381-402. [2.2]
- Volk, Elisabeth. 2017. *Palm-up: It's not all about Give and Take. Poster presented at Conference on Formal and Experimental Advances in Sign Language Theory (FEAST)*, University of Iceland, Reykjavik, June 21-22. [2.4.1]

Chapter 3. Phonological processes

3.1. Processes affecting the phonemic level

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3.1.2. Coalescence

3.1.3. Movement reduction and extension

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Lexicon

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1.2. Non-core lexicon

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Chapter 3. Parts of speech

The section on *parts of speech* deals with those items in a language lexicon that are above the phonological level, above affixes and below syntactical phrases. In the following, we introduce several classes of lexical items of DGS, i.e. functional signs as well as content signs, and discuss the challenges of their classification. We distinguish between *open class elements*, such as nouns, verbs, adjectives, adverbials etc., which contain many signs and are a productive class; and *close-classed elements*, such as determiners, pronouns, conjunctions, etc, which contain comparatively few signs in DGS and are less productive. For some signs in DGS, it is particularly difficult to define in which part of speech they can be categorized. This is especially the case for certain noun-verb pairs, such as STUDENT (N) – STUDY (V), as well as for some determiners and pronouns, both articulated with the pointing sign INDEX. One of the main reasons for the difficulty in classification is that the phonological form of a sign gives no clear-cut indication about the status of the sign, e.g. whether it is a noun or a verb. Hence, in the following sections, we mainly examine the existence of the different types of parts of speech in DGS, and provide representative examples.

3.1.Nouns

Nouns in DGS are those lexical items that denote a concrete object, a person, an animal, a place, or an abstract entity or concept. From this semantic perspective, nouns in DGS are easy to identify. From a formal perspective, nouns in DGS can be combined with manually and non-manually articulated adjectives [[Lexicon – Section 3.4](#)], and with determiners [[Lexicon – Section 3.6](#)] to form a noun phrase, as can be seen in the following examples.

- a. HOUSE RED
'(a) red house'

- b. _____pc
HOUSE
'(a) big house'

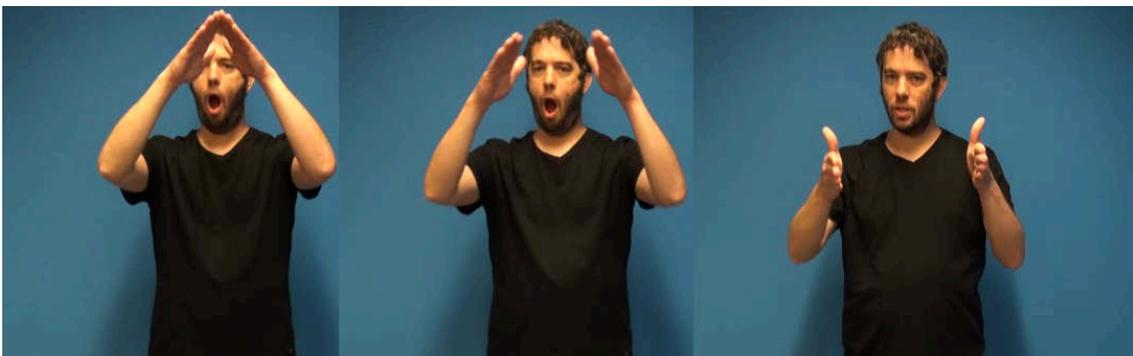
- c. HOUSE IX₃
'(the) house there / this house'

The order of a manually articulated adjective and a noun or a determiner and a noun within a noun phrase can either be Adj-Noun (respective Det-Noun) or it can be Noun-Adj (respective Noun-Det). Nouns in DGS do not inflect for case or grammatical

gender. In the following sub-sections, we differentiate between two types of nouns, i.e. common nouns on the one hand, and proper nouns and sign names on the other hand.

3.1.1. Common nouns

Common nouns like CAT, COFFEE, or BOOK are nouns that denote classes of entities that contain more than one element. These stand in contrast to proper nouns and sign names like PARIS or PETER, which denote only one unique entity, like a specific person, city, or place. Common nouns can be internally classified according to semantic properties, such as referring to abstract or concrete entities. A representative of a common noun referring to a class of concrete entities is HOUSE, as seen in the following picture.



HOUSE

A representative of a common noun referring to a class of abstract entities is IDEA, as seen in the picture below.



IDEA

Although many nouns that, in a broad understanding, refer to cognitive states – such as IDEA, KNOWLEDGE, PHILOSOPHY, PROFESSOR – are articulated at the signers' head, there is no phonological distinction between abstract and concrete common nouns in DGS. For example, the noun MATHEMATICS is also not body-anchored and articulated in neutral signing space.

A further semantic classification of common nouns is with regard to the countability of the entities denoted by the noun. A *count noun* describes a class of

entities that can – in principle – be counted, such as DOG, TREE or CHILD; whereas a *mass noun* denotes a class of entities that describes a large body of matter, which is uncountable itself, such as WATER, MONEY or SAND.



SAND

Since mass nouns in DGS describe classes of uncountable entities, these nouns do not inflect for number. In contrast, count nouns in DGS can inflect for number, whereas the type of number inflection depends on phonological parameters of the noun sign. The noun CHILD will inflect for plural by reduplication of the sign, the noun TREE will inflect for plural by adding a sideward movement to the sign, and the body-anchored noun DOG cannot be morphologically inflected for plural. For body-anchored nouns like dog, a numeral sign like THREE or a quantifier sign like MANY has to indicate the plurality. [Morphology – Section 4.1]

Nouns that are related to a specific object or entity in the world are semantically easy to identify as nouns. However, for some signs it is more difficult to identify whether the sign is a noun or a verb, because both forms are phonologically identical or very similar and have the same semantic basis. In these cases, the sentential context gives a clue about the status of the verb, as can be seen in the following example.

_____re hn

- a. FRANKFURT OLD AIRPLANE THERE_{3a}, IX_{3a} COLOR GREEN
‘In Frankfurt there is an old airplane that is green.’
- b. LAST YEAR IX₁ NEW-ZEALAND₁FLY_{3a}
‘Last year, I flew to New Zealand.’

In DGS, the noun AIRPLANE and the verb FLY are both produced with a very similar phonological form. The sign is articulated with a -handshape and moves in a short arc-movement within the signing space. Hence, the nominal or verbal function of the sign can here only be detected in distributional terms, that is, by its place of occurrence within the sentence. Thus, the status of being a verb or a noun can only be clarified for some signs in DGS either by the syntactic or the semantic context, or in some cases also by the mouthing of the sign. [Phonology – Section 1.5.2]

The case of phonological identical nouns and verbs such as AIRPLANE and FLY relates to two groups of noun-verb pairs that are formed by derivation [**Morphology – Section 2.1.2.1**]: The first group contains object nouns and their verbal derivative that expresses the handling or the action of the object: SCISSORS – CUT, WINDOW – OPEN-WINDOW, AIRPLANE – FLY, IRON (N) – IRON (V), HAMMER (N) – HAMMER (V), etc. The second group contains reciprocal verbs and a derived noun denoting the acting out of the verb: NEGOTIATE – NEGOTIATION, MEET – MEETING, DISCUSS – DISCUSSION, GIVE-FEEDBACK – FEEDBACK, etc. Although this cannot be an extensive list of phonological identical noun-verb pairs, it shows that there is a semantic relation between those noun-verb pairs that are phonological similar/ identical compared to other nouns that have no verbal counterpart.

3.1.2. Proper nouns and name signs

In contrast to common nouns, proper nouns and name signs refer to only one entity or one individual. In DGS, proper nouns are used for cities (BERLIN, HAMBURG, MUNICH), for countries and continents (GERMANY, AFRICA, SPAIN), for particular places and town's landmarks (ALEXANDERPLATZ, GAENSELIESL, ELBPHILARMONIE), but also for brand names (AUDI). Proper nouns are generally created by following the word formation rules of DGS. However, in some cases a marked handshape that is not part of DGS is used for a proper noun, such as the fist with an extended middle finger () for the sign ALEXANDERPLATZ (reflecting the famous television tower in central Berlin).

Next to indigenous signs for cities and places within Germany, DGS also has proper nouns for other countries, continents, cities and famous monuments in the world (PORTUGAL, EIFFEL-TOWER, STATUE-OF-LIBERTY). These can be DGS core-lexical signs [**Lexicon – Section 1.1**] for the particular country or place, or they can be loan signs coming from the respective foreign sign language. For example, there exist two signs for *Poland*: an older sign articulated by an index finger describing an arc movement above the upper non-dominant arm, and a younger sign articulated by a flat-C handshape touching the chest on the left and the right side. Whereas the older sign POLAND(1) is a DGS indigenous sign, the younger sign POLAND(2) is borrowed from Polish Sign Language. DGS core-lexical signs for countries or cities often reflect a traditionally related association with the respective country. However, for reasons of political correctness, these older signs dissolve and the borrowed signs become the more prominent ones. Young signers in the Deaf community, who are more internationally connected, also have the tendency to use the 'original' country sign from the respective foreign sign language, not only for reasons of political correctness, but also out of respect.

Proper nouns for individual persons are called name signs. Next to 'official' name signs for famous people (such as MERKEL for Angela Merkel), there are individual name signs for persons, who are part of the signing community, often given by Deaf friends, family or colleagues. Names signs in DGS can be given according to a visual prominent

physical property of the person's appearance (such as having curly hair) or according to a characteristic property or a special hobby of the person (such as loving climbing). The sign name can also relate to the person's first or last name (like the shape of the moon for *Luna*), and often the sign name's handshape is initialized with the first letter of the first name. [Lexicon – Section 2.2.2.1] However, name signs are given to individual persons, and are not generalized for certain names. Thus, there is no general name sign for the name “Peter” etc.

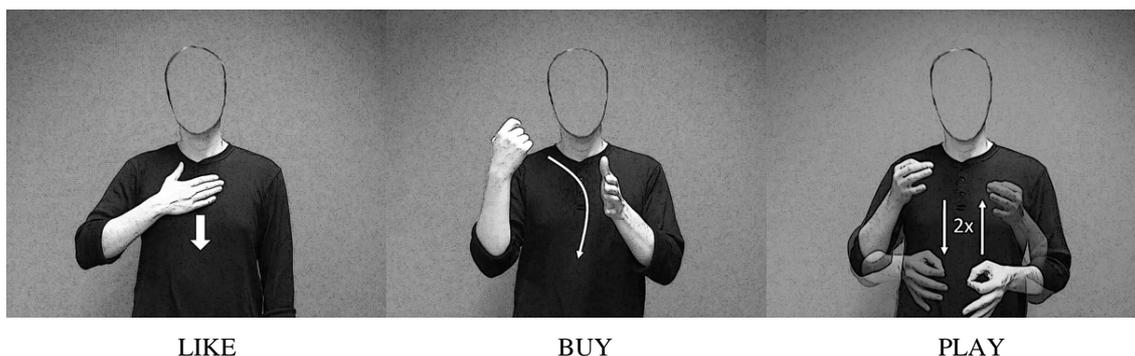
3.2. Verbs

Verbs in DGS represent a productive open-class part of speech with new entities being created regularly. As has been shown in Section 3.1.1. “common nouns” [Lexicon – Section 3.1.1], some verbs have a nominal counterpart with the same phonological form. However, in DGS we also distinguish the three commonly differentiated verb classes *plain verbs*, *agreement verbs*, and *spatial verbs*, which will be described in more detail in the following sections. We are aware of the fact, that the term “agreement verb” presumes a theoretical understanding that involves the morphosyntactic process of agreement, and that this assumption is not shared by everybody. A more theoretically neutral term is “directional verb”, whereas the term “indicating verb” presumes a different theoretical approach but refers to the same class of verbs. For consistency reasons, we stick to the term “agreement verb”.

In DGS, all verb types, as well as nouns are often articulated along with the mouthing of (parts of) the German word translation equivalent. [Lexicon – Section 2.2.3].

3.2.1. Plain verbs

Plain verbs are phonologically specified for a certain hand configuration, a particular place of articulation and a specific path movement. The characteristic definition of plain verbs also accounts for plain verbs in DGS, so they cannot be spatially modified to show manual agreement with their syntactic arguments, i.e. subject and/or object. From a phonological perspective, there are no clear-cut phonological criteria that identify plain verbs. Although many plain verbs, such as LIKE, KNOW or UNDERSTAND, are body-anchored, this is not a sufficient criterion to classify plain verbs. Plain verbs can also be articulated at the non-dominant hand in neutral signing space (BUY), or in neutral signing space without body contact (PLAY), as can be seen in the following example.

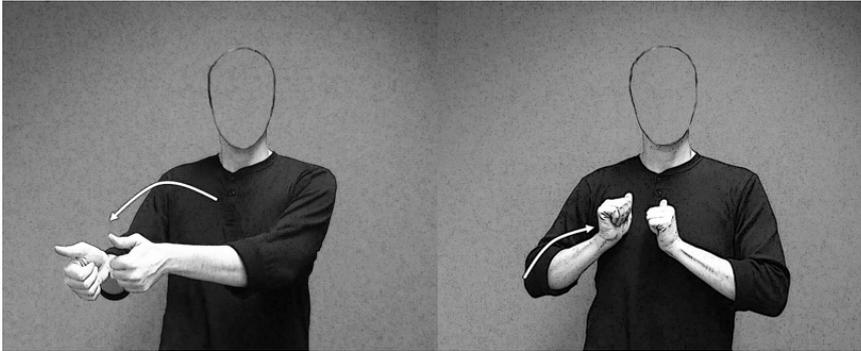


A similar example is the verb COOK that is not body-anchored, but lexically specified for the place of articulation in neutral signing space. Since the path movement of the sign is also lexically specified (the movement reminds of stirring in a pot), the sign cannot be modified to show manual agreement with its syntactic arguments.

A further approach to identify plain verbs is by their argument structure, that is whether the verb requires only a subject or a direct and/or indirect object to be grammatically correct. However, this constraint is likewise not sufficient to classify all plain verbs. It is the case that intransitive verbs like SLEEP, DIE or LAUGH are plain verbs and that they can be body-anchored (LAUGH) as well as not body-anchored (DIE). However, plain verbs can also be transitive verbs that require a subject and an object. These can also be body-anchored (SEARCH) as well as not body-anchored (REPEAT). In contrast, ditransitive verbs like GIVE, ORDER or SHOW, which require a subject, a direct and an indirect object, cannot be plain verbs in DGS, but are agreement verbs.

3.2.2. Agreement verbs

Agreement verbs in DGS can be manually modified in order to show agreement with locations in the signing space associated with the subject and/or (indirect) object. The path movement of the verb can then be adapted such that the beginning point coincides with the locus associated with the subject argument and the end point with the locus associated with the object argument [Morphology – Section 3.1] Agreement verbs in DGS express manual agreement by (i) a modification of the path movement of the verb sign only, or (ii) by a change just in the orientation of the hand or fingertips, or (iii) by changing both, movement and orientation of the sign. For example, the verb HELP marks agreement only by a change of path movement, as can be seen in the following example.



1HELP3a

3aHELP1

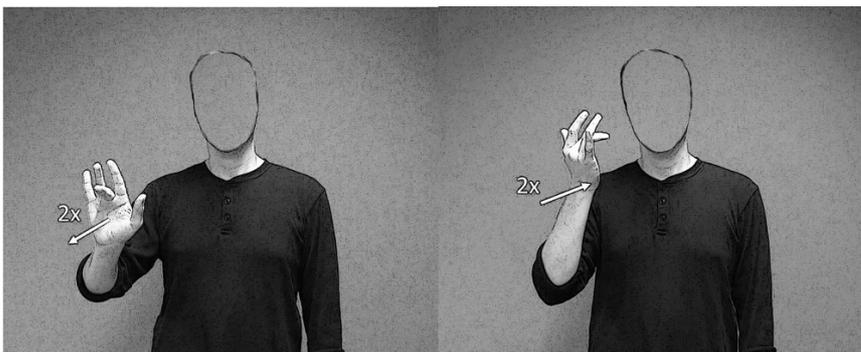
In contrast, the verb EXPLAIN (similar to INFLUENCE and INFORM) expresses manual agreement by a change in finger- and hand orientation. In these signs, the back of the hand is orientated towards the subject while the fingertips face the object.



1EXPLAIN2

2EXPLAIN1

The third way of realizing manual agreement is exemplified by the verb CRITICIZE that marks agreement by a modification of both the path movement and the hand orientation.



1CRITICIZE3a

3aCRITICIZE1

Additionally, some agreement verbs can be modified by the use of classifier constructions [Morphology – Chapter 5]. The prototypical example is the verb GIVE, in which the hand configuration can be modified according to the class of objects.

- a. GIVE_{CL:round}

‘give a round object’

- b. GIVE_{CL:long,thin}
‘give a long, thin object’

Backwards verbs represent a subgroup of agreement verbs, because they mark agreement by a modification of path movement and/or finger- and hand orientation in a ‘reversed’ pattern. In contrast to regular agreement verbs, in backwards verbs the path movement of the verb starts at the locus associated with the object (the semantic *source*) and ends at the locus associated with the subject argument (the semantic *goal*).

- a. _{3a}TAKE₁ [picture follows]
‘I take this/that’

- b. T-I-M IX_{3a} _{3a}INVITE₁ [picture follows]
‘I invite Tim.’

Similar to plain verbs, agreement verbs can be transitive verbs (VISIT, HATE, HELP) and ditransitive verbs (GIVE, BORROW, EXPLAIN, SHOW). Intransitive verbs cannot be agreement verbs that show manual agreement via path movement. However, the intransitive verb DIE is in a grammaticalization process and can be articulated in different loci in signing space (DIE_{3a} versus DIE_{3b}). These forms of DIE indicate either different people dying or dying in different locations.

3.2.3. Spatial verbs

Spatial verbs can also be categorized as a subgroup of agreement verbs, because spatial verbs can also be manually modified in order to show agreement with locations in signing space. However, in contrast to agreement verbs, spatial verbs do not agree with their subject and/or object locations, but with loci associated with locative arguments. From a semantic perspective, spatial verbs denote actions of movement (GO, SWIM, DRIVE, CYCLE, FLY, FALL, JUMP, etc.), actions of being locally positioned (SIT, STAND, LIE, BE-AT, etc.), and directional actions of placing something somewhere (PUT, MOVE, TAKE, LAY, etc.).

The meaning of a local spatial verb, such as SIT or STAND, varies according to the location in signing space, in which the verb is articulated.

- a. HOUSE IX_n L-E-A STAND_{3a}
‘Lea stands on the right side of the house.’
- b. HOUSE IX_n L-E-A STAND_{3b}
‘Lea stands on the left side of the house.’

In contrast, directional spatial verbs of movement (GO, DRIVE) or directional spatial verbs of placing (PUT, MOVE), involve a path movement from one location towards another location. Their meaning varies by a change in path movement, as in the following example, in which the beginning of the path movement coincides with the source location, while the endpoint of movement coincides with the goal location.

- a. BERLIN IX_{3a} COLOGNE IX_{3b} FAMILY _{3a}DRIVE_{3b}
'The family drives from Berlin to Cologne.'
- b. BERLIN IX_{3a} COLOGNE IX_{3b} FAMILY _{3b}DRIVE_{3a}
'The family drives from Cologne to Berlin.'

In the following example with a directional verb of placing, even a small change in the initial or final location of the path movement can make a change in meaning.

- a. SHELF IX₁ BOOK _xMOVE_y
'I move a book in the shelf from here to there.'
- b. SHELF IX₁ BOOK _xMOVE_z
'I move a book in the shelf from here to over there (a different place than in example (a)).'

Additionally, spatial verbs are highly productive in being modified by the use of classifier constructions [see Morphology – Chapter 5]. For example, if the spatial verb STAND is associated with a human entity, it occurs with a human classifier handshape: ; whereas, if STAND is associated with an animal, it occurs with the animal classifier handshape 3-bent: ; and if associated with a flat non-human entity like a book, it occurs with the flat classifier handshape B: .

3.3. Lexical expressions of inflectional categories

3.3.1. Tense markers

3.3.2. Aspectual markers

3.3.3. Modality markers

3.3.3.1. Deontic modality

3.3.3.2. Epistemic modality

3.3.4. Agreement markers

3.4. Adjectives

3.4.1. Attributive adjectives

3.4.2. Predicative adjectives

3.5. Adverbials

3.5.1. Verb-oriented adverbials

3.5.2. Sentence adverbials

3.6. Determiners

3.6.1. Definite determiners

3.6.2. Indefinite determiners

3.7. Pronouns

Pronouns in DGS are expressed in the signing space. They refer either to physically present or absent referents by pointing towards the actual or abstract locations previously associated with those referents. Pointing can be realized either manually (with the index finger - , the thumb-  or the entire hand- ) or non-manually (with eye gaze, head nod or body orientation), as well as combinations of these. See [Lexicon – Section 1.2.2] for further information on pointing.

Other than pointing, classifier handshapes as in relative pronouns referring to humans [Lexicon – Section 3.7.6], lexical forms such as interrogative [Lexicon – Section 3.7.5] and indefinite pronouns [Lexicon – Section 3.7.7] can be used for pronominal reference. Additionally, in DGS pronouns do not have to be pronounced, they can also appear in their null forms when their antecedents are easily retrievable from the context [Pragmatics – Section 2.1].

3.7.1. Locative and demonstrative pronouns

Locative pronouns refer to the actual location of places or to the spatial areas associated with those places, meaning ‘here’ or ‘there’. In DGS, locative pronouns, just as personal and demonstrative pronouns are expressed by  handshape. However, final point of the hand movement is produced more abruptly than personal pronouns and less abruptly than demonstrative pronouns.

IX_a STUDENT DGS GRAMMAR GRAMMAR GERMAN INTERPRETER METHOD DIFFERENT
IX_{PL} LEARN

‘There students learn DGS Grammar, German Grammar and many different interpreting methods.’

(adapted from Happ & Vorköper, 2006:97)

Demonstrative pronouns’ function is to refer to a specific object, person or place. In DGS, just as locative [Lexicon – Section 3.7.2] and personal pronouns [Lexicon – Section 3.7.2], demonstrative pronouns have a -handshape and are articulated with horizontal or downwards movement in the signing space. The main difference between demonstrative pronouns and other pronouns sharing the same handshape, is the abrupt movement produced at the end location of these signs. Additionally, in DGS demonstrative pronouns co-occur with particular mouth gestures, “ff”, “mm” or “ch”. These pronouns can optionally be accompanied by a strong head nod or eye gaze in the direction of the pointing sign. Examples of demonstrative pronouns in DGS are given below.



a. THIS *dies* ('this')

(Mehling 2010: 113)

b. MAN_{3a} IX_{3a} FRIEND MEET. INDEX_a HAPPY.

'This man meets a friend. He is happy.'

(adapted from Happ & Vorköper, 2006:97)

3.7.2. Personal pronouns

Personal pronouns stand for a noun or a noun phrase [Syntax – Section 2.1.1.2] referring to people or things. These can refer to present or non-present referents via pointing to the spatial locations previously associated with these referents. In DGS, personal pronouns usually appear in -handshape [Lexicon – Section 1.2.2], but they can also be expressed by non-manuals such as eye-gaze or head tilt or not expressed at all.

First person pronoun signs are oriented towards body of the signer and are produced by pointing to the chest and through contact once. Second person pronouns are directed to the addressee or a location associated with addressee and typically accompanied with an eye gaze in the direction of a pronoun. Third person pronouns are directed towards the signing space, produced with single or multiple movements towards the signing space and an optional sideward movement of the head in the direction of the pronoun.



IX₁ ('I')

IX₂ ('You')

IX₃ ('She/he')

(Papasprou et al. 2008: 137)

Personal pronouns in DGS are marked for a number of grammatical categories such as person [Lexicon – Section 3.7.2.1], number [Lexicon – Section 3.7.2.2], clusivity [Lexicon – Section 3.7.2.3] and honorific status [Lexicon – Section 3.7.2.6]

3.7.2.1. Person

DGS pronouns encode two-way person distinction, which correspond to a difference between first and non-first persons. The distinction between non-first persons is then made clear in the context.

3.7.2.2. Number

DGS marks a distinction between singular, dual and plural forms of the pronouns. In the singular form, the index finger points either to the present referent or to the spatial location associated with that referent. Dual form, points to the referents in the same way as single form but uses a different handshape. A common handshape used in dual forms is V-handshape (✋) or a K-handshape (✌), in both forms the index and middle fingers are extended. Extended fingers in dual form of the pronoun correspond to the number of the referents. Dual pronouns move back and forth between the loci of its referents. In DGS, extension of the fingers can indicate up to ten referents.

Plural forms in DGS are articulated with modification of the movement of pointing signs. Two types of plural are expressed on the pronouns: collective and distributive. In collective forms the pronoun refers to a group of referents and is produced with an arc-movement across the locations associated with the referents. In distributive forms, the pointing sign is directed consecutively to the areas in the signing space associated with each of the plural referents.



a. IX_{1PL}('We') IX_{2PL}('You')

- b. EXAMPLE (distributive plural)
- c. EXAMPLE (collective plural)
- d. EXAMPLE (dual plural)

(Papasprou et al. 2008: 137)

3.7.2.3. Clusivity

In DGS plural pronouns can be inclusive or exclusive. First person plural pronoun 'we' is inclusive when the signer (first person) is included in the class of the referents marked on that pronoun. On the other hand, when the same pronoun is exclusive the signer is not included in the set of referents. Inclusive pronouns are produced proximate to the body with an arc movement while exclusive forms are produced distant from the body and slightly on the side, with the same movement. This is illustrated in the examples below.



- a. TWO-OF-US THREE-OF-US FOUR-OF-US FIVE-OF-US
(Papaspyrou et al. 2008: 138)
- b. EXAMPLE (exclusive pronouns)

3.7.2.4. Case

Case is not marked on pronouns in DGS.

3.7.2.5. Gender

Personal pronouns are not marked for gender in DGS.

3.7.2.6. Honorific pronouns

Honorific status [Pragmatics – Section 1.1.2] indicating respect or distance between the two signers can be marked on pointing signs. In particular, a difference between second person singular formal and informal forms is expressed non-manually through position of the body. Second person formal pronoun is produced with a slight backward lean of the body while second person informal pronoun is not accompanied by this non-manual.

- a. EXAMPLE (Second person singular formal)
- b. EXAMPLE (Second person singular informal)

‘Sabine my sister learns to drive.’

(adapted from Mehling 2010: 110)

In terms of their distribution in the sentences, possessive pronouns always precede possessed items in the sentences. See example below from DGS.

TIM POSS₁ DOG₂ RESCUE PAM₂.

‘Tim rescued his dog.’

(adapted from Happ & Vorköper 2006: 104)

3.7.4. Reflexive and reciprocal pronouns

Reflexive pronouns appear in direct or indirect object position of a sentence where this object has the same referent as the subject of the same sentence. In terms of form, reflexive pronouns share -handshape with personal pronouns [Lexicon – Section 3.7.2] when they are used with plain verbs. Agreement verbs and locative signs can be used to express reflexive relations as well [Syntax – 2.1.3.3]. Additionally, reflexive action can be expressed on the body of the signer. This is shown in DGS example below.

a. PETER WASH

‘Peter washes himself.’

b. EXAMPLE (reflexive pronoun produced with index handshape)

‘Example.’

(adapted from Mehling 2014: 104)

Reciprocal relations just as reflexive ones include co-referential link between the agent and undergoer of the event and they occur in the same clause. However, in reciprocal relation plural referents are involved. In DGS, reciprocity is not marked on pronouns but rather expressed on the verbs [Syntax – 2.1.3.4].

3.7.5. Interrogative pronouns

Interrogative pronouns are typically used in wh-questions [Syntax – 1.2.3]. DGS is a language with a large inventory of interrogative pronoun signs, including simplex and complex forms of these signs. Realization of these signs shows dialectal variation. Examples of interrogative pronouns in DGS are the following.



- a. WHO WHAT HOW
(Papaspyrou et al. 2008: 143)
- b. WHO^PAM ('whom')
(adapted from Happ and Vorköper 2014: 323)

3.7.6. Relative pronouns

Relative clauses [Syntax – Section 3.4.2] are marked with various different strategies in DGS, among those are relative pronouns, word order, manual and non-manual markers. There are two relative pronouns in DGS, one is used for human referents and the other for non-human referents. Relative pronoun for humans is realized with a classifier handshape-☞ for humans, while the relative pronoun for non-human entities has a pointing handshape-☞. Relative pronouns are accompanied with eyebrow raise, which is identical to topic marker [Pragmatics – Section 4.3.2]. These pronouns are not marked for plurality.

The examples of relative pronouns are given below.

- _____re
- a. MAN IX₃ RPRP-H₃ CAT STROKE
'the man who is stroking the cat'
- _____re
- b. BOOK RPRP-NH₃ POSS₁ FATHER READ
'the book which my father is reading'

(adapted from Pfau & Steinbach 2005:512)

3.7.7. Indefinite pronouns

Indefinite pronouns are used to refer to people, objects or places which either due to their characteristics or number are indeterminate. DGS uses different forms of indefinite pronouns for human and non-human referents. The former is typically expressed by compound signs, while the latter has simplex forms. Both types are expressed on the upper region of the signing space.



a. SOME^PERSON ('someone')



b. SOMEWHERE ('somewhere')

(Papasprou et al. 2008: 143)

3.8. Adpositions

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3.8.2. Adpositions and spatial relations

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3.11. Particles

3.11.1. Negative particles

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Information on Data and Consultants

See the references below for information on data and consultants.

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References

- Eichmann, Hanna, Martje Hansen & Jens Heßmann (eds.). 2012. *Handbuch Deutsche Gebärdensprache. Sprachwissenschaftliche und anwendungsbezogene Perspektiven*. Seedorf: Signum. (129-130) – [3.2]
- Happ, Daniela & Marc-Oliver Vorköper. 2006. *Deutsche Gebärdensprache. Ein Lehr- und Arbeitsbuch*. Frankfurt: Fachhochschulverlag. (136-137) – [3.2.1], (141-142) – [3.2.2], (138-141) – [3.2.3], (96-99) – [3.7.1], (95) – [3.7.2.4], [3.7.2.5], (242) – [3.7.2.6], (104) – [3.7.3], (323) – [3.7.5]
- Keller, Jörg. 1998. *Aspekte der Raumnutzung in der Deutschen Gebärdensprache*. Seedorf: Signum. (234-235) – [3.2]
- Mehling, Karin. 2010. *Heute hier, morgen dort. Deixis und Anaphorik in der Deutschen Gebärdensprache: Analyse und Vergleich mit der deutschen Lautsprach*. München: Ludwig-Maximilians-Universität PhD dissertation. (112-113) – [3.7.1], (109-110) – [3.7.3], (104) – [3.7.4]
- Papaspyrou, Chrissostomos, Alexander von Meyenn, Michaela Matthaei & Bettina Herrmann. 2008. *Grammatik der Deutschen Gebärdensprache aus der Sicht gehörloser Fachleute*. Seedorf: Signum. (105-108) – [3.1], (109-135) – [3.2], (140) – [3.7.1], (137-138) – [3.7.2], (140) – [3.7.3], (143) – [3.7.5], [3.7.7]
- Pfau, Roland & Markus Steinbach. 2003. Optimal Reciprocals in German Sign Language. *Sign Language and Linguistics* 6, 3-42. [3.7.4]
- Pfau, Roland & Markus Steinbach. 2005. Relative clauses in German Sign Language: Extraposition and reconstruction. In Leah Bateman & Ussery Cherlon (eds.), *Proceedings of the North East Linguistic Society (NELS 35)*, vol. 2. 507-521. Amherst, MA: GLSA. (512) – [3.7.6]
- Rathmann, Christian & Gaurav Mathur. 2005. Unexpressed Features of VerbAgreement in Signed Languages. In Gert Booij & Emiliano Guevara, Angelo Ralli, Salvatore SgROI & Sergio Scalise (eds.), *Morphology and Linguistic Typology. On-line Proceedings of the 4th Mediterranean Morphology Meeting (MMM4)*, 235-250. Bologna: Università degli Studi di Bologna. [3.7.6]
- Steinbach, Markus, Ruth Albert, Heiko Girth, Annette Hohenberger, Bettina Kümmerling-Meibauer, Jörg Meibauer, Monika Rothweiler & Monika Schwarz-Friesel. 2007. *Schnittstellen der germanistischen Linguistik*. Stuttgart: Metzler. (153-155) – [3.2]

Morphology

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Chapter 3. Verbal inflection

3.1. Agreement

DGS verbs are commonly divided into three main categories based on morpho-syntactic criteria: plain verbs, agreement verbs and spatial verbs. Plain verbs are phonologically specified for a particular place of articulation (frequently on the body, but also in the signing space or anchored to the non-dominant hand) and path movement. They cannot be spatially modified to show agreement with subject and/or object, i.e. their syntactic arguments. For example, the verbs LIKE and COOK are plain verbs. The sign LIKE is body-anchored because the place of articulation is specified and produced on the signer's chest and thus, cannot be modified spatially. However, although the sign COOK is not body-anchored, the place of articulation is lexically specified for the neutral signing space. The movement of the sign is also lexically specified, so that the movement as such cannot be modified as well.

- a. LIKE
- b. COOK

In contrast to plain verbs, agreement verbs in DGS can be manually modified in order to show agreement with locations in the signing space associated with the subject and/or (indirect) object. The manual agreement of agreement verbs in DGS can be expressed by (i) a modification of the path movement of the verb sign, (ii) by a change in the orientation of the hand or fingertips, and (iii) by changing both, movement and orientation of the sign. DGS verbs that mark agreement only by a change of path movement are, for example, ASK and HELP.

- a. ASK
- b. HELP

Verbs that mark agreement by a change of finger- or hand orientation are for example INFLUENCE, EXPLAIN or INFORM. With these signs, the back of the hand is orientated towards the subject while the fingertips face the object.

- a. INFLUENCE
- b. EXPLAIN
- c. INFORM

The verb SHOW, however, marks agreement by a modification of both the path movement and the hand orientation.

SHOW

The third verb class distinguished in DGS is spatial verbs. Spatial verbs also modify their path movement in order to mark agreement, but they agree with locations in signing space that are associated with locative arguments. Thus, the path movement of spatial verbs is not between the locations associated with subject and object. Rather, spatial verbs move between locations in signing space associated with topographic locations.

Furthermore, spatial verbs and agreement verbs in DGS can also be modified by the use of classifier constructions. In classifier constructions, the handshapes are visually motivated and reflect visual-geometric or semantic properties of the involved entity. An example for a spatial verb in DGS is the sign STAND. If the verb is associated with a human entity, it occurs with a  – handshape as in (a). However, if STAND is associated with a non-human entity, for instance a book, the verb will be signed with a different classifier handshape, for example the  - handshape as (b).

- a. STAND (human)
- b. STAND (non-human, e.g. ‘flat object entity classifier’)

An example for an agreement verb that is modified by a handling classifier handshape is the sign GIVE.

- a. GIVE ( - handshape for ‘thin objects’)
- b. GIVE ( - handshape for ‘big round objects’)

3.1.1. Person and locative markers

3.1.1.1. Subject markers

Agreement in DGS is expressed within the signing space, i.e. the space in front of the signer’s upper body. The signing space is used to establish person and location references. Reference to the first person corresponds to the physical location of the signer, so that the location for first person is fixed on or near the signer’s chest. For reference towards the addressee (i.e. second person) or towards a third person, referents are associated with locations in neutral signing space. If a referent is present in the conversation, the reference in space corresponds to the actual position of the referent. If a referent is non-present in the conversation, the signer chooses a particular location within the signing space that arbitrarily represents the referent.

EXAMPLE (signing space)

As already mentioned, the expression of agreement with subject and object is restricted to the specific verb class of agreement verbs. These agreement verbs agree with subject and/or object by modulating the path movement and/or finger- and hand orientation. The movement of the verb begins at the locus associated with the subject and ends at

the locus associated with the object. If referents are present, the verb starts and ends at the actual loci of the present referents.

Agreement verbs in DGS select at least two (usually animate) arguments (subject, direct object and/or indirect object) and they assign a unique thematic role to each of the arguments. Subject agreement in DGS can be optional whereas object agreement is obligatory. The transitive verb TEASE agrees with the subject and the direct object. The signer chooses locations in signing space and associates them with the referents (see the example below). The path movement of TEASE starts at the location associated with the subject ('boy') and ends at the locations associated with the object ('girl'). The verb assigns the thematic role of 'agent' to the subject and the thematic role of 'patient' to the direct object. Furthermore, TEASE belongs to the group of agreement verbs that show agreement by a change of path movement and also by a change of finger- and hand orientation. Therefore, the back of hand is orientated towards the subject (the boy) and the fingertips are orientated toward the object (the girl).

BOY IX_{3a} GIRL IX_{3b} 3aTEASE_{3b}

'The boy teases the girl.'

There are some other transitive verbs like ASK in DGS, which are specified for initial contact near or on the face. The path movement of ASK for example starts in its citation form in front of the chin. In example (a), ASK agrees with the location of first person subject and with the location of non-first person object. If there is a lexical specification for an initial contact like in this case, the initial contact is preserved and first person subject agreement is not expressed. But in (b), ASK agrees with a non-first person subject and a first-person object. In this case, the endpoint of the path movement is towards the signer's chest.

a. ₁ASK₂

'I ask you.'

b. ₂ASK₁

'You ask me.'

However, ditransitive verbs like GIVE agree with the subject and the indirect object as shown in the example below by the indices.

GRANDMOTHER_{3a} CHILD_{3b} CHOCOLATE _{3a}GIVE_{3b}

'The grandmother gives the child a piece of chocolate.'

Selected arguments can be dropped. In DGS example below, two referents 'mother' and 'girl' are established at the beginning of the discourse. In the following, the arguments are not expressed overtly but the verb's path movement makes clear that the mother is giving the book to the daughter.

MOTHER IX_{3a} DAUGHTER IX_{3b} TOGETHER PLAY. BOOK _{3a}GIVE_{3b}

‘Mother and daughter play together. She (the mother) gives her a book.’

There is another interesting subgroup of agreement verbs, so-called backwards verbs, which show the reverse pattern of regular agreement verbs. Backwards verbs in DGS are for example INVITE, ACCEPT or PICK-UP. The path movement of these verbs starts at the location associated with the object and ends at the location associated with the subject as in DGS example below, which is interpreted as ‘he accepts me’.

₁ACCEPT₃
‘He accepts me.’

Independent of the reversed path movement, the orientation of the finger still faces towards the syntactic object. For example, the verb PICK-UP keeps the orientation of the fingertips towards the object ‘I’ as in (a), which is interpreted as ‘you pick me up’. Compared to (b), which has the meaning ‘I pick you up’.

- a. ₁PICK-UP₂
‘You pick me up.’
- b. ₂PICK-UP₁
‘I pick you up.’

Not all backwards verbs mark agreement by changing the orientation. The sign INVITE, for instance, only changes the path movement from the locus associated with the object towards the locus associated with the subject. See the example below.

- a. ₁INVITE₂
‘You invite me.’
- b. ₂INVITE₁
‘I invite you.’

3.1.1.2. Object markers

Agreement verbs mark agreement with subject and object by a change in path movement and/or in orientation of the hands. Some verbs like EXPLAIN show object agreement only by changing the orientation of the fingertips which face the syntactic object.

TEACHER_{3a} CHILD_{3b} TOPIC_{3a} EXPLAIN_{3b}
‘The teacher explains the topic to the child.’

In addition, there are verbs like HATE and TRUST that allow only for object agreement. The path movement of TRUST has a fixed starting point and is signed with both hands next to the head. The endpoint of movement can vary according the location where the object is associated.

FATHER IX_{3a} DAUGHTER IX_{3a} TRUST_{3b}

‘The father trusts the daughter.’

In DGS there is no systematic correlation of eye gaze and object position in DGS. Eye gaze seems to be linked to manual agreement, but cannot be considered as an obligatory agreement marker.

3.1.1.3. Locative markers

Spatial verbs mark agreement with topographic locations in space associated with locative arguments. Spatial verbs in DGS can be divided in local verbs like SIT, STAND, LIE and in directional verbs like PUT and GO. Directional spatial verbs involve a movement from one location towards another location. The beginning of the path movement coincides with the source and the endpoint of movement coincides with the goal location. Local spatial verbs are signed at the location associated with the endpoint of the movement or event.

- a. FAMILY BERLIN IX_a COLOGNE IX_b aDRIVE-CL_b
‘The family drives from Berlin to Cologne.’
- b. MAN SHELF_a BOOK PUT-CL_a
‘The man put the book into the shelf.’
- c. MAN TABLE_a LETTER PUT-CL_a
‘The man put the letter on the table.’

Spatial verbs involve a classifier handshape, i.e. handshape or hand orientation of the verb changes according to semantic properties of the argument. In (b) PUT is signed with a flat B-hand to reflect the properties of the book. In (c), however, the verb PUT changes its handshape according to the visual-geometrical properties of the letter.

In the context of spatial verbs, another interesting point is the so-called figure-ground principle. This principle states that bigger and less mobile entities can serve as the ‘ground’ whereas small and mobile entities are called the ‘figure’. A signing discourse is structured based on the figure-ground principle by signing bigger and less mobile entities followed by smaller and mobile entities. In the above-mentioned examples the bigger entities ‘shelf’ and ‘table’ served as the ground and are therefore signed first following the smaller objects ‘book’ and ‘table’. The figure-ground principle also allows for a simultaneous localization of two entities involving the use of both hands. In some cases, the non-dominant hand can be used to serve as a ground while in the same time, the dominant hand is signing the entities representing the figure. Example below illustrates how the non-dominant hand signs the bigger entity ‘tree’ and is hold during the following signs. Afterwards, the dominant hand signs ‘bird’ and moves towards the non-dominant hand by using a classifier predicate to express that the bird is sitting in the tree.

TREE BIRD SIT-IN-CL

‘The bird sits in the tree.’

In DGS, it is sometimes possible that even plain verbs can express a locative information. These plain verbs are not body-anchored and without an alternating movement like BUY, PAY and WRITE. In example below the not body-anchored verb BUY is signed at two different locations in space. As a consequence, the meaning that the two books are bought at two different book stores evokes.

YESTERDAY MAN TWO BOOK BUY_a BUY_b

‘The man bought two books yesterday.’

However, the verbs could also be body-anchored, but then involve a sagittal movement like THANK or ORDER. In example (x), it is only the endpoint of the verb’s path movement that is directed towards two different locations in the space.

WOMAN CHILD++ THANK_a THANK_b

‘The woman thanks the children.’

But there is one crucial difference between plain verbs expressing locative information and spatial verbs. With spatial verbs, it is possible to refer back to the locations introduced by the spatial verb, but not with plain verbs. The difference between the two verb classes is exemplified in (a) and (b).

- a. *YESTERDAY MAN TWO BOOK BUY_a BUY_b. INDEX_a NOVEL IX_b CRIME-STORY.
‘The man bought two books yesterday. One was a novel, the other a crime story.’
- b. YESTERDAY MAN TWO BOOK SHELF PUT-CL_a PUT-CL_b. IX_a NOVEL IX_b CRIME-STORY.
‘The man put two books into the shelf. One was a novel, the other a crime story.’

3.1.2. Number markers

Verbs that allow for a spatial modification of movement and/or orientation can also express number distinctions. In general, agreement and spatial verbs in DGS can be divided into a singular and plural verb form. But it is sometimes argued that even a more fine-grained distinction between a multiple and exhaustive plural form is found. The singular form of subject and object is normally not expressed, but the plural form, which is only possible with objects, is often realized as an arc movement of the verb.

3.1.2.1. Dual

The dual form signals that two entities are involved. There are two possible options in DGS to realize the dual form: the verb can be repeated or, in case of one-handed signs, the non-dominant hand can be added.

3.1.2.3. Exhaustive

The exhaustive form also expresses a plural meaning, but it individuates members of a set. The exhaustive form of plural objects is realized by multiple reduplication along an arc movement. To express the meaning 'I ask each of them', the verb starts at a location close to the signer's mouth and moves towards a location on the contralateral side of the signing space. While moving towards the ipsilateral side, the forward movement of the base form is reduplicated but often reduced.

¹ASK_{3PL}

'I ask them.'

3.1.2.4 Spatial verbs

Plurality of an entity can also be expressed by spatial verbs. As mentioned above, spatial verbs often include classifier handshapes. The plural form of a spatially modified classifier verb is often realized by a sideward reduplication of the verb's movement as in the example below.

PARKING-SPACE THREE CAR STAND-CL++

'There are three cars standing next to each other in the parking lot.'

It is also possible that a simple sideward movement is added to the verb as in (a). Or, as in the example (b), the reduplication of the verb's movement is realized more random with both hands performing an alternating movement.

a. MANY BIKE STAND-CL

'Many bikes are standing in a line.'

b. BOWL APPLE++ BE-LOCATED-CL

'There are many apples in the bowl.'

In some cases, it is also possible to reduplicate a plain verb to indicate that two entities are involved. In example given below, it is only the reduplication of the verb movement that adds the plural meaning and makes clear that two books were bought.

YESTERDAY MAN BOOK BUY++

'The man bought two books yesterday.'

3.1.3 Reciprocal markers

A reciprocal relation involves two or more referents and the individuals referred to are basically both agents and undergoers of the action. Reciprocity can be marked on verbs

depending on the verb type and the phonological form of the verb. In DGS, it is possible to mark reciprocity with plain verbs and agreement verbs.

The movement and orientation of agreement verbs can be modified to allow for a reciprocal interpretation, but the modification depends on whether the verb is a one-handed or two-handed sign. In a two-handed agreement verb like HELP, which shows agreement by modification of path movement, the path movement of the verb can be reversed. This means, that the verb moves in an uninterrupted manner from a subject to an object locus and then back to the subject locus as exemplified in below and thereby expressing reciprocity.

$_1$ WE-TWO $_{3a}$ [$_1$ HELP $_{3a}$ $_{3a}$ HELP $_1$]
 ‘We are helping each other.’

With a two-handed agreement verb as in the example below, that realizes agreement by a change of hand orientation like INFLUENCE, it is not the path movement that is reversed to mark reciprocity, but the orientation of the hand and fingertips is reversed.

$_1$ WE-TWO $_{3a}$ [$_1$ INFLUENCE $_{3a}$ $_{3a}$ INFLUENCE $_1$]
 ‘We are influencing each other.’

With one-handed agreement verbs, the reversed movement is realized simultaneously by the non-dominant hand. In the following example, which has the meaning ‘we are sending letters to each other’, the dominant hand moves from the subject to the object locus while the non-dominant hand simultaneously performs the reversed movement from object to subject locus. The non-dominant hand also copies the handshape features from the dominant hand.

dominant hand: $_1$ WE-TWO $_{3a}$ LETTER++ $_1$ SEND $_{3a}$
 non-dominant hand: $_{3a}$ SEND $_1$
 ‘We send each other letters.’

Reciprocity marked on plain verbs can be realized in two different ways. In the first option, reciprocity is realized by zero marking like in DGS example given below. There, the verb remains in its citation form and no reversed movement is added.

WE-TWO LIKE
 ‘We like each other.’

The second option is the use of an overt agreement marker called PAM (Person Agreement Marker), which is added post-verbally. PAM expresses the reciprocal form by means of a reversed path movement and hand orientation, i.e. the movement starts at the subject locus and ends at the object locus. At the object locus, the hand turns 180°, so that the fingers are orientated towards the signer and then moves again towards the subject locus as it is illustrated in below.

${}_1\text{WE-TWO}_2 \text{ LIKE } {}_1\text{PAM}_2 {}_2\text{PAM}_1$

'We like each other.'

3.2. Tense

3.2.1. Time lines

3.2.2. Tense inflection

3.3. Aspect

3.3.1. Imperfective

3.3.1.1. Habitual

3.3.1.2. Continuative/durative

3.3.1.3. Conative

3.3.2. Perfective

3.3.2.1. Iterative

3.3.2.2. Inceptive/inchoative

3.3.2.3. Completive

3.4. Modality

3.4.1. Deontic modality

3.4.2. Epistemic modality

3.5. Negation

3.5.1. Regular negation

3.5.1.1. Manual markers

3.5.1.2. Non-manual markers

3.5.2. Irregular negation

Information on Data and Consultants

See the references below for information on data and consultants.

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References

- Happ, Daniela & Marc-Oliver Vorköper. 2006. *Deutsche Gebärdensprache. Ein Lehr- und Arbeitsbuch*. Frankfurt: Fachhochschulverlag. [3.1], [3.1.1.3], [3.1.2.1], [3.1.2.3], [3.1.2.4]
- Hänel, Barbara. 2005a. *Der Erwerb der Deutschen Gebärdensprache als Erstsprache: die frühkindliche Sprachentwicklung von Subjekt- und Objektverbkongruenz in DGS*. Tübingen: Narr. [3.1], [3.1.1.1], [3.1.1.2], [3.1.1.3]
- Hänel, Barbara. 2005b. The Acquisition of Agreement in DGS: Early Steps into spatially expressed Syntax. *Linguistische Berichte Sonderheft* 13. 201-233. [3.1], [3.1.1.1],
- Hänel-Faulhaber, Barbara. 2012. Gebärdenspracherwerb: Natürliches Sprachenlernen gehörloser Kinder. In Hanna Eichmann Martje Hansen & Jens Heßmann (eds.), *Handbuch Deutsche Gebärdensprache. Sprachwissenschaftliche und anwendungsbezogene Perspektiven*, 293-311. Seedorf: Signum Verlag.
- Hosemann, Jana. 2011. Eye Gaze and Verb Agreement in German Sign Language: A First Glance. *Sign Language & Linguistics, Special Issue* 14 (1). 76-93. [3.1.1.2]
- Keller, Jörg. 1998. *Aspekte der Raumnutzung in der Deutschen Gebärdensprache*. Seedorf: Signum.
- Keller, Jörg & Helen Leuniger. 2004. *Grammatische Strukturen- Kognitive Prozesse. Ein Arbeitsbuch* (2. Auflage). Tübingen: Gunter Narr. [3.1.1.3]
- Papaspyrou, Chrissostomos, Alexander von Meyenn, Michaela Matthaei & Bettina Herrmann. 2008. *Grammatik der Deutschen Gebärdensprache aus der Sicht gehörloser Fachleute*. Seedorf: Signum. [3.1.2.2], [3.1.2.3]
- Pfau, Roland & Markus Steinbach. 2003a. A Constraint-Based Analysis of Reciprocals in German Sign Languages. *Proceedings of the Western Conference on Linguistics (WECOL)* 13. 313-326. [3.1.3]
- Pfau, Roland & Markus Steinbach. 2003b. Optimal Reciprocals in German Sign Language. *Sign Language and Linguistics* 6. 3-42. [3.1.3]
- Pfau, Roland & Markus Steinbach. 2004a. An Optimality-Theoretic Account of German Sign Language Pluralization. *Proceedings of the Western Conference on Linguistics (WECOL)* 15. 234-245. [3.1.3]
- Pfau, Roland & Markus Steinbach. 2004b. Wie du mir, so ich dir: Reziprokkonstruktionen in DGS. *Das Zeichen* 66. 74-84. [3.1.3]
- Pfau, Roland & Markus Steinbach. 2005a. Backward and Sideward Reduplication in German Sign Language. In Bernhard Hurch (ed.), *Studies on Reduplication*, 569-594. Berlin: Mouton de Gruyter. [3.1.3]

- Rathmann, Christian. 2000. *The Optionality of Agreement Phrases: Evidence from Signed Languages*. Austin: The University of Texas at Austin, MA Thesis. [3.1.3]
- Rathmann, Christian & Gaurav Mathur. 2002. Is Verb Agreement the Same Cross-modally? In Richard Meier, Kearsy Cormier & David Quinto-Pozos (eds.), *Modality and Structure in Signed and Spoken Languages*, 370-404. Cambridge: Cambridge University Press. [3.1], [3.1.1.1]
- Rathmann, Christian & Gaurav Mathur. 2005. Unexpressed Features of Verb Agreement in Signed Languages. In Geert Booij, Emiliano Guevara, Angelo Ralli, Salvatore SgROI & Sergio Scalise (eds.), *Morphology and Linguistic Typology. Online Proceedings of the 4th Mediterranean Morphology Meeting (MMM4)*, 235-250. Bologna: Università degli Studi di Bologna. [3.1], [3.1.1.1], [3.1.2], [3.1.2.2]
- Rathmann Christian & Gaurav Mathur. 2008. Verb Agreement as a Linguistic Innovation in Signed Languages. In Josep Quer (ed.), *Signs of the Time: Selected Papers from TISLR 2004*, 191-216. Hamburg: Signum. [3.1], [3.1.1.1], [3.1.2], [3.1.2.2], [3.1.2.3]
- Steinbach, Markus. 2012. Plurality. In Roland Pfau, Markus Steinbach & Bencie Woll (eds.), *Sign Language. An international handbook*, 112-136. Berlin: De Gruyter Mouton. [3.1.2], [3.1.2.2], [3.1.2.3], [3.1.2.4]

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1.5. Negatives

1.5.1. Manual marking of negation

DGS is a non-manual-dominant sign language with the non-manual headshake being the dominant and obligatory sentential negation marker. Still, many optional manual elements of negation exist and are listed in this section.

1.5.1.1. Manual negative elements

1.5.1.1.1. Negative particles

Uninflected sentential negative particles in DGS are, NO1 ('no'), NO2 ('no-no'), NONE ('none'), which are used sentence finally and negate a sentence in combination with a non-manual headshake [[Syntax – Section 1.5.1.2.3](#)].



In DGS, there are some negative particles that include an emphatic meaning, such as NOTHING-AT-ALL, in this case with a specific blowing mouth gesture. It is shown in the example below.



Blowing mouth gesture accompanying the NOTHING-AT-ALL sign

A negative completion marker in DGS is NOT-YET ('not yet') accompanied with a headshake and the mouthing *noch-nicht* ('not yet').

INSERT PICTURE HERE

1.5.1.1.2. Irregular negatives

Signs that incorporate negation can be found in DGS both in transparent and in opaque ways. Transparent irregular negatives in DGS comprise, for instance, specific negated modal verbs [Lexicon – Section 3.3.3] that include the alpha negation morpheme, an added movement shaped like an alpha [Negation – Section 3.5.1]. This process is quite regular, so it can also be considered regular negation.

An example for an opaque irregular negative is the sign NO-IDEA ('no idea') formed with a ✎-handshape on the forehead. This is exemplified in the visual below.



NO-IDEA (*Keine Ahnung*)

1.5.1.1.3. Negative determiners and adverbials

Negative determiners in DGS are: NONE ('none'), NOTHING ('nothing'), and NO-ONE ('no one'). See the example below.



NOTHING (*nichts*)

Negative adverbials are: NEVER ('never'), NOT-YET ('not yet').

INSERT EXAMPLES HERE

1.5.1.2. Syntax of negative clauses

1.5.1.2.1. Position of negative elements

In DGS, negatives are usually placed postverbal, so coinciding with the sentence-final position. Negated modal verbs appear either in verb second or final position.

1.5.1.2.2. Doubling

The same negative element may be doubled for emphatic marking.

1.5.1.2.3. Negative concord

DGS is a negative concord language where manual and non-manual negators appear together and are interpreted as single negation (type one).

 __hs __hs
WOMAN FLOWER BUY NOT
'The woman does not buy a flower.'

(adapted from Pfau 2008: 46)

Type two negative concord, where two different manual elements appear in one sentence is rare, but possible in DGS without changing the polarity of the sentence, see example below.

 _____hs
PETER NO TIME NOT
'Peter doesn't have time.'

1.5.2. Non-manual marking of negation

In DGS, movements of the head are the main non-manual marker of sentential negation. These are realized via side-to-side headshakes obligatorily accompanying manual signs and optionally spreading over a syntactically defined domain.

1.5.2.1. Head movements

In negated sentences side-to-side headshake obligatorily and simultaneously occurs on the verbal or nominal/adjectival predicates of a sentence. It can optionally co-occur with a manual negation marker, for example NOT ('not') [Syntax – Section 1.5.1], which as well is accompanied by a lexical headshake. DGS examples below illustrate the

occurrence of headshake with the verbal predicate BUY and its optional co-occurrence with NOT. It may also optionally spread onto the object FLOWER.

____hs
WOMAN FLOWER BUY
'The woman does not buy a flower.'

__hs __hs
WOMAN FLOWER BUY NOT
'The woman does not buy a flower.'

(adapted from Pfau 2008: 46)

In DGS, headshake can appear on its own only in question answer pair structures. It stays in a separate clause corresponding to an answer to a rhetorical question, which is necessarily marked with raised eyebrows. An example of such occurrence in DGS can be seen below.

_____y/n _____hs
INDEX₁ CINEMA₃ GO-TO
'Me going to the movies? No.'

(adapted from Pfau 2008: 57)

1.5.2.2. Facial expressions

In addition to the non-manual headshake [Syntax – Section 1.5.2.1], there are other facial expressions, for instance, with regard to the negation of modal verbs. This is however, not a sufficient grammatical device to negate a sentence or constituent in DGS.

1.5.2.3. Body posture

In DGS, a backward body lean may indicate negative meaning.

1.5.2.4. Spreading domain

Headshake in DGS typically spreads onto constituents preceding the predicate of a sentence, and strictly within the whole domain of predicative noun phrase [Syntax – Chapter 4] or verb phrase [Syntax – Chapter 2]. See DGS examples of neutrally negated sentences below where the headshake of a verbal predicates BUY and EAT spread to the direct object FLOWER and WILD-PIG.

- _____hs
 a. WOMAN IX_{3a} FLOWER BUY
 ‘The woman does not buy a flower.’

(adapted from Pfau 2008: 62)

- _____hs
 b. OBELIX WILD-PIG EAT_{ASP:PERF.}
 ‘Obelix does not eat wild pig.’

(adapted from Happ & Vorköper 2006: 371)

Headshake usually does not spread over subject constituents, but in cases where the subject is in the form of a pronoun the headshake can spread onto it. The same spreading pattern can be seen in conditional clauses [Syntax – Section 3.5.1] only when the part of the clause denoting consequence is negated. See DGS examples below for headshake spreading over the whole sentence.

- _____hs
 IX_{3a} FLOWER BUY
 ‘She does not buy a flower.’

(adapted from Pfau 2008: 62)

- _____cond:cons
 _____cond:ant _____neg
 IX₂ VOICE PRACTICE, (IX₂) INTERPRETER EXAM FAIL
 ‘If you practice voicing, you won’t fail the interpreting exams.’

(adapted from Happ & Vorköper 2006: 456)

Information on Data and Consultants

See the references below for information on data and consultants

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References

- Happ, Daniela & Marc-Oliver Vorköper. 2006. *Deutsche Gebärdensprache. Ein Lehr- und Arbeitsbuch*. Frankfurt: Fachhochschulverlag. (371-372), (456-457) – [1.5.2.4]
- Papaspyrou, Chrissostomos, Alexander von Meyenn, Michaela Matthaei & Bettina Herrmann. 2008. *Grammatik der Deutschen Gebärdensprache aus der Sicht gehörloser Fachleute*. Seedorf: Signum. (177) – [1.5.2.1]
- Pfau, Roland. 2008. The Grammar of Headshake: A Typological Perspective on German Sign Language Negation. *Linguistics in Amsterdam* 1. 37-74. (46-57) – [1.5.2.1] and (61-62) – [1.5.2.4]

Chapter 2. Clause structure

2.1 The syntactic realization of argument structure

2.1.1 Types of predicates

2.1.1.1 Transitive and ditransitive predicates

Transitive predicates select two arguments, typically an agent and a theme or patient. Ditransitive predicates take three arguments; a source, a theme, and a goal or recipient. The source is realized as the subject of the sentence, while the theme surfaces as the direct object and the goal/recipient as the indirect object. Ditransitives often encode a notion of transfer, which may be a physical transaction as in ‘give’, or a metaphorical one as in ‘teach’. Transitive and ditransitive predicates may show agreement with their arguments [[Syntax – Section 2.1.2.3](#)], so that the agent or source of a predicate is encoded through subject agreement and the theme (in transitives) or goal/recipient (in ditransitives) through object agreement. In the ditransitive example below, the verb agrees with its source argument MARIA and its recipient argument PETER. The transitive example (b) shows that not all verbs show agreement; neither the agent WOMAN nor the theme CAKE are indexed on the predicate.

- a. MARIA_{3a} PETER_{3b} CAKE_{3a} GIVE-AS-GIFT_{3b}
‘Mara gave Peter a cake as a gift’
- b. WOMAN CAKE SWEET BAKE
‘The woman baked a sweet cake.’

2.1.1.2 Intransitive predicates: unergative and unaccusative

Some predicates only take a single argument, yet we split these predicates into two subclasses based on the kind of argument they take. Unergative verbs typically take agentive arguments (a), while the arguments of unaccusative verbs are themes (b).

- a. SUMMER FLOWER BLOOM
‘In summer, flowers bloom.’
- b. DANIELA LAUGH_[intensive]
‘Daniela is laughing hard.’

Unergativity/unaccusativity correlates with language-specific morpho-syntactic properties, but we have yet to establish which properties mark the divide between unergative and unaccusative predicates in DGS.

2.1.1.3 Psychological predicates

Psychological predicates express a psychological state. They typically take two arguments: an experiencer, who has a psychological experience or mental state, and a stimulus, which triggers this state or experience. There are two types of psych predicates; the ones that realize the experiencer as subject (subject experiencer predicates) and the ones that realize the stimulus as subject (object experiencer verbs).

intensive

- a. IX₁ POSS₁ HUSBAND LOVE
'I love my husband very much.'
- b. EXAMPLE (to be added: object experiencer)

2.1.1.4 Meteorological predicates

Weather verbs form a special class of predicates in that they do not take an overt argument.

RAIN++
'It is raining heavily.'

2.1.1.5 Argument structure alternations

2.1.2 Argument realization

The arguments of a predicate can take various different forms, the most canonical of which are noun phrases (NP). Some verbs take whole clauses as arguments, and both NP and clausal arguments can be replaced by a pronoun.

2.1.2.1 Overt NPs

Arguments are most typically represented by noun phrases that occur in the subject position if they are agents and in the object position if they are patients. In the (a) example below, the NP APPLE consists of a common noun that forms the patient of the eating event and therefore occurs in the object position following the subject. However, this argument may also be realized in a non-argument position when it is fronted for information-structural purposes such as topicalization [Pragmatics – Section 4.2]. In

example (b), the theme NP BOOK IX3 is not in its argument position following DANIELA, but has been topicalized, which is marked by non-manual marking (raised eyebrows) over the entire argument NP.

- a. JOHN APPLE EAT
'John ate an apple.'

_____ top

- b. BOOK IX3, DANIELA WRITE
'As for the book, Daniela wrote (it).'

2.1.2.2 Pronouns

Another common realization of nominal or clausal arguments is the use of a pronoun. In the sentence pair below, the single argument of CHEAP is expressed as a pronoun which refers back to the full NP CAR IX3.

THOMAS CAR IX3 BUY. IX3 CHEAP.
'Thomas bought a car. It's cheap.'

2.1.2.3 Verb agreement

As hinted at in section 2.1.1.1, verb agreement [[Morphology – Section 3.1](#)] helps us detect which participants in an utterance are arguments of the predicate, because those can be indexed via agreement. We consider here both person and spatial agreement through manual and non-manual means.

2.1.2.3.1 Manual verb agreement

Both transitive and ditransitive predicates can show person agreement. The ditransitive verb GIVE-AS-GIFT below exhibits subject agreement with the agent MARIA and also agrees with its indirect object and recipient, PETER. Note that the theme argument CAKE is not indexed on the verb via agreement, but that the hand configuration of the predicate can be modified to represent differently shaped themes. Since it therefore encodes information about the theme, the hand configuration (sometimes referred to as handling classifier [[Morphology – Section 5.1.3](#)]) can be considered a form of agreement as well.

MARIA_{3a} PETER_{3b} CAKE _{3a}GIVE-AS-GIFT_{3b}
'Maria gave Peter a cake as a gift'

In contrast, the theme argument of a transitive verb can be indexed via agreement morphology.

IX₁ PETER IX₃ ₁VISIT₃

Some predicates are obligatorily signed on or near the body (they are body-anchored) and can therefore not show agreement with any of their arguments directly. DGS has an auxiliary form labeled PAM (person agreement marker) [Lexicon – Section 3.3.4] that can encode the animate subject and object of such plain verbs and thereby clarify who does what to whom.

MOTHER IX_{3a} NEIGHBOR NEW IX_{3b} LIKE _{3a}PAM_{3b}
'(My) mother likes the new neighbor.'

Spatial predicates are the second group of predicates that index their arguments through either their path movement (motion verbs) or their location (locative verbs). In motion verbs, the initial location corresponds to the source of movement and the final location to the goal.

GEORG STUTTGART_{3a} FRANKFURT_{3b} _{3a}DRIVE_{3b}
'Georg drove from Stuttgart to Frankfurt.'

Locative verbs agree with their location argument; LIE in the following example is signed in the location where TABLE previously been set up.

TABLE₃ BOOK LIE_{3-on}
'The book is lying on the table.'

2.1.2.3.2 Non-manual verb agreement

Non-manual marking may accompany manual agreement in DGS. Specifically, the signer's eye gaze is directed towards the location of the object in person agreement verbs and towards the locative argument in spatial verbs. In the example below, the signer looks down towards the end location of the verb FALL, where the theme is located at the end of the falling event.

eg:down

TABLE DOLL FALL
'The doll fell off the table.'

Eye gaze towards a participant is aligned with the production of the predicate sign and does not extend over the entire utterance. Signers gaze less at the locus of the arguments

of plain verbs, suggesting that this non-manual behavior is closely aligned with manual agreement.

2.1.2.4 Classifier handshape

The theme argument of a ditransitive verb can be referenced on the predicate with the help of a classifier handshape [Morphology – Chapter 5]/[Pragmatics – Section 2.2.2]. The hand configuration of the predicate CL-F:give ‘give a thin object’ in the example below indicates the handling of a thin or narrow object and thereby picks out a salient visual property of the direct object FLOWER.

MAN_{3a} POSS_{3a} WIFE_{3b} FLOWER_{3a} CL-F:give_{3b}
‘The man gave his wife a flower.’

2.1.2.5 Argument clauses

Sometimes, an argument of a verb can be an entire proposition or, in syntactic terms, an argument clause [Syntax – Section 3.3]. Clausal arguments can fill any of the major grammatical functions subject, direct object, and indirect object. In the following examples, the argument clauses are underlined. Subject argument clauses typically occur in the initial subject position, but only certain types of object argument clauses are realized in the center-embedded position between subject and predicate. Verbs like FORCE in (b) take infinitival clauses as their objects, which can be center-embedded. In contrast, finite object clauses as in (c) always occur after the predicate of the main clause.

- a. EXAMPLE OF SUBJECT CLAUSE WILL BE ADDED (Subject argument clause)
- b. IX₁ HANS WORM EAT FORCE
‘I forced Hans to eat a worm.’
- c. IX₃ SAY IX₂ HELP₃ MUST
‘He says that you must help him.’
- d. EXAMPLE OF INDIR. OBJ CLAUSE WILL BE ADDED

2.1.3 Argument structure changes

2.1.3.1 Extension of argument structures

Each verb comes with a set of obligatory participants that need to be expressed as arguments in the sentence. However, we can extend the basic argument structure of a

verb by adding an argument that carries a non-obligatory thematic role. For example, the verb CHAT in DGS requires at least an agent that does the chatting, but we can add a theme to chat about with the help of the specialized person agreement marker PAM-ABOUT [Morphology – Section 3.1.1].

IX₁ PAM-ABOUT₂ CAN CHAT
'We could chat about you.'

Another such agreement marker glossed PAM-FOR adds a beneficiary to verbs like BUY, which otherwise only take an agent and a theme:

IX₁ CAN PAM-FOR₂ BOOK BUY
'We can buy a book for you.'

Some predicates that describe a state or a change of state can be causativized using PAM as well. While PREGNANT by itself takes only a theme argument that is in the state of being pregnant, we can add a causer with the help of PAM:

IX₂ SUSI IX₃ PREGNANT PAM₃
'Did you get Susi pregnant?'

Classifier predicates that express a change of location may be causativized through the use of a handling classifier [Morphology – Section 5.1.3]. When the predicate describes a spontaneous change of location as in (a), its handshape represents the theme via a whole entity classifier.  represents the shape of the theme BOOK. To add a human causer to the argument structure of such classifier predicates, the whole entity classifier is replaced by a handling classifier like  in (b). By depicting how a human causer would handle an object like a book, such classifiers encode both their causer and their theme argument.

- a. TABLE₃ BOOK CL-:book-fall-off_a
'The book fell off the table.'
- b. MAN SHELF₃ BOOK CL-:put-book₃
'The man put the book on the shelf.'

2.1.3.2 Passive

In addition to extending the argument structure of a predicate it is also possible to reduce the number of arguments that have to be expressed. In the passive construction, the agent argument of a verb is backgrounded or demoted while the patient argument is promoted to the subject position. The reduction in argument structure is typically

marked through special passive morphology on the verb. While DGS is said not to have a syntactic passive construction, it can still use semantic and pragmatic strategies for foregrounding the patient argument of a predicate. The patient can be shown to be the central argument through a combination of eye gaze behavior, the direction of the movement of a predicate, and role shift. In the transitive sentence (a) below, the signer’s eye gaze is directed towards the point in space where IX_{3b} ‘he/she’ is set up and the verb shows subject and object agreement. In the (b) version, the signer’s gaze is directed downwards and the verb only agrees with its first person patient argument. The starting point of the verb is not associated with the locus of any participant.

_____ eg: 3b

- a. HEARING IX_{3a} ALSO THINK: IX_{3b} POSS₁ PARTNER _{3b}EXPLOIT₁
 ‘Hearing people also think: Is he/she exploiting me?’

_____ eg: down, then addressee

- b. DEAF WONDER₊₊: HEAR PARTNER EXPLOIT₁
 ‘(Some) deaf people wonder: Am I being exploited (by my hearing partner)?’
 (Hansen 2007:175)

2.1.3.3 Reflexivity

DGS does not have a designated reflexive pronoun. To express that the subject and direct object of a predicate have the same referent, the predicate can be produced on the signer’s body. In the following example, the predicate WASH is produced on the signer’s chest, encoding that the washer and the object that is washed are identical.

PETER WASH_{chest}
 ‘Peter is washing himself.’

In some cases, reflexivity can be marked with the person agreement marker PAM [Lexicon – Section 3.3.4]. In the next example, the fact that the dog loves himself is expressed by PAM agreeing with the object DOG. The pronoun SELF may further emphasize the co-referentiality of subject and object, but it is not a reflexive pronoun per se. Rather, it functions as a demonstrative relative pronoun (signed at the locus of its referent with the fingertip pointing upward).

_____ rs _____ hn _____ rs/intensive
 COUCH_{3a} THERE_{3a} POSS₁ DOG CL:lie-on_{3a}. IX_{3b} SELF_{+++3b} LOVE PAM_{3b} OTHER
 _____ hs
 DOG₊₊ LOOK-AT_{3b}

‘My dog is lying on the couch. He loves himself so much that he won’t even look at other dogs.’

2.1.3.4 Reciprocity

Reciprocal expressions describe a relation between two (or more) entities that are at the same time the agent and patient/goal of the action described by the predicate. To illustrate, the referents of THE-TWO-OF-US act on each other such that each of them both gives (agent) and receives (goal) flowers:

THE-TWO-OF-US FLOWER++ GIVE_[reciprocal]
‘We’re giving each other flowers.’

DGS has four different strategies for marking reciprocal relations. Which strategy is selected depends on handedness of the sign (one- versus two-handed), verb type (agreement versus plain), and dialectal variation. All four marking strategies involve the predicate rather than a reciprocal noun phrase or pronoun.

Two-handed agreement verbs such as HELP, EXPLAIN, or BORROW encode reciprocity through sequential backwards reduplication. The following example illustrates this type of reduplication of the verb for HELP: The hands first move from location x to location y, then both path and internal movement are reversed moving from y to x. Agreeing verbs without path movement are reduplicated with a change in orientation from the location of one argument to that of the other.

INSERT ABB. 6
‘We help each other.’

(Steinbach & Pfau 2007: 77)

One-handed agreement verbs GIVE, KISS, and EMAIL also use backwards reduplication to mark reciprocal relations. However, instead of repeating the predicate sequentially, reduplication happens simultaneously on the non-dominant hand. The hand configuration of the dominant hand is copied onto the non-dominant hand and both move in opposite directions from x to y and from y to x, respectively:

INSERT ABB. 8
‘We give each other flowers.’

(Steinbach & Pfau 2007: 79)

Two strategies are used to indicate reciprocity on plain predicates that cannot show agreement (e.g. TRUST, SEARCH, UNDERSTAND). Signers of one DGS variety consistently drop the object of a plain reciprocal verb, effectively creating an intransitive sentence.

INSERT ABB. 11a
'We trust each other.'

(Steinbach & Pfau 2007: 80)

In a second variety of DGS, signers mark reciprocal relations with the help of the person agreement marker PAM [Lexicon – Section 3.3.4]. Though one-handed, PAM is realized with sequential backwards reduplication such that the dominant hand first moves from x to y and then reverses from y to x.

INSERT ABB. 12
'We trust each other.'

(Steinbach & Pfau 2007: 80)

Intrinsically reciprocal verbs such as MEET, ARGUE, SHAKE-HANDS, and DISCUSS do not use any form of reduplication.

As mentioned earlier, reciprocal situations can include more than two participants. To express that several participants act on each other, randomized reduplication is used: The predicate movement is repeated multiple times in random directions. Whether the reduplication occurs simultaneously or sequentially or with the help of PAM depends on verb type, handedness, and variety of DGS.

INSERT ABB. 14a
'They help each other.'

(Steinbach & Pfau 2007: 82)

2.1.4 Non-verbal predication

2.1.4.1 Copular constructions

Adjectival phrases and noun phrases can serve as predicates as well as verb phrases. In the examples below, the property SMALL is claimed to hold of the dog and the property of being a teacher is predicated of the referent IX₃ 'he'. Note that a non-verbal predicate and its subject are simply juxtaposed, there is no need for a verbal predicate or auxiliary verb to relate the two parts of the utterance.

- a. DOG IX₃ SMALL
'The dog is small.'
- b. IX₃ TEACHER
'He is a teacher.'

2.1.4.2 Secondary predication

A single DGS clause can contain more than one predicate. We distinguish between depictive and resultative secondary predicates: Depictives are typically adjectival and describe a property that holds of the subject or object of sentence while the main event unfolds. In (a) below, the subject IX₃ ‘he’ is naked throughout the event of hammering on the piece of metal while the woman in (b) washes the dishes while pregnant. The fact that she is pregnant throughout the event is emphasized by a role shift into her perspective: PLATE and WASH are signed with the hands held far out from the body as if to accommodate a pregnancy belly. The depictive predicate follows the subject and precedes the object. It does not seem to form part of the subject noun phrase, which is represented by a pronoun.

- a. IX₃ NAKED METAL HAMMER METAL FINISH
‘He hammered the metal naked.’

rs:woman

- b. IX₃ PREGNANT PLATE WASH FINISH
‘She washed the plate pregnant.’

In addition to depictives, DGS has resultative secondary predicates. They occur adjacent to the primary predicate, either preceding it or following it:

- a. IX₂ SPOON IX₃ FLAT₃ HAMMER₃ CAN
‘You can hammer the spoon flat.’

wh

- b. SPOON IX₃ HAMMER FLAT WHO
‘Who hammered the spoon flat?’

In contrast to depictives, resultatives do not describe a property that holds throughout the event described by the verb but one that comes about as the result of the verbal action. The spoon in the examples above was not flat at the beginning of the hammering event but it comes to have this property as a result of hammering. Note that resultative predicates hold of the object of the sentence rather than the subject.

In the examples provided so far, the resultative predicate holds of an argument that is also selected by the verb, but this is not necessarily the case. Below, you see that the argument FRIDGE is selected by EMPTY but not by EAT, since it is not the fridge that is eaten but its contents (which is left unexpressed in this sentence).

- IX₂ FRIDGE EMPTY_{fridge} EAT MAY-NOT
‘You may not eat the fridge empty.’

The resultative construction allows most combinations of primary and secondary predicates, but at least in cases where the secondary predicate precedes the primary one, a durative verb (e.g. BEAT++) cannot be combined with a non-gradable adjective (e.g. DEAD).

2.1.5 Existentials and possessives

2.1.5.1 Possessives

Existence and possession are closely related concepts and it is therefore not surprising that DGS uses the same sign DA ‘there’ for both existential and possessive constructions. DA relates a possessor to its possessum and may either precede or follow the possessum.

- a. PROFESSOR DA DICTIONARY
‘The professor has a dictionary.’
- b. PROFESSOR DICTIONARY DA
‘The professor has a dictionary.’

The possessive predicate may show agreement with the possessor:

DA₁ SHOE^{CL}:shoehorn
‘I have a shoehorn.’

In some varieties of DGS, DA expresses alienable possession such as in the examples above along with inalienable possession such as body parts, diseases, or family members (kinship terms).

- a. TEACHER DA NOSE
‘The teacher has a nose.’
- b. DA₁ SNIFFLES
‘I have the sniffles.’

Other varieties of DGS have a designated marker for alienable possession glossed SCH, while DA is reserved for inalienable possession:

SCH₁ CAR
‘I own a car.’

Like many other sign languages, DGS uses suppletive negation in possessive and existential constructions. Instead of using the sentential negator NICHT or a negative headshake by itself, the form of the possessive predicate indicates negation. The suppletive negative is glossed HAB-NEG and is accompanied by the lexical non-manual ‘phh’.

_____ [ϕ]

TIM DOG HAVE-NEG
 ‘Tim doesn’t have a dog.’

2.1.5.2 Existentials

Existential constructions express that an entity exists or exists in a particular location. The sign DA is used for both possessive and existential constructions. In existentials, it can occur before or after the entity whose existence is asserted:

- a. ZEILGALERIE DA CAFÉ SUPER
 ‘There’s a great coffee shop at Zeilgalerie.’
- b. IX₂ CAR DA
 ‘You have a car with you.’

DGS has two means for negating an existential construction. On the one hand, the suppletive negative existential is formally identical to the negative possessive:

_____ [ϕ]

ZEILGALERIE IX₃ CAFE SUPER HAVE-NEG
 ‘There’s no great coffee shop at Zeilgalerie.’

On the other hand, the sign kein ‘no(ne)’ can be used:

- a. SEMINAR[^]ROOM IX₃ STUDENT NONE
 ‘There are no students in the seminar room.’
- b. MARC-OLIVER₃ POSS₃ CLOTHES[^]CL:wardrobe IN CLOTHES NONE
 ‘There are no clothes in Marc-Oliver’s wardrobe.’

2.2. Grammatical functions

2.2.1. Subject and object identification

2.2.1.1. Specific position(s) for subject and object

2.2.1.2. Special anaphoric properties for subject and object

2.2.1.3. Strategies of pronoun copying for subject and object

2.2.1.4. Null arguments for subject and object

2.2.2. Other grammatical functions: arguments vs. adjuncts

2.2.3. Types of adjuncts

2.3. Word order

2.3.1. Identification of the basic order of constituents in the main declarative clause

2.3.1.1. Order of subject, object and verb

2.3.1.2. Order of auxiliaries (i.e. agreement, tense and aspectual markers) with respect to the verb

2.3.1.3. Order of modals with respect to the verb

2.3.1.4. Order of negation with respect to verb, modals and auxiliaries

2.3.1.5. Order of arguments of ditransitive verbs

2.3.1.6. Position for different types of adverbs and adjuncts

2.3.2. Basic order of constituents in other clauses

2.3.2.1. Basic order in the different types of sentence

2.3.2.2. Basic order in the different types of subordinate clauses

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2.4. Null arguments

2.4.1. Subject and object null arguments

2.4.1.1. Null subjects

2.4.1.2. Null objects

2.4.2. Types of verbs that can license null subjects

2.4.3. Null subjects in main clauses

2.4.4. Null arguments in embedded clauses

2.4.5. Pragmatic and semantic conditions licensing null arguments

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2.5. Clausal ellipsis

2.6. Pronoun copying

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2.6.2. Syntactic properties of pronoun copying

2.6.2.1. Possible subject-object asymmetry in pronoun copying

2.6.2.2. Position of the copying pronoun

2.6.3. Prosodic features of pronoun copying

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Information on Data and Consultants

With the exception of subsection 2.1.4.2, the descriptions in [Section 2.1.1.1-2.1.5.2] are based on the references below. Please see the data and consultant information in these references. The consultants who provided the data for [Section 2.1.4.2] were native or near-native (exposed by age four) signers of DGS who participated in translation and acceptability judgment tasks.

Authorship Information

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References

- Erlenkamp, Sonja. 2012. Syntax: Aus Gebärden Sätze bilden. In H. Eichmann, M. Hansen & J. Heßmann (eds.), *Handbuch Deutsche Gebärdensprache.*, 165-198. Seedorf: Signum. (169) – [2.1.4.1]
- Hansen, Martje. 2007. *Warum braucht die deutsche Gebärdensprache kein Passiv?: Verfahren der Markierung semantischer Rollen in der DGS.* Frankfurt am Main: Lang. (442-445) – [2.1.3.2]
- Happ, Daniela & Marc-Oliver Vorköper. 2006. *Deutsche Gebärdensprache: Ein Lehr- und Arbeitsbuch.* Frankfurt a.M.: Fachhochschulverlag. (83-122; 129-205; 251-304; 375-80) – [2.1]
- Hosemann, Jana. 2011. Eye gaze and verb agreement in German Sign Language: A first glance. *Sign Language & Linguistics, Special Issue* 14(1). 76-93. <https://doi.org/10.1075/sll.14.1.05hos> [2.1.2.3.2]
- Keller, Jörg. 1998. *Aspekte der Raumnutzung in der Deutschen Gebärdensprache.* Seedorf: Signum. (442-445) – [2.1.3.3]
- Loos, Cornelia. (2017). The syntax and semantics of resultative constructions in Deutsche Gebärdensprache (DGS) and American Sign Language (ASL). Texas: University of Texas at Austin dissertation. [2.1.4.2], [2.1.2.5]
- Mehling, Karin. 2010. *Heute hier, morgen dort - Deixis und Anaphorik in der Deutschen Gebärdensprache.* Nördlingen: Ludwig-Maximilians-Universität München Doctoral dissertation. (104) – [2.1.3.3]
- Pfau, Roland & Markus Steinbach. 2005. *Relative clauses in German Sign Language: Extraposition and reconstruction.* Paper presented to the Proceedings of NELS, 2005. (516) – [2.1.2.5]
- Steinbach, Markus & Roland Pfau. 2007. Grammaticalization of auxiliaries in sign languages. In P. Perniss, R. Pfau & M. Steinbach (eds.), *Visible Variation: Comparative Studies on Sign Language Structure.*, 303-340. Berlin: Mouton de Gruyter. <https://doi.org/10.1515/9783110198850.303> [2.1.2.3.1]

Chapter 3. Coordination and subordination

Sentences can be classified according to their internal complexity. A sentence is simple when it consists of a single independent clause while it is complex when it consists of a main and a subordinate clause or of two (or more) coordinate clauses. The main difference between subordination and coordination is that coordinated clauses have the same status while the main clause and the subordinated one do not.

For example, two clauses that form a coordinated sentence (a) might be used as independent sentences. Furthermore, changing the order of the clauses does not have an influence on the meaning. In contrast, subordination is a syntactic mechanism by which a clause becomes dependent on another one (b). See the examples below.

- a. MARC JUICE DRINK, LISA BREAD EAT.
'Marc drinks juice and Lisa eats bread.'
- b. EMMA BELIEVE: TIM NEVER SIGN LANGUAGE LEARN
'Emma believes, that Tim will never learn sign language.'

3.1. Coordination of clauses

Coordination generally involves the combining of two (a) or more (b) constituents of the like categories. Examples of coordination in DGS are as follows.

- a. BOOK THICK, INTERESTING
'The book is thick and interesting.'
- b. MARC JUICE DRINK, LISA BREAD EAT, TIM CHEESECAKE BAKE.
'Marc drinks juice, Lisa eats bread and Tim bakes cheesecake.'

3.1.1 Types of clausal coordination

Conjunction refers to combining at least two constituents through the use of conjunctions such as *and*, *but*, and *or*. There are three main types of conjunction: adversative conjunction (corresponding to the use of conjunction *but* (*aber*)), disjunctive conjunction (corresponding to the use of conjunction *or* (*oder*)), and conjoined conjunction (corresponding to the use of conjunction *and* (*und*)). Juxtaposition, on the other hand, refers to the coordination of constituents without such conjunctions. In DGS morphosyntactic devices, such as conjunctions or complementizers, are generally not obligatory.

Juxtaposition may be the preferred option for conjunctive coordination signaling simultaneous and sequential events in a sign language. The DGS examples below illustrate the juxtaposition of clauses to represent simultaneous (a) and sequential (b)

events, respectively. The sequential version can be added through the sign THEN (DANACH), but this sign is not obligatory. See examples below.

- a. BOOK THICK, INTERESTING
'The book is thick and interesting.'
- b. SUSAN TRAIN BOARD, (THEN) SEAT TAKE
'Susan boarded the train and then took a seat.'

An enhanced function of *and* can be realized by the sign IN ADDITION (DAZU) like in the example below.

BOOK INTERESTING, IN ADDITION INSTRUCTIVE.
'The book is interesting and (in addition) instructive.'

DGS has the overt lexical marker *but*, but mostly this sign is used simultaneously with non-manual marker brow raise like in the example below.

_____ br

IX_{3a} EXAMINATION LEARN WANT, BUT BOOK ARRIVE NOT YET
'I want to learn for the examination, but the book did not arrive yet.'

Instead of using an overt conjunction, juxtaposition and non-manual marking are primarily adopted. For DGS it is also not obligatory to incorporate conjunctions or complementizers. Constituent boundaries are further marked by a change of non-manuals like facial expression, head position, eye gaze direction, or eye blinks. A different set of non-manuals may be employed to mark the different types of coordination and their spreading domain may vary accordingly.

Juxtaposition appears to be more common than coordination involving manual conjunctions. In DGS, conjuncts are usually coterminous with a pause and a non-manual marker head nod, indicating a constituent boundary. Also, non-manuals head turn or body leans interact with the types of coordination. In DGS the most frequent way to mark coordination is by means of non-manual markers.

3.1.2 Coordination by manual markers

3.1.2.1. Manual markers of coordination

3.1.2.1.1. Manual markers in conjoined coordination

3.1.2.1.2. Manual markers in adversative coordination

3.1.2.1.3. Manual markers in disjunctive coordination

3.1.2.2. Position of manual markers of coordination

3.1.2.2.1. Position of manual markers in conjoined coordination

3.1.2.2.2. Position of manual markers in adversative coordination

3.1.2.2.3. Position of manual markers in disjunctive coordination

3.1.2.3. Optionality or obligatoriness of manual markers of coordination

3.1.2.3.1. Optionality/obligatoriness of manual markers in conjoined conjunctions

3.1.2.3.2. Optionality/obligatoriness of manual markers in adversative conjunctions

3.1.2.3.3. Optionality/obligatoriness of manual markers in disjunctive conjunctions

3.1.3 Coordination by non-manual markers

3.1.3.1 List of non-manual markers of coordination

3.1.3.1.1. Non-manual markers in conjunctive coordination

3.1.3.1.2. Non-manual markers in disjunctive coordination

3.1.3.1.3. Non-manual markers in adversative coordination

3.1.3.2. The spreading domain of non-manual markers of coordination

3.1.3.2.1. Spreading domain of non-manual markers in conjunctive coordination

3.1.3.2.2. Spreading domain of non-manual markers in disjunctive coordination

3.1.3.2.3. Spreading domain of non-manual markers in adversative coordination

3.1.4 Properties of coordination

3.1.4.1. Extraction

A property of coordinated clauses is related to extraction, that is, movement of a constituent to the left edge or to the right edge of the sentence. Typical cases of extraction are movement of wh-phrases and topics.

- a. EXAMPLE (to be included)
- b. EXAMPLE (to be included)

3.1.4.2. Gapping

Gapping is a type of ellipsis, where a verb of a conjunct can be elided or *gapped* under conditions of identity with the verb in the other conjunct. Gapping is possible in DGS, if the structure is a coordination of at least two clauses and if plain verbs are used.

It has been established that word order [Syntax – Section 2.3]. may determine whether the gapped verb can be in the first or in the second conjunct. More specifically, in languages with SVO and VSO order, the elided verb is obligatory in the second conjunct (i, iii), while in languages with SOV order gapping occurs strictly in the first conjunct (ii). In languages with free word order Forward Gapping as well as Backward

	Basic word order	Gappingdirection	Word order
(i)	SVO	Forward Gapping	SVO+SO
(ii)	SOV	Backward Gapping	SO+SOV
(iii)	VSO	Forward Gapping	VSO+SO
(iv)	Free word order	Forward Gapping / Backward Gapping	Free word order

Gapping is possible (iv).

Gapping in DGS occurs if the structure is a coordination of two clauses, in one clause under conditions of identity with the verb of the other clause. In DGS, plain verbs allow gapping in both directions: Forward Gapping (a) and Backward Gapping (b).

- a. GRANDMOTHER NUT EAT, GRANDFATHER SPINACH ~~EAT~~
'The grandmother eats a nut and the grandfather ~~eats~~ spinach.'
- b. GRANDMOTHER NUT ~~EAT~~, GRANDFATHER SPINACH EAT
'The grandmother ~~eats~~ a nut and the grandfather eats spinach.'

3.1.4.3. Scope

3.1.4.3.1. Scope of negation

3.1.4.3.2. Scope of yes/no questions

3.2. Subordination: distinctive properties

3.2.1. Subject pronoun copy

3.2.2. Position of question signs

3.2.3. Spreading of non-manual markers

3.2.4. Interpretation of embedded negation in the matrix clause

3.3. Argument clauses

3.3.1. Subject clauses

3.3.1.1. Position(s) within the matrix clause

3.3.1.2. Special non-manual markers

3.3.1.3. Tense and aspectual marking

3.3.1.4. Anaphoric relations

3.3.1.5. Null arguments

3.3.2. Object clauses

3.3.2.1. Verbs taking object clauses

3.3.2.2. Position(s) within the matrix clause

3.3.2.3. Factivity

3.3.2.4. Special non-manual markers

3.3.2.5. Tense and aspectual marking

3.3.2.6. Anaphoric relations with the main clauses arguments

3.3.2.7. Occurrences of null arguments

3.3.3. Role Shift

One specific embedded structure in DGS is the modality-specific phenomenon of role shift. The body, the head and facial expressions are used to take over the role of another character to report or express what has been said or done. Along a continuum, DGS differentiates between attitude role shift, reporting utterances or thoughts of others, and action role shift, imitating the action of other referents [Pragmatics – Chapter 6].

3.3.3.1. Markers of role shift

The non-manual markers to indicate a role shift in DGS may comprise a shift of the body along the midsagittal axis according to the location of the subject or referent in the signing space and a head turn as well as a shift of the eye gaze towards the imagined addressee of the reported context. In the example below, 3a< >3b indicates the scope of the role shift marking consisting of a shift in the body and a head turn and a break in the eye gaze away from the actual addressee. Example (a) includes a yes-no interrogative marking (i.e., raised eye brows and head forwards) and example (b) shows an embedded declarative.

$$\begin{array}{ccc} 3a < & & > 3b \\ \hline & & & y/n \end{array}$$

- a. TIM IX_{3a} ANNA IX_{3b} ASK: IX₂ SAD IX₂
‘Tim asked Anna whether she is sad.’

$$3a < \text{-----} > 3b$$

- b. TIM IX_{3a} ANNA IX_{3b} SAY: TOMORROW₁ HELP₂
‘Tim said to Anna that he will help her tomorrow.’

(Herrmann & Steinbach 2012: 211)

Facial expressions may also adapt to specifications of the addressee and to express the grammatical as well as affective facial expressions of the reported character. Ranking the non-manual markers for role shift, the break in eye gaze along with facial expressions are the minimal markings of a role shift, followed by the adjustment of the head position and optionally also the movement of the body, resulting in a maximal marking including all of the non-manual markers. The non-manuals usually scope over the entire embedded clause or gradually increase along with the embedded sentence, developing throughout the quotation with the strongest marking found sentence finally.

3.3.3.2. Integration of the role shifted clause into the main clause

The matrix clause and the embedded role shift clause are prosodically integrated and DGS exhibits maximum a very short prosodic break between an overt matrix clause and the role shifted part to indicate that they are linked and not two separated sentences. In addition, the non-manual markers of the role shift may already start on the verb of the matrix clause. An example is provided below with the verb ASK.

EXAMPLE (role shift with ASK)

3.3.3.3. Syntactic contexts introducing attitude role shift

The embedding of a role shifted clause in DGS may include a matrix clause with referents and an overt verb of saying, as in the example below.

3a< _____ >3b

YESTERDAY PETER IX_{3a} SAY: TOMORROW IX₁ ARRIVE
 ‘Yesterday Peter said that he will arrive tomorrow.’

(Herrmann & Steinbach 2012: 211)

Typically, the DGS signs SAY, TELL, ASK, ANSWER, THINK and WONDER are used in this context. If referents are established in the signing space, an overt verb of saying (point of view predicate) is not always necessary, as in the example below.

3b< _____ >3a

_____ fe, eg, hp, bl

_____ neg _____ neg

IX_{3b} E. IX_{3b} MOTHER IX_{3a}: E. IX_{3b} HEY IX₁ LIKE IX_A STAY PLAY WISH

(Herrmann & Steinbach 2012: 215)

Furthermore, a matrix clause can even be left empty if locative association to the referents is clear in discourse. The non-manuals of the role shift alone indicate who is quoted and to whom the quote is directed.

3.3.3.4. Special signs introducing action role shift

To introduce an action role shift in DGS, either establishing the referents in signing space or establishing a certain body posture and non-manuals along with the nominal introduction of the referents allow for an embedded interpretation of the following action role shift when taking over the role by the role shift non-manuals and imitating

the facial expressions of the characters. In DGS signing, full noun phrases, names of the referents, pronouns or ellipsis may be used to introduce an action role shift.



Example of A-RS with no matrix clause introduction while switching from hare to tortoise

(Herrmann & Pendzich 2018: 291)

3.3.3.5. Syntactic differences between action role shift and attitude role shift

In DGS, both action role shift and attitude role shift can be placed on a continuum of the same phenomena (role shift), they are similarly marked and can both either be embedded in a full matrix clause or can be embedded via the non-manuals alone if the locations of the referents and the characters are clear. Action role shift interplays much more with gesture and demonstrates actions, not necessarily as syntactically constraint as clauses and the word order in attitude role shift need to be.

3.4 Relative clauses

Various types of relative clauses are attested for DGS. Typical restrictive relative clauses are formed with a sentence-initial relative pronoun that agrees with the head noun in its spatial modification. In addition, DGS has restrictive and non-restrictive relative clauses.

3.4.1. Type of relative clause

DGS belongs to the class of languages which use postnominal head-internal relative clause, that is, the relative clause follows the head noun it modifies and it is introduced by a relative pronoun occupying the sentence initial position. This is illustrated by the following example. The head noun BOOK precedes the relative clause RPRO-NH₃ POSS₁ FATHER READ. The relative pronoun RPRO-NH [Lexicon – Section 3.7.6] appears in sentence-initial position. In addition, the relative pronoun is accompanied by non-manual marker, typically raised eyebrows (on non-manuals, see [Syntax – Section 3.4.6]).

_____ re
[BOOK (IX₃) [RPRO-NH₃ POSS₁ FATHER READ]_{CP}]_{DP}
'the book which my father is reading'

(Pfau & Steinbach 2005: 512)

Relative clauses can modify subjects and objects of the matrix clause. In addition, the relative pronoun itself can receive different grammatical functions in the relative clause, that is, we find the following combinations of grammatical role assignment:

- a. head noun: subject relative pronoun: subject
- b. head noun: subject relative pronoun: object
- c. head noun: object relative pronoun: subject
- d. head noun: object relative pronoun: object

Irrespective of the grammatical function the relative pronoun receives, it always occupies the sentence-initial position of the relative clause, i.e. relative clauses involve movement of the relative pronoun. This movement to the sentence-initial (topic) position is marked by the non-manual marker raised eyebrows as illustrated in the example above. Topic marking (i.e. marking of constituents that have been moved to the sentence-initial position) is one of the main function of raised eyebrows.

3.4.2. Presence or absence of a relativization sign

Relative clauses in DGS are introduced by a relative pronoun. Like personal pronouns in DGS, the relative pronoun agrees with the R-locus of the head noun, which can be introduced either by the overt pointing sign IX or by a default rule [Pragmatics – Section 8.1.1] / abstract space. In the example above, the head noun is linked to a R-locus on the horizontal plane of the signing space (i.e. ‘3’). Consequently, the relative pronoun is directed towards the same R-locus, i.e. RPRO-NH₃. DGS also seems to have reduced relative clauses without relative pronouns.

3.4.2.1. List of relativization signs

DGS uses various relativization signs. The most common sign is the relative pronoun RPRO-NH_X, which is a grammaticalized form of the pointing sign IX_X. In addition, a special relative, i.e. RPRO-NH_X, for reference to human discourse referents is used in DGS

[Syntax – Section 3.4.2.1.1]. In certain context, the indexical sign PERSON_X may also be used in relative clauses modifying head nouns that refer to human entities.

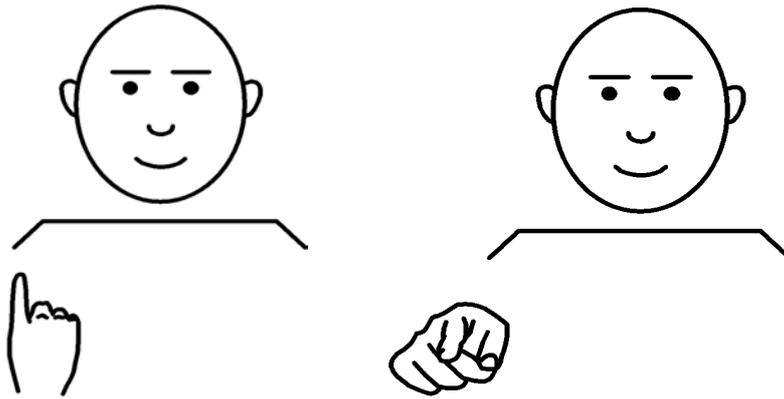
3.4.2.1.1. Human/non-human specificity of the relativization sign

In DGS, two different relative pronouns are used to modify nouns referring to human and non-human discourse referents. RPRO-NH is used in relative clauses modifying head nouns referring to non-humans. By contrast, the second relative pronoun RPRO-H is used to modify head nouns such as MAN in the example below that refer to humans. Note that ‘H’ stands for ‘human’ and correspondingly ‘NH’ for ‘non-human’. Like RPRO-NH, RPRO-H also agrees with the R-locus of the head noun as indicated by the subscript in the example below.

_____re
[MAN (IX₃) [RPRO-H₃ CAT STROKE]_{CP}]_{DP}
‘the man who is stroking the cat’

(Pfau & Steinbach 2005: 512)

The two different signs used as relative pronouns differ in their handshape. The relative pronoun used for human discourse referent is produced with the classifier handshape for humans (left picture). The relative pronoun used for non-humans is morphologically identical with the pointing sign IX (right picture).



RPRO-H

RPRO-NH

3.4.2.1.2. Singular/plural specificity of the relativization sign

3.4.2.2. Position of the relativization sign

3.4.2.3. Optionality or obligatoriness of the relativization sign

3.4.3. Position of the noun phrase with the relative clause within the matrix clause

3.4.4. Subject vs. object relativization

3.4.5. Displacement of relative clauses

Displacement of relative clauses is possible in DGS. Relative clauses typically follow the head noun they modify, i.e. they are right-adjacent to the head noun (example a below). In many cases, the head noun together with the relative clause occupies the sentence initial position of the main clause (example b). However, in certain contexts, the relative clause may be extraposed to the sentence-final position (example c). Note in this case, the relative clause is separated from the head noun it modifies. While the relative clause moves to the right edge of the main clause (movement is indicated by the trace 't' and the index 'i'), the head noun stays in situ. The syntactic position of extraposed relative clauses is similar to the syntactic position of extraposed complement clauses.

- a. $IX_1 [MAN [RPRO-H_3 CAT STROKE]_{CP}]_{DP} LIKE \textit{ }_1PAM_3$
re
- b. $[BOOK [RPRO-NH_3 POSS_1 FATHER READ]_{CP}]_{DP/i} IX_1 \mathbf{t}_i KNOW$
- c. $IX_1 [MAN IX_3 \mathbf{t}_i]_{DP} LIKE \textit{ }_1PAM_3 [RPRO-H_3 CAT STROKE]_{CP/i}$
 'I like the man who is stroking the cat.'

3.4.6. Special non-manual marking

3.4.6.1. List of non-manual markers

Relative clauses are accompanied by brow raise, mouth gesture and body lean. All non-manuals may either accompany the relative pronoun only or spread over the whole relative clause.

3.4.6.2. The spreading domain of each non-manual marker

3.4.7. Restrictive vs. non-restrictive relative clauses

Among non-restrictive relative clauses, appositive clauses seem to be either indicated by a prosodic break before and after the relative clause and a short head nod on the relative clause. Alternatively, they may be introduced by manual connector such as, for example, *THUS*.

3.5. Adverbial clauses

3.5.1. Conditional clauses in DGS

A semantic subclass of adverbial clauses is the conditional clause. A conditional clause expresses a condition that can be fulfilled or not fulfilled in reality (factual conditional (a)). In other cases this clause construction convey a fulfilment (counterfactual conditional), which is impossible to reverse (b). In DGS the conditional clauses are always composed of an antecedent (ant), which enunciate the condition and precedes the consequence (cons), which shows the result (a).

_____ant _____cons
_____re,hn

- a. IF WEATHER TOMORROW GOOD : IX₁ OUTSIDE WALK
'If the weather tomorrow is good, I will take a walk outside.'

_____re, hn, sq

- b. IF IX₁ LAST CARD PUT_{CL:PLAYING CARD} CAT : MEAN IX₁ GET_{CL:CARD STACK}
'If my last card is a cat, I get the stack of cards. '

3.5.1.1. The role of non-manual markers in conditional sentences

In DGS the most common non-manuals to mark conditional clauses are raised eyebrows and a head movement. They spread over the antecedent and are mandatory. Other non-manuals such as eye gaze and body shift can also appear on antecedent and change in the consequence (eye gaze down to up, body lean from forward to backward). The consequence is often accompanied by a neutralized facial expression or a contrary movement of non-manuals occurring on the antecedent (head tilt downwards to head upwards, body loan from right to left). Antecedent and consequence are separated by a short pause and frequently by an eye blink. Manual signs used to introduce the antecedent or the consequent are optional.

3.5.1.2. Factual conditionals

In factual conditionals, the fulfilment of the condition is seen as a realistic possibility. The following is an example of a factual conditional from DGS.

_____re, hn

- IF WEATHER TOMORROW GOOD : IX₁ OUTSIDE WALK
'If the weather tomorrow is good, I will take a walk outside.'

3.5.1.2.1. Non-manual markers and their properties in factual clauses

The non-manual markers of factual clauses in DGS are raised eyebrows and a head movement, mostly a head nod and sometimes a head tilt. The head nod/tilt as a prosody feature over the verb signals the end of an antecedent. The change from an antecedent to a consequence is marked regularly by a short pause and an eye blink.

3.5.1.2.2. Manual conditional signs in factual conditionals

There are a few optional signs, which can introduce an antecedent in DGS-conditional clauses. These are: IF1 and IF2. IF1 is a former phonetic-manual supporting sign used in German deaf education system for the phoneme /n/. IF2, used simultaneously with two hands and the lexical mouthing 'pf', is another antecedent sign of 'if' and semantically close to the meaning of SUDDENLY, 'suddenly', in DGS. This sign is a product of a grammaticalization process.

Optional signs for the consequence are THEN 'then' and MEAN 'mean'. The sign THEN marks the beginning of a consequence, which has sometimes a temporal character. Another sign for the consequence is MEAN (double tipping of the thumb and the index finger) and it suggests a result.

The non-compulsory signs for an antecedent:

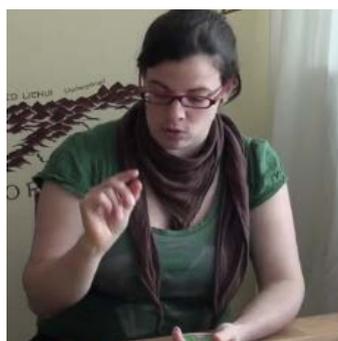


a. IF1 *wenn* ('if')



b. IF2 *wenn* ('if')

Even for the introduction of a consequence in DGS it's possible to use the following signs, also non-compulsory:



3.5.1.3.1. Non-manual markers and their properties in counterfactual conditionals

To express a counterfactual conditional all the non-manuals from a factual conditional are to combine. These include raised eyebrows and head movements as well as other non-manuals. Verbs in DGS do not have tense markers [Syntax – Section 3.2.]. The past tense (also in counterfactual conditionals) is shown by the use of temporal adverbs such as YESTERDAY, LAST-WEEK, RECENTLY at the clause initial position. The signer has in mind other assumptions, which contradict the assumption expressed in the antecedent while signing a counterfactual clause.

Though as a visual-manual language there are other additional facial expressions that suggest these assumptions of the signer and indicate the counterfactual conditionality. These are the squint and the mouth gesture with corners down. The squint is a non-manual sign for this form of a conditional, which spread mostly over the antecedent with raised eyebrows and head nod. The mouth gesture c-down (mouth corners down) signalizes often with the raised brows and the optional manual sign IF1 or IF2 a counterfactual conditionality and spreads over the antecedent, too.



- a. A squint, together with IF1-sign, raised eyebrows and head nod.



- b. The mouth gesture c-down (mouth corners down) with manual sign IF1.

3.5.1.3.2. Manual conditional signs in counterfactual conditionals

There is a manual sign to indicate a counterfactual conditional in the antecedent in DGS. This is IMAGINE ‘imagine’ and often followed with raised eyebrows and a head nod. It is also optional and the additional application of IF1 or IF2 is unnecessary.



IMAGINE *vorstell* (‘imagine’)

3.5.1.3.3. Order of the components of the counterfactual conditional clause

Counterfactual conditions just like factual conditionals follow a strict order of clauses. That antecedent, which is a subordinate clause, follows consequence, which is the main clause [[Syntax – Section 3.5.1.2.3.](#)].

In some cases, it is not easy to differentiate between factual and counterfactual conditional clause. In these cases, the context, in which this clause is embedded, helps to set the two types of clauses apart. If the context has happened in the past, conveyed by a previous clause with a temporal adverb or with a discourse in the past before, so this could lead to interpret a counterfactual conditional. And/or for the interpretation of a counterfactual conditional is used to observe the signer’s epistemic modality. This addresses what is known and believed and indicates how much certainty or evidence the signer has for his utterance [[Syntax – Section 3.3.3.2.](#)].

3.5.1.4. Concessive conditionals

3.5.1.4.1. Non-manual markers and their properties in concessive clauses

3.5.1.4.2. Manual conditional signs in concessive conditionals

3.5.1.4.3. Order of the components of the concessive conditional clause

3.5.1.5. Non-predictive/peripheral conditionals

3.5.1.5.1. Non-manual markers and their properties in non-predictive/peripheral conditionals

3.5.1.5.2. Manual conditional signs in non-predictive/peripheral conditionals

3.5.1.5.3. Order of the components of the non-predictive/peripheral conditional clause

3.5.1.6. Other conditional constructions

Some clauses that usually start with the manual sign FOR-EXAMPLE ‘for example’ may have conditional reading. Because this sign denotes a discourse of exemplification. That means in this case the clause might be hypothetical, because the antecedent is an example and later it can be fulfilled or not. This ‘example’ is an affirmative idea/argument and has to be verified in the context (discourse function). The movement of this sign is: the back of one’s hand tips twice the palm of the other hand.



FOR-EXAMPLE, *zum Beispiel* (‘for example’)

An exemplification’s example in DGS can be seen below.

FOR-EXAMPLE IX₂-DUAL PUT₁-CL:CARD CHEESE IX₂ PUT₂-CL:CARD : FORWARD PLAY [...]
‘If we take turns and I might play a cheese card, you might play one as well, then we just keep on playing cards, [...].’

This antecedent sign can also be followed with the typical conditional non-manuals as raised eyebrows, head or/and body movements.

3.5.2. Temporal clauses

3.5.2.1. Internal structure of temporal clauses

3.5.2.2. Manual signs marking subordination in temporal clauses

3.5.2.3. Other markers of subordination in temporal clauses

3.5.2.4. Non-manual markers in temporal clauses

3.5.2.5. Position of the temporal clause with respect to the main clause

3.5.2.6. Simultaneous expression of the main event and the adverbial clause

3.5.3. Locative clauses

3.5.3.1. Internal structure of locative clauses

3.5.3.2. Manual signs marking subordination in locative clauses

3.5.3.3. Other markers of subordination in locative clauses

3.5.3.4. Non-manual markers in locative clauses

3.5.3.5. Position of the locative clause with respect to the main clause

3.5.3.6. Simultaneous expression of the main event and the adverbial clause

3.5.4. Manner clauses

3.5.4.1. Internal structure of manner clauses

3.5.4.2. Manual signs marking subordination in manner clauses

3.5.4.3. Other markers of subordination in manner clauses

3.5.4.4. Non-manual markers in manner clauses

3.5.4.5. Position of the manner clause with respect to the main clause

3.5.4.6. Simultaneous expression of the main event and the adverbial clause

3.5.5. Reason clauses

3.5.5.1. Internal structure of reason clauses

3.5.5.2. Manual signs marking subordination in reason clauses

3.5.5.3. Other markers of subordination in reason clauses

3.5.5.4. Non-manual markers in reason clauses

3.5.5.5. Position of the reason clause with respect to the main clause

3.5.5.6. Simultaneous expression of the main event and the adverbial clause

3.5.6. Purpose clauses

3.5.6.1. Internal structure of purpose clauses

3.5.6.2. Manual signs marking subordination in purpose clauses

3.5.6.3. Other markers of subordination in purpose clauses

3.5.6.4. Non-manual markers in purpose clauses

3.5.6.5. Position of the purpose clause with respect to the main clause

3.5.6.6. Simultaneous expression of the main event and the adverbial clause

3.5.7. Concessive clauses

3.5.7.1. Internal structure of concessive clauses

3.5.7.2. Manual signs marking subordination in concessive clauses

3.5.7.3. Other markers of subordination in concessive clauses

3.5.7.4. Non-manual markers in concessive clauses

3.5.7.5. Position of the concessive clause with respect to the main clause

3.5.7.6. Simultaneous expression of the main event and the adverbial clause

3.5.8. Substitutive clauses

3.5.8.1. Internal structure of substitutive clauses

3.5.8.2. Manual signs marking subordination in substitutive clauses

3.5.8.3. Other markers of subordination in substitutive clauses

3.5.8.4. Non-manual markers in substitutive clauses

3.5.8.5. Position of the substitutive clause with respect to the main clause

3.5.8.6. Simultaneous expression of the main event and the adverbial clause

3.5.9. Additive clauses

3.5.9.1. Internal structure of additive clauses

3.5.9.2. Manual signs marking subordination in additive clauses

3.5.9.3. Other markers of subordination in additive clauses

3.5.9.4. Non-manual markers in additive clauses

3.5.9.5. Position of the additive clause with respect to the main clause

3.5.9.6. Simultaneous expression of the main event and the adverbial clause

3.5.10. Absolute clauses

3.5.10.1. Markers of subordination in absolute clauses

3.5.10.2. Non-manual markers in absolute clauses

3.5.10.3. Position of the absolute clause with respect to the main clause

3.5.10.4. Simultaneous expression of the main event and the adverbial clause

3.6. Comparative clauses

3.7. Comparative correlatives

Information on Data and Consultants

All the examples of conditional clauses [Section 3.5.1] and visuals with the manual and non-manual signs by deaf consultants are taken from Paulus' data collection for her dissertation about a comparison of conditional clauses in DGS and Libras [in progress]. An elicitation task was conducted with native signers to elicit relative clauses [Section 3.4]. See the references below for further information on data and consultants.

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References

- Baker, Anne, Beppie van den Bogaerde, Roland Pfau & Trude Schermer. 2016. *The Linguistics of Sign Language. An introduction*. John Benjamins Publishing Company. (164-166) – [3.1.1.1]
- Brinkmann, Sukie. 2016. Gapping in Deutscher Gebärdensprache. Eine empirische Fragebogenstudie. Georg-August-Universität Göttingen [Unpublished master's thesis]. [3.1.4.2]
- Dachkovsky, Svetlana. 2008. Facial expression as intonation in Israeli Sign Language. The case of neutral and counterfactual conditionals. In J. Quer (ed.), *Signs Of The Time. Selected Papers From TISLR 2004*. Hamburg: Signum. (61-82) – [3.5.1.3., 3.5.1.3.1]
- Fischer, Renate & Simon Kollien. 2006a. Constructed Action in DGS. *Roses Aktions=Fragmente (Teil I)* In: *Das Zeichen* 72, 96-106. [3.3.3]
- Fischer, Renate & Simon Kollien. 2006b. Constructed Action in DGS. *Roses Aktions=Fragmente (Teil II)* In: *Das Zeichen* 74, 448-463. [3.3.3]
- Fischer, Renate & Simon Kollien. 2010. Gibt es Constructed Action in Deutscher Gebärdensprache und in Deutsch (in der Textsorte Bedeutungserklärung)? In: *Das Zeichen* 86, 502-510. [3.3.3]
- Fischer, Renate & Simon Kollien. 2014. Constructed Dialogue und „die Hörenden“ in DGS-Erzählungen (Teil I). In: *Das Zeichen* 98, 414-422. [3.3.3]
- Fischer, Renate & Simon Kollien. 2015. Constructed Dialogue und „die Hörenden“ in DGS-Erzählungen (Teil II). In: *Das Zeichen* 99, 124-138. [3.3.3]
- Fischer, Renate & Simon Kollien. 2016. Pejorative aspects attributed to hearing people in signed constructed dialogue. In: Rita Finkbeiner, Jörg Meibauer & Heike Wiese (eds.), *Pejoration*. Amsterdam: Benjamins, 325-354. [3.3.3]

- Happ, Daniela & Marc-Oliver Vorköper. 2006. *Deutsche Gebärdensprache: Ein Lehr- und Arbeitsbuch*. Frankfurt a.M.: Fachhochschulverlag., (69-72) – [1.1], (75-78) – [1.3], (80-83) - [1.4.2], (537-544) – [3.1], [3.4], (463-480) – [3.3.3], [3.5.1]
- Herrmann, Annika & Markus Steinbach. 2007. *Wenn ‚ich‘ nicht ich ist. Zitieren in Gebärdensprachen*. Linguistische Berichte Sonderheft 15, 153-179. [3.3.3]
- Herrmann, Annika & Markus Steinbach. 2010. *Eine neue Perspektive auf Role Shift in Deutscher Gebärdensprache (DGS). Perspektivwechsel als nichtmanuelles Kongruenzphänomen*. Das Zeichen 84, 112-119. [3.3.3]
- Herrmann, Annika & Markus Steinbach. 2012. Quotation in Sign Languages – A Visible Context Shift. In Alphen, Ingrid van & Isabelle Buchstaller (eds.), *Quotatives. Cross-linguistic and Cross-disciplinary Perspectives*. Amsterdam: Benjamins, 203-228. [3.3.3], [3.3.3.1], [3.3.3.2]
- Herrmann, Annika & Markus Steinbach. 2013. Satztypen in Gebärdensprachen. In Jörg Meibauer, Markus Steinbach & Hans Altmann (eds.), *Satztypen des Deutschen*. Berlin: Mouton de Gruyter. (786-814) – [3.1], [3.5.1.1], [3.5.1.2.1.]
- Herrmann, Annika & Nina-Kristin Pendzich. 2018. Between Narrator and Protagonist in Fables of German Sign Language. To appear in Annika Hübl and Markus Steinbach (eds.), *Linguistic Foundations of Narration in Spoken and Sign Languages*. Amsterdam: Benjamins. [3.3.3.2], [3.3.3.4]
- Hübl, Annika. 2013. Role Shift, Indexicals and Beyond - New Evidence from German Sign Language. In: C. Geer, Lea (ed.), *Proceedings from the 13th meeting of the Texas Linguistics Society*, 1-11. [3.3.3]
- Hübl, Annika. 2014. Context Shift (im)possible - Indexicals in German Sign Language. In: Kohlberger, Martin, Kate Bellamy & Eleanor Dutton (eds.), *Proceedings of ConSOLE XXI*, 171-183. [3.3.3]
- Papaspyrou, Chrissostomos, Alexander von Meyenn, Michaela Matthaei & Bettina Herrmann. 2008. *Grammatik der Deutschen Gebärdensprache aus der Sicht gehörloser Fachleute*. Seedorf: Signum Verlag. (183-188) – [3.1.1], (188) – [3.5.1], [3.5.1.1]
- Paulus, Liona. 2016. *Conditional Clauses in DGS and LIBRAS. A systematic comparison*. Poster presented at the ‘Formal and experimental approaches to sign language theory’ (FEAST)-Conference, Venice/Italy, September 1-2, 2016. [3.5.1], [3.5.1.2], [3.5.1.2.2]
- Pfau, Roland & Markus Steinbach. 2005. Relative clauses in German Sign Language: Extraposition and reconstruction. In Leah Bateman and Cherlon Ussery (eds.), *Proceedings of the North Eastern Linguistic Society (NELS 35)*, vol.2, 507-521. Amherst: GLSA. [3.4]
- Pittner, Karin. 2013. Adverbialsätze. In J. Meibauer, M. Steinbach & H. Altmann (eds.), *Satztypen des Deutschen*. Berlin/Boston: De Gruyter, (501-525). [3.5.1]
- Reis, Diana L. de Bittencourt. 2012. A construção condicional hipotética e a modalidade: uma inter-relação lógica. *Cadernos do IL* 44. (75-96). [3.5.1.6.]

- Ross, John Robert. 1970. Gapping and the order of constituents. In Manfred Bierwisch & Karl E. Heidolph (eds.), *Progress in linguistics*. Mouton: The Hague. (249-259) – [3.1.4.2].
- Schwager, Waldemar & Ulrike Zeshan. 2008. Word classes in sign languages. Criteria and classifications. *Studies in Language* 32(3). [1.2]
- Steinbach, Markus & Edgar Onea. 2016. A DRT Analysis of Discourse Referents and Anaphora Resolution in Sign Language. *Journal of Semantics* 33(3). 409-448. [3.4.2]
- Tang, Gladys & Prudence Lau. 2012. Coordination and Subordination. In Roland Pfau et al. (eds.), *Sign Language. An international Handbook*. Berlin: Mouton de Gruyter. (340-365) – [3.1.1.1].
- Wilbur, Ronnie B. & Cynthia Patschke. 1999. Syntactic correlates of brow raise in ASL. *Sign Language & Linguistics* 2, 3-41. [3.4.1]

Chapter 4. The noun phrase

4.1. Determiners

4.1.1. Articles

4.1.1.1. The position of the article

4.1.1.2. Simultaneous manual articulation

4.1.1.3. Non-manual marking

4.1.1.4. Articles expressed by non-manual marking only

4.1.2. Demonstratives

4.1.2.1. The position of the demonstrative

4.1.2.2. Demonstrative reinforcer construction

4.1.2.3. Non-manual marking

4.1.2.4. Anaphoric usage

4.2. Possessive phrases

4.2.1. Ways of expressing the possessive relation in the noun phrase

4.2.1.1. Attributive possessive pronouns

4.2.1.2. Possessive markers

4.2.1.3. Juxtaposition

4.2.2. The position of the possessive pronoun

4.2.3. Agreement with the possessor

4.2.4. Agreement with the possessed

4.2.5. Possessive phrases with the possessed elided

4.3. Numerals

4.3.1. The position of the numeral

4.3.2. Floating numerals

4.3.3. Definite and indefinite reading

4.3.4. Numeral incorporation

4.3.5. Measure phrases

4.4. Quantifiers

4.4.1 The position of the quantifier

4.4.2. Floating quantifiers

4.5. Adjectives

4.5.1. Prenominal vs. postnominal adjectives

4.5.2. Symmetric adjectives

4.5.3. Reduplicated adjectives

4.5.4. Ordering restrictions among adjectives

4.6. Multiple noun phrase constituents

4.6.1. Prenominal modifiers

4.6.2. Postnominal modifiers

Chapter 5. The structure of adjectival phrase

5.1. Intensifiers and other modifiers

5.1.1 Manual modifiers

5.1.2. Modifications of manual signs and non-manual modifiers

5.1.3. Iteration and stacking

5.1.4. Degree comparatives

5.1.5. Superlatives

5.2. Arguments

5.3. Adjuncts

Chapter 6. The structure of adverbial phrase

6.1. Independent manual signs

6.2. Modification of manual signs

6.3. Non-manual adverbs

6.4. Classes of adverbs

6.4.1. Sentential adverbs

6.4.2. VP-adverbs

6.4.2.1. Temporal adverbs

6.4.2.2. Manner adverbs

6.4.2.3. Locative adverbs

6.4.2.4. Adverbs conveying aspectual information

6.4.2.5. Adverbs conveying deontic modality

6.4.2.6. Adverbs conveying epistemic modality

6.4.2.7. Adverbs of degree

6.4.2.8. Adverbs of frequency

6.5. Adverbial phrase modifiers

6.5.1. Adverbs modified by degree words expressing intensity

6.5.2. Adverbs modified by degree words expressing comparison

Pragmatics

Chapter 1. Reference

Linguistic expressions refer to concrete or abstract entities in the world in a symbolic way. Expressions of abstract entities are generally called as ‘discourse referents’. The same entity can be realized by a number of different linguistic expressions, named as referring expressions. These are, definite or indefinite nouns [Pragmatics – Section 1.2], full and null pronouns [Lexicon – Section 3.7], proper names and bare nouns [Lexicon – 3.1].

Noun phrases [Syntax – Chapter 4], can be used for deictic as well as anaphoric reference in discourse. In deictic usage they get their reference from immediate physical context, on the other hand in anaphoric usage they pick up their referents in the previous discourse context.

1.1. Deixis

Deixis is the strategy that uses indexical [Pragmatics – Chapter 6] forms like personal pronouns (I, YOU), temporal (YESTERDAY, TOMORROW) and local expressions (HERE, THERE) to refer to people or objects present in the conversation context. In DGS deictic elements can be realized via pointing signs or in case of expression of social deixis on areas of different height in the frontal space.

1.1.1. Pointing

In DGS pointing signs primarily function for localization [Morphology – Section 4.2] and referring back to these referents in signed discourse. Additionally, they can undertake a role of determiners [Lexicon – Section 3.6], locative pointings and pronouns [Lexicon – Section 3.7]. Moreover, pointing signs can be signed from different perspectives [Pragmatics – Section 8.3].

Used as a determiner, pointing signs typically appear with index finger handshape- directed towards signing space and in their deictic usage directed towards the present entities. The handshape of these signs can have phonetic variants of index finger handshape (e.g. loose pointing or L-handshape-) and assimilate to immediately preceding or following sign.

Determiner pointings combine with nouns following, preceding them or in both positions. Non-manuals such as eye-gaze and head nod can accompany pointing signs and may or may not be shared with the nouns they occur with.

- a. EXAMPLE (determiner preceding a noun)
- b. EXAMPLE (determining following a noun)
- c. EXAMPLE (determiner containing assimilated handshape)

Determiner pointing signs following nouns have the same function as definite article. In case of animals or small persons the pointing sign is directed to the lower part of the signing space. Examples of post nominal pointing signs in DGS are given below.

- a. MAN IX_{3a} FRIEND MEET. IX_a HAPPY
'A man meets a friend. He is happy.'
- b. DOG IX_{3a} BONE FIND. IX_a HAPPY
'A dog finds a bone. He is happy.'

(adapted from Happ & Vorkörper 2006: 96)

Locative INDEX as opposed to demonstrative usage, is used for reference to place names. It always follows a place name which is localized in the signing space.

- FRANKFURT_{3a} IX_a SIGN INTERPRETER STUDY-FURTHER CAN
'In Frankfurt sign language interpreters can study further.'

(adapted from Happ & Vorkörper 2006: 97)

In case exact position of the objects is not necessary to specify pointing signs can be used to specify locations of the objects with respect to the other objects. In these constructions the orientation of IX changes flexibly according to the location of the figure object relative to the ground object. See examples from DGS below.

- a. TABLE IX_{LOC} BOOK
'A book is on the table.'
- b. HOUSE IX_{LOC} SOFA
'A sofa is in the house.'

(adapted from Happ & Vorkörper 2006: 98)

Personal indexicals are manual pointing signs either directed to a signer (IX₁), an addressee (IX₂) or a third person (IX₃) referent. In case they appear in reported utterances [Pragmatics – Chapter 6], these items must be interpreted with respect to the reported context. See DGS example below where the event can only be interpreted correctly if the reference time point is known.

3a<_____>3b

- LENA IX_{3a} ANNA IX_{3b} 3a TELL_{3b} : TOMORROW₁HELP₂
'Lena told Anna: I will help you tomorrow.'

(Hübl 2012: 1)

Pointing signs can have distinctive usages under different perspectives. Used for descriptions from observer's perspective, these signs are directed to the area in front of a signer pointing to the referents as the signer sees them externally. In the DGS example below the signer points to the locus associated with the elephant on the described still as she sees it, using reduced area of the signing space.



RH: INDEX: loc eleph
LH:

(Perniss 2007: 207)

When used from the character's perspective pointing signs are produced from the perspective of a character. A bigger dimension of the signing space is typically used in these cases. In DGS example below the signer describes the event from the mouse character's view pointing to the location the elephant, which in the still stands just a opposite the mouse.



RH: INDEX: loc eleph
LH:

(Perniss 2006: 207)

1.1.2. Social deixis

Social deixis which corresponds to social relations or roles in the society, is realized through locations in the frontal or horizontal plane of signing space. Social status of a person is determined by the group of people present in the actual speech context or through social norms, physical requirements and hierarchies of a particular society. One instance

of these realizations is the difference between unfamiliar and familiar second person pronoun, marked by backward body lean for details see [[Lexicon – Section 3.7.2.6](#)].

In its socio-dialectic usage, the locus of a referent is produced on a certain height relative to the signer or another locus. In case a person belongs to a socially high status, being an administrator/boss or a head of the state, the locus associated with this referent is articulated on the higher area in frontal space. On the other hand, if a referent has the same social level as the signer being adult or colleague, this referent is articulated at the level of the chest, in front of the torso. In case of the lower status (child, inferior), the referents are articulated below the chest level. Semantic groups which share the same status (man/woman, hearing/deaf, colleagues/customers) are organized on the same level but in contrastive lateral regions in the horizontal space. The following examples illustrate the two usages of space in DGS.

- a. EVERY EVENING ADULTS_{U.A} CHILDREN_{L.A} READ-ALOUND
'Every evening adults read something aloud to the children.'
(adapted from Mehling 2010: 127)

- b. KING IX_{3aU.A} SERVANT IX_{3bL.A} BE-SILENT_{aORDER_b}
'The king ordered his servant to be silent/quiete.'
(adapted from Mehling 2010: 126)

1.1.3. Lack of deixis

In DGS nouns [[Lexicon – Section 3.1](#)] which refer to general kinds usually occur in their bare forms and do not require to be accompanied with pointing signs. Additionally, indefinite nouns which appear at the beginning of signed discourse can appear without co-occurring INDEX signs. These two usages are given in examples below.

- a. CAT ANIMAL CUTE
'Cats are cute animals.'

- b. MAN WOMAN KISS
'A man kisses a woman.'

1.2. Definiteness

1.2.1. Manual marking

1.2.2. Non-manual marking

1.3. Indefiniteness

1.3.1. Manual marking

1.3.2. Non-manual marking

1.4. Specificity

1.4.1. Manual marking

1.4.2. Non-manual marking

1.5. Impersonal reference

Information on Data and Consultants

See the references below for information on data and consultants

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References

- Happ, Daniela & Marc-Oliver Vorköper. 2006. *Deutsche Gebärdensprache. Ein Lehr- und Arbeitsbuch*. Frankfurt: Fachhochschulverlag. (96-98) – [1.1.1]
- Mehling, Karin. 2010. *Heute hier, morgen dort- Deixis und Anaphorik in der Deutsche Gebärdensprache: Analyse und Vergleich mit der deutschen Lautsprache*. München: Ludwig-Maximilians-Universität PhD dissertation. (126-127) – [1.1.2]
- Hübl, Annika. 2013. Role Shift, Indexicals and Beyond – New evidence from German Sign Language. *Proceedings from the 13th meeting of the Texas Linguistics Society*. Texas, USA. (1) – [1.1.1]
- Perniss, Pamela M. 2007. *Space and iconicity in German sign language (DGS)*. Nijmegen: Radboud University Nijmegen dissertation. (206-207) – [1.1.1]

Chapter 2. Reference tracking

Reference tracking is, usage of linguistic expressions to identify whether the same or different referent is referred to within or across sentences. Syntactic and pragmatic factors may influence selection of referring expressions. Among those salience of an antecedent is the most outstanding one. That is, in case the referent is easily retrievable in the signed context it usually referred by forms containing less or no linguistic material such as pronouns, clitics or zero items. On the other hand, if a referent is difficult to retrieve more pronounced forms such as demonstratives and full noun phrases are preferred.

DGS signers extensively make use of zero and full pronouns [Lexicon – Chapter 3.7] as well as agreement marking on the verbs [Morphology – Chapter 3.1], classifier predicates [Morphology – Chapter 5] in order to keep track of animate and inanimate referents in signed utterances. Moreover, buoys [Pragmatics – Chapter 2.2.3] accompanied by facial and bodily movements can be used to identify the referents.

2.1. Pronouns

Pronouns [Lexicon – Section 3.7] are one of the most visible devices for identifying referents in DGS. These constitute an inventory containing locative and demonstrative pronouns [Lexicon – Section 3.7.1], personal pronouns [Lexicon – Section 3.7.2], possessive pronouns [Lexicon – Section 3.7.3], reflexive pronouns [Lexicon – Section 3.7.4], interrogative pronouns [Lexicon – Section 3.7.5], relative pronouns [Lexicon – Section 3.7.6] as well as indefinite pronouns [Lexicon – Section 3.7.7].

The forms of locative, demonstrative, personal, reflexive and relative (only the ones referring to inanimate entities) pronouns share the same pointing  handshape. However, orientation, movement, mouth gestures or mouthings co-occurring with this handshape may differ according to the function a pronoun undertakes. For instance, a demonstrative pronoun, has an abrupt ending of the movement and occurs with a specific mouth gesture which is different than other pronominal forms [Lexicon – Section 3.7.1]. Pronominal expressions sharing pointing handshape can further be differentiated in context.

As opposed to the pronominal items which share pointing handshape, DGS contains pronominal items having language specific handshapes. Possessive pronouns have B-handshape – , indefinite pronouns appear in language specific forms (e.g. SOMEONE), interrogative pronouns have a shape of wh-particles (e.g. WHO, WHEN, HOW), relative pronouns referring to human referents share the same handshape with entity classifier- in DGS.

To understand the meaning of a pronoun which an anaphoric expression is, it is important to identify its referent or antecedent correctly. DGS typically introduces new referents into discourse by associating them overly or covertly to areas called referential

loci (R-loci) in the signing space [Morphology – Section 4.2]. Pronouns then point to the same areas to identify these referents.

Overt pronouns in DGS are usually used when multiple referents appear in the discourse, to identify each of those referents. In cases where two referents are introduced, these referents are spatially distributed in a particular way. Such that, right handed signers tend to associate referent mentioned first (GIRL in the example below) on their right (ipsilateral) area and second mentioned one (BOY as illustrated below) on their left (contralateral) area [Pragmatics – Section 8.1.1]. See DGS example below which illustrates usage of the overt pronouns spatially distributed on contrastive right and left areas in signing space.

TWO PEOPLE++. IX_R GIRL IX_L BOY. IX_R WANT VOLLEYBALL PLAY. IX_L WANT FOOTBALL PLAY.

‘There are two people. A girl and a boy. She wants to play volleyball. He wants to play football.

(adapted from Papaspyrou et al. 2008: 138)

In case the referent of an utterance is continuous and can easily be retrieved from the context, null pronouns are preferred over overt pronouns. A DGS example illustrating this case is given below, in which the referent (GIRL) remains the same throughout the short context.

GIRL IX_R. FIVE -YEARS- OLD. KINDERGARTEN THERE_R DOLL PLAY.

‘There is a girl. (She) is five years old. (She) plays with the doll at the Kindergarten.

(adapted from Papaspyrou et al. 2008: 138)

2.2. Other means

Apart from pronouns agreement verbs, classifier predicates as well as buoys are visual modality specific devices used to track referents in DGS discourse.

2.2.1. Agreement

DGS shows spatial verbal agreement [Morphology – Chapter 3]. Spatial loci are linked to verbal arguments and agreement with those can take place by changing direction of the movement and (in some cases) orientation of hands.

Discourse referents earlier introduced into discourse can be picked up via agreement verbs directed to the locations unambiguously associated with those referents. This way, verbal agreement functions for referent identification, especially in settings where these referents are easily retrievable. This is exemplified below, where each of the referents can be only implicitly localized into the signing space via fingerspelling but can be easily identified through initial and final locations of the verb GIVE.

M-A-R-I-A P-E-T-E-R BOOK_{3a}GIVE_{3b}

‘Maria gives the book to Peter.’

(Steinbach & Onea 2016: 417)

Spatial verbs as opposed to agreement verbs, agree with topographically defined locations [Pragmatics – Section 8.1.2] and are mainly used to track reference to source and/or goal [Morphology – Chapter 3; Lexicon – Section 3.2.3]. This is exemplified below where goal (ZOO) is associated with a particular spatial area and spatial predicate (GO) is signed in the direction of goal.

IX₁ ZOO_{3a} GO_{3a}

‘I go to the Zoo.’

(adapted from Murmann 2012: 15)

2.2.2. Classifier handshapes

DGS makes use of classifier handshapes also called classifiers [Morphology – Chapter 5] to identify referents. These are bound forms which indicate semantic properties such as the shape, size and parts of the referents, hence making it easier to identify these referents in discourse. Classifiers denoting body parts of animate referents are body part classifiers [Morphology – Section 5.1.2], the forms corresponding to the whole entity are entity classifiers [Morphology – Section 5.1.1] and the ones marking object handling of animate and inanimate entities are handle classifiers [Morphology – Section 5.1.3].

In DGS, entity classifiers and body part classifiers refer to subject arguments expressing location or movement of the referents. On the other hand, handle classifiers stand for object referent and realize only some iconic properties of the entities on the verbs. To keep the track of the referents looking at the classifier handshapes, the referents associated with these handshapes should be introduced into discourse context beforehand. Examples showing body part (a), entity (b) and handling classifiers in DGS are given below.

a. PUB_{3a} MAN GO_{3a} - CL: 

‘The man went to a pub.’

(Happ & Vorköper 2006: 157)

b. SHELF BOOK_{3a} STAND-CL: 

‘The book stands at the shelf.’

(Happ & Vorköper 2006: 157)

c. MAN POSS_{3a} WIFE FLOWER_{3a}GIVE_{3b}-CL: 

‘The man gives a flower to his wife.’

(Happ & Vorköper 2006: 161)

2.2.3. Buoys

Buoys [Lexicon – Section 1.2.3] are spatial devices signed on a non-dominant hand. They can be used to refer to a group of referents in order to provide a list of them (list buoys). In such occurrences, people or objects are localized on the fingers of the non-dominant hand and each finger stands for a separate entity (e.g. one week, one hour, one person, one exam topic). In DGS, up to 5 referents can be listed on one hand. In the following example from DGS the narrator talks about his four siblings, which together with him are represented on five fingers of the hand. Each of the referents are introduced beforehand and it the visual before the brother called *Jakob* is referred to.



List buoy

Buoys can also function to signify prominent referent, in these cases non-dominant hand is either pointing to the spatial location earlier associated with this referent (pointer buoy) or it is hold simultaneously with articulation of the dominant hand (fragment buoy). An example of fragment buoy in DGS corresponding to hold of the sign HAUS is given below.



RH: POSS HAUS HAUS-CL INDEX₁ CAR CAR_{CL}
GET-OFF
LH: HAUS_____

(adapted from Papaspyrou et al. 2008: 199, Film 139)

Information on Data and Consultants

See the references below for information on data and consultants

Authorship Information

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References

- Happ, Daniela & Marc-Oliver Vorköper. 2006. *Deutsche Gebärdensprache. Ein Lehr- und Arbeitsbuch*. Frankfurt: Fachhochschulverlag. (153-161) – [2.2.2]
- Murmann, Christina. 2012. *The agreement auxiliary PAM in German Sign Language-Anempirical investigation*. Düsseldorf : Heinrich Heine Universität Düsseldorf MA thesis. (15) – [2.2.1]
- Papaspyrou, Chrissostomos, Alexander von Meyenn, Michaela Matthaei & Bettina Herrmann. 2008. *Grammatik der Deutschen Gebärdensprache aus der Sicht gehörloser Fachleute*. Seedorf: Signum. (137-138) – [2.1], (198-199) – [2.2.3]
- Steinbach, Markus & Edgar Onea. 2016. A DRT Analysis of Discourse Referents and Anaphora Resolution in Sign Language. *Journal of Semantics* 33(3). 409-448. (415-417) – [2.2.1]

Chapter 3. Speech acts

3.1. Assertions

3.2. Questions

3.3. Commands and requests

3.4. Exclamatives

Chapter 4. Information structure

Information structure in DGS explains the internal organization of constituents and utterances with regard to a specific context. This section shows the manual and non-manual markings that are used to structure the DGS discourse and mark DGS signs and utterances, i.e., information as important, highlighted, backgrounded, given, new, etc. Chapter 4 concentrates on the notions focus and topic.

4.1. Focus

DGS allows for several different ways to mark focus. Focus most frequently is marked prosodically by manual and non-manual modification of the signs. Prosodic focus marking may comprise tensed/pronounced and large signing and the lengthening of signs, but most prominently non-manuals, such as raised eyebrows, head nods and tilts, and wide open eyes. Syntactically, focused elements can be placed sentence finally as in question-answer-sequences. The sentence final position has been associated with focused elements. In some cases, focused elements can be fronted to express emphasized information. Importantly, some focus types in DGS, such as contrastive focus are obligatorily marked, whereas, for example, information focus is optionally marked. Focus markers may also have different instantiations depending on phonological and contextual factors. For example, the lexical marking of focused signs and the realization of the surrounding signs may influence and manipulate the choice of markers and their combinations. The context may also trigger a de-accentuation strategy with respect to the focused elements, as the main goal is to establish a contrastive pattern.

4.1.1. All-new focus

Sentences called all-new focus or presentational focus provide only new information, such as in opening lines of conversations, i.e., usually out-of-the-blue declarative sentences. As they consist of only new information, they are called broad focus, when answering a very general question, such as ‘What happened?’. These sentences exhibit a regular intonation pattern and contour with no particular prosodic markings. At the end of such regular sentences, eye blinks may occur as intonational phrase boundary markers. A sentence boundary may also be marked by lengthening of the sign, pauses, lowering of the hands, and a general change in facial expressions. There is no single marker that is obligatory to mark a sentence, but the boundaries are prosodically indicated in one way or the other.

4.1.2. New information focus

In DGS, information focus is optionally marked by raised eyebrows, head nods, and wide open eyes. There is a tendency that the information focus constituents remain in their original sentence position and are thus marked in-situ. As information focus is optional and often subtle, especially subject focus marking is hard to distinguish from general subject marking in DGS. Furthermore, DGS signers most naturally reply to a narrow focus question with a single constituent answer.

4.1.3. Contrastive focus

Contrastive focus comprises notions such as corrective, selective and replacing focus. Contrastive focus marking is obligatory in DGS. The marking itself is similar to that of information focus, using raised eyebrows, head nods, and wide open eyes simultaneously to the focused constituents.



Focus marking of object focus in DGS: The sign FLOWER.

(Herrmann 2010: presentation)

As DGS also uses body shifts to mark contrast in general, contrastive focus constituents may also be accompanied by (sideward) body leans. In discourse, the contrasted and focused constituent often occurs as a single constituent answer as in example (b).

Person A: WHO SHOE EAT? PETER?

____ foc

Person B: a. NO. MY DOG SHOE EAT.

____ foc

b. NO. MY DOG.

(adapted from Happ & Vorköper 2006: 405)

4.1.4. Emphatic focus

Emphatic focus marking is related to focus doubling [**Information Structure – Section 4.1.5**] in DGS, as a doubled element is associated with emphasis. In the example below, doubling of a wh-word is shown, but also additional manual and non-manual marking (*f,sq,cb* = furrowed eye brows, squint, chin back; bold letters = tense and large articulation).

frown, f,sq,cb
WHERE MY SHOE **WHERE**
'Where on earth is my shoe?'

(Herrmann 2013: 140)

An intensified articulation of the sign (both manually and non-manually intensified focus markings) can also be used to mark emphatic focus. In rare cases, the manual modification of a sign may be used for emphasis. For example, a one-handed sign may turn into a two-handed sign and/or a handshape may change.

YOU KNOW HIM PAM_{mod}
'You know what he is like!'



PAM_{mod}: modified PAM in DGS

(Herrmann 2013: 128)

In the example, a functional element such as PAM (usually one-handed sign with a -handshape) turned into a modified sign PAM_{mod} (a two-handed sign with a -handshape) due to emphasis.

Another strategy for emphatic focus marking may be the use of the sign SELF (signed with the -handshape held upright and palm facing inwards to the body) that is associated with focus and is called a focus marker. This lexical element SELF follows the focus constituent and occurs with simultaneous facial expressions such as raised eye brows, wide eyes and head nods.

4.1.5. Focus doubling

In DGS, elements such as pronouns, wh-words, modal verbs, negative elements, but also certain nouns and verbs can be doubled sentence finally.

EMMA CAN SWIM CAN.

‘Emma really **can** swim.’

The sentence final position is associated with a focus position and thus, doubling may be used to mark a certain information as new or highlighted. For instance, in wh-interrogatives, doubling of wh-elements is perceived as an emphatically marked question in DGS [[Information Structure – Section 4.1.4](#)]. Still, doubling alone is not a mere indicator of focus.

4.2. Topic

In DGS, topics are generally marked by raised eyebrows, they appear sentence initially, often topicalized, and are prosodically slightly separated from the clause by a tiny pause and/or head nod. We find sentence topics and discourse topics. The latter can be divided into silent and new discourse topics.

As for silent topics, DGS is a topic-drop language, as the topics and pronominal reference to topics may be dropped if the topic has been established in discourse. This is also the case, if the discourse topics are clearly recognizable via locative information from agreement verbs or classifier handshapes in entity or object-classifiers. Temporal information is also a common discourse topic that is not necessary to refer back to during discourse. Furthermore, buoys in DGS can also be seen as a silent discourse topic, as the topic is held in the signing space with one hand while the discourse/comment about it continues on the other hand.

As for new discourse topics that are stressed, contrastive and usually subtopics of a main topic, DGS exhibits a clear tendency to topicalize the elements and clearly mark them non-manually by raised eye brows. The establishment of new topics or a topic shifts clearly require more marking than topic continuity. There are some signs that explicitly indicate a topic shift.

THEMA BEISEITE (‘topic aside’)

BEZUG (‘relation’)

(Happ & Vorköper 2006: 428)

The non-manual marking of contrastive topics is the same as in new topics, namely raised eyebrows accompanying the topic constituent and a prosodic break between the topic and the comment.

4.3. Morphological and prosodic markers of topic and focus

This section lists the manual and non-manual markings of focus and topic in DGS.

4.3.1. Focus

In DGS, focus is marked prosodically and/or syntactically. Prosodic focus marking may be tensed/pronounced and large signing and the lengthening of signs. Non-manual focus marking comprises raised eyebrows, head nods and tilts, and wide open eyes. Syntactically, focused elements can be placed sentence finally as in question-answer-sequences. There is a lexical element glossed as SELF (signed with the -handshape held upright and palm facing inwards to the body) that is associated with focus and is called a focus marker. The sign SELF follows the focused constituent and is accompanied by focus marking facial expressions including raised eye brows, wide eyes and head nods.

4.3.2. Topic

Topics are marked by raised eyebrows and a slight prosodic pause between the topic and the rest of the sentence in DGS. Syntactic topicalization is the process that is mostly used to explicitly indicate the new topics in discourse.

Information on Data and Consultants

See the references below for information on data and consultants.

Authorship Information

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References

- Grin, Konstantin. 2014. *W-Fragen in der Deutschen Gebärdensprache*. Hamburg: University of Hamburg BA thesis. [4.1.5]
- Happ, Daniela & Marc-Oliver Vorköper. 2006. *Deutsche Gebärdensprache. Ein Lehr- und Arbeitsbuch*. Frankfurt: Fachhochschulverlag. (395-408) – [4.1], (399-400) – [4.1.2.], (401-408) – [4.1.3.], (411-432) – [4.2], (380-444) – [4]
- Herrmann, Annika. 2010. The interaction of eye blinks and other prosodic cues in German Sign Language. *Sign Language & Linguistics* 13(1), 3-39. [4.1.1]
- Herrmann, Annika. 2013. *Modal and Focus Particles in Sign Languages. A Cross-Linguistic Study*. Berlin: Mouton de Gruyter/Ishara Press. (221-230) – [4.1]
- Herrmann, Annika. 2015. The Marking of Information Structure in German Sign Language. In Kügler, Frank & Stefan Baumann (eds.), *Prosody and Information*

Status in Typological Perspective. Special Issue of Lingua 165, Part B, 277-297.
[4.1]

Herrmann, Annika, Sina Proske & Elisabeth Volk. 2018. Question-answer pairs in sign languages. In Edgar Onea, Malte Zimmermann and Klaus von Heusinger (eds.), *Questions in Discourse* (Current Research in the Semantics / Pragmatics Interface). Brill. [4.3.1]

Waleschkowski, Eva. 2009. *Focus in German Sign Language*. Poster presented at the NISL workshop on 'Nonmanuals in Sign Languages', Goethe-Universität Frankfurt am Main. [4.1], [4.1.2], [4.1.3]

Chapter 5. Discourse structure

5.1. Coherence and discourse markers

5.1.1. Manual discourse markers

5.1.2. Non-manual discourse markers

5.1.3. Strategies using signing space

5.2. Cohesion

5.2.1. Manual strategies

5.2.2. Non-manual strategies

5.2.3. Strategies using signing space

5.3. Foregrounding and backgrounding

- ii. Change of head position towards the R-locus the addressee of the quoted utterance has been linked to in the previous discourse.
- iii. Midsagittal body shift towards the R-locus the addressee of the quoted utterance has been linked to in the previous discourse.
- iv. Body lean including a sideward movement of the upper part of the body towards the R-locus the signer of the quoted utterance has been linked to in the previous discourse.
- v. Facial expression associated with the signer of the quoted utterance. The facial expression is a gestural imitation of the specific features of the quoted signer relevant for the current discourse.

While the first three non-manuals (eye gaze, head position, and midsagittal body shift) are oriented towards the R-locus of the reported addressees, the last fourth non-manual (body lean) is aligned with the R-locus of the reported signer. By contrast to these four non-manuals that depend on the R-loci assigned to signer and addressees in discourse (i.e. on grammatical features), the last non-manual does not depend on grammatical features but on specific extralinguistic properties of the quoted signer.

Taken together, attitude role shift is realized simultaneously by more than one non-manual marker. Note, however, that the multiple realization of attitude role shift is not obligatory in DGS. Especially body lean and head movement are less frequently used than eye gaze and facial expressions. The following example illustrates the simultaneous use of all five non-manual components in attitude role shift. Since the signer reports a small conversation between little Emma and her mother, the body lean does also involve a slight upward (Emma) or downward (mother) movement.



EMMA

MOTHER

IX_{3b}

3b<

HEY

LIKE

IX_a

STAY

PLAY

WISH >3a



3a< IX_{dual}

ALWAYS

IX_a

PLAY

g-pu >3b

(Herrmann & Steinbach 2012: 215)

However, in many examples, not all four non-manual markers are used. A minimal realization of attitude role shift may consist of eye gaze or facial expression only. This is illustrated by the following example, in which the signer reports the same utterance of Emma without using body lean and head movement, i.e. in this example, attitude role shift is marked only by eye gaze towards the addressee.

< _____ >3b
 _____ eye gaze

g-fw E.M.M.A. GO MUM TELL: IX₁ WISH NOT HERE LONG PLAY++
 ‘Emma goes to her mother says: “Mum, I don’t want to play here any longer.”’

Corpus data reveal that eye gaze and facial expression are the most frequent non-manual marker of attitude role shift in DGS. Body lean and head movement are less frequent and typically combine with eye gaze and facial expressions. This means that the signer uses one minimal non-manual marker to indicate the reported addressee (i.e. eye gaze) and one non-manual marker to indicate the reported signer (i.e. facial expression). The following table shows the interaction of eye gaze, head movement, and body lean in attitude role shift in DGS.

If A then B	B				
	FE	EG	HP	BL	BL
A	BL	100%	91%	82%	–
	HP	98%	96%	–	51%
	EG	99%	–	86%	51%

(EG = eye gaze, HP = head position, BL = body lean, FE = facial expressions)

(Herrmann & Steinbach 2012: 219)

The previous example illustrates that attitude role shift can be introduced by a matrix clause containing signer and addressee and the respective speech act verb (i.e. ASK, SAY, or TELL). However, matrix clauses are not necessary to introduce role shift. Moreover, the matrix clause can only consist of the speaker and addressee but need not contain a speech act verb. This is illustrated by the first example showing the dialog between Emma and her mother. In this example, the matrix clause only contains the signs EMMA, MOTHER,

not involve any marking of/orientation towards an addressee. Therefore, non-manuals related to the R-locus of the addressee are not used. Likewise, action role shift is not accompanied by a matrix clause containing a speech act verb. Another difference concerns the material in the scope of role. In attitude role shift, gestural components are restricted to facial expressions imitating the quoted signer. By contrast, in action role shift, a signer may use non-linguistic manual and non-manual components to demonstrate a broad range action performed by another person (in our example the shepherd's boy). These gestural elements are, however, restricted to the signing space, that is, only gestures that are performed by the same (manual and non-manual) articulatory system used for signing can be integrated in action role shift. As a consequence, the gestural components are adapted to the linguistic components which yields a smooth transition between signing and gesturing. In additions, in action role shift gestural and linguistic elements are used together to realize a complex proposition. The action role shift illustrated above contains linguistic (small caps) and gestural (*italics*) elements. Because of the modality-specific properties of the articulatory system, linguistic and gestural elements can be used simultaneously in role shift.

Action role shift is frequently used in signed narration, where it has at least two important functions. On the one hand, action role shift makes narration livelier by imitating the behavior of the character(s). On the other hand, it can be used to shift perspective. In the example above, the narrator shifts into the perspective of the shepherd's boy. Thereby, the audience is more involved in the story told by the narrator as opposed to a story told from the neutral point of view of the narrator, i.e. narrator's perspective. Action role shift even offers the possibility to mix perspectives. This is illustrated by the following example, which shows a subsequent part of the same fable 'The shepherd's boy and the wolf' signed by another signer.



(Herrmann & Pendzich 2018: 299)

In the left picture, the narrator is gesturally imitating the neighbors running to the boy, that is, the narrator adopts the perspective of a group of characters. The right picture

shows a shift in perspective. Here, the signer linguistically expresses the movement of the neighbors with the two classifier handshapes. The hands move towards the body of the signer, which represents the boy. At the same time, the face continues to imitate the neighbors. Hence, different parts of the body are used to express different perspectives leading to a highly complex mix of perspectives typical for action role shift in sign language narration.

Information on Data and Consultants

See the references below for information on data, corpora, and consultants.

Authorship Information

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References

- Fischer, Renate & Simon Kollien. 2006a. Constructed Action in DGS. *Roses Aktions=Fragmente (Teil I)* In: *Das Zeichen* 72, 96-106. [6]
- Fischer, Renate & Simon Kollien. 2006b. Constructed Action in DGS. *Roses Aktions=Fragmente (Teil II)* In: *Das Zeichen* 74, 448-463. [6]
- Fischer, Renate & Simon Kollien. 2010. Gibt es Constructed Action in Deutscher Gebärdensprache und in Deutsch (in der Textsorte Bedeutungserklärung)? In: *Das Zeichen* 86, 502-510. [6]
- Fischer, Renate & Simon Kollien. 2014. Constructed Dialogue und „die Hörenden“ in DGS-Erzählungen (Teil I). In: *Das Zeichen* 98, 414-422. [6]
- Fischer, Renate & Simon Kollien. 2015. Constructed Dialogue und „die Hörenden“ in DGS-Erzählungen (Teil II). In: *Das Zeichen* 99, 124-138. [6]
- Fischer, Renate & Simon Kollien. 2016. Pejorative aspects attributed to hearing people in signed constructed dialogue. In Rita Finkbeiner, Jörg Meibauer & Heike Wiese (eds.), *Pejoration*. Amsterdam: Benjamins, 325-354. [6]
- Happ, Daniela & Marc-Oliver Vorköper. 2006. *Deutsche Gebärdensprache. Ein Lehr- und Arbeitsbuch*. Frankfurt: Fachhochschulverlag. [6]
- Herrmann, Annika & Nina-Kristin Pendzich. 2018. Between Narrator and Protagonist in Fables of German Sign Language. In Annika Hübl and Markus Steinbach (eds.), *Linguistic Foundations of Narration in Spoken and Sign Languages*. Amsterdam: Benjamins, 275-308. [6.2]
- Herrmann, Annika & Markus Steinbach. 2007. *Wenn ‚ich‘ nicht ich ist. Zitieren in Gebärdensprachen*. Linguistische Berichte Sonderheft 15, 153-179. [6]
- Herrmann, Annika & Markus Steinbach. 2010. *Eine neue Perspektive auf Role Shift in Deutscher Gebärdensprache (DGS). Perspektivwechsel als nichtmanuelles Kongruenzphänomen*. *Das Zeichen* 84, 112-119. [6]

- Herrmann, Annika & Markus Steinbach. 2012. Quotation in Sign Languages – A Visible Context Shift. In: Alphen, Ingrid van & Isabelle Buchstaller (eds.), *Quotatives. Cross-linguistic and Cross-disciplinary Perspectives*. Amsterdam: Benjamins, 203-228. [6.1], [6.2]
- Hübl, Annika. 2013. Role Shift, Indexicals and Beyond - New Evidence from German Sign Language. In: C. Geer, Lea (ed.), *Proceedings from the 13th meeting of the Texas Linguistics Society*, 1-11. [6.1]
- Hübl, Annika. 2014. Context Shift (im)possible - Indexicals in German Sign Language. In: Kohlberger, Martin, Kate Bellamy & Eleanor Dutton (eds.), *Proceedings of ConSOLE XXI*, 171-183. [6.1]

Chapter 7. Expressive meaning

7.1. Conversational implicature

7.2. Conventional implicature

7.3. Presupposition

Chapter 8. Signing space

Signing space, which is a three-dimensional area in front of the body of the signer, is used to articulate signs as well as to express meaning. Referential meaning is conveyed by associating referents with areas in this space. Signing space is used in two forms to utilize referent-location associations, abstract space and topographic space. In abstract use, spatial locations do not carry any meaning and are assigned arbitrarily to the referents. On the other hand, when referent-location associations are meaningful, such that they are projected directly from real or imaginary space to the signing space, topographic space is used. Change of the locations in space effects the meaning in the topographic but not abstract arrangement of space. Moreover, signing space can be used for expression of the temporal units on imaginary time lines extending on horizontal, vertical or diagonal axes. Spatial placement between people and objects are expressed from different perspectives and frames of references which as well are realized in the signing space.

8.1. Uses of signing space

8.1.1. Abstract use

In the abstract usage of space, spatial locations typically stand for syntactic arguments [Syntax – Section 2.2] and are used for reference tracking [Pragmatics – Chapter 2]. In DGS, initial assignment of referential locations to space follows a default pattern. According to it, right-handed signers link first mentioned referent to the ipsilateral (right) and second mentioned referent to the contralateral (left) side of the signing space. Pronominal signs are directed to these areas to refer back to the same referents. In the example below, pronominal IX is pointing to the left area of the signing space and stands for second mentioned referent (NEW TEACHER) previously established in this area.

M-A-R-I-A IX_R NEW TEACHER IX_L LIKE. IX_L SMART.

‘Maria likes the new teacher. She is smart.’

(Steinbach & Onea 2016: 435)

The default pattern is used not only in overt localization of the referents but also when there is no previous localization. In DGS example below FARMER is localized on the right side of the signing space via body lean and slight movement of the head to the right. However, DONKEY is not initially linked to the spatial area, but it is realized on the left side via final location of the spatial verb BEAT.

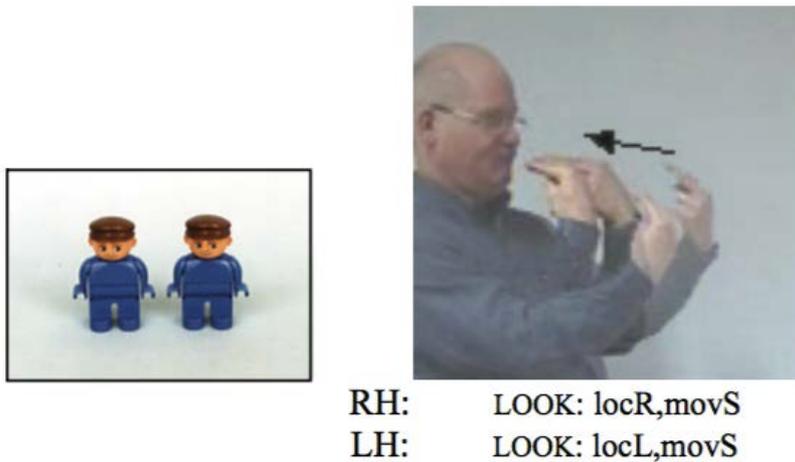
COND FARMER_{BS:R} OWN_R DONKEY – IX_R RBEAT_L

‘If a farmer owns a donkey, he beats it.’

(Steinbach & Onea 2016: 441)

lexical signs or spatial information about second entity can be presented before the spatial information about the first sign.

In DGS, location and orientation information of the described entities is rarely encoded by classifiers alone. In fact, it is very common to use directional predicate LOOK, either alone or combined with an entity classifier. In the example below, signer uses the verb LOOK starting location of which represents the location of the men figures aligned on the lateral axis. The direction of the predicate corresponds to the orientation or looking direction of the men in the still on the left.



RH: LOOK: locR,movS
 LH: LOOK: locL,movS

(Perniss 2007: 104)

In addition to classifier predicates, prepositions might be used to mark spatial relations in DGS. We see them in two types, lexical prepositions like RIGHT and LEFT and spatially modifiable prepositions NEXT-TO. The second type is less preferred than the first one. In the example below, spatial placement of MAN with respect to TREE is done using lexical preposition LEFT and modifiable preposition NEXT-TO.



RH: MAN LEFT NEXT-TO: movR tree + SASS(tree): locR
 LH: LEFT LEFT "directional": movA⁷³ NEXT-TO ---hold-----

(Perniss 2007: 115)

Typically, spatial descriptions end with simultaneous constructions. In case two referents are of the same type as the two men figures in the still below, their spatial relation is expressed via single predicate. See the last frame in DGS example below.



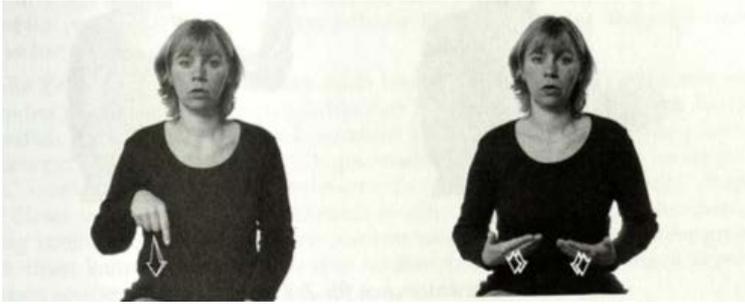
RH:	TWO	MAN	LOOK: locR,omL	CL _E (man): locR	LOOK: locR,omL
LH:			LOOK: locL,omR	CL _E (man): locL	LOOK: locL,omR

(Perniss 2007: 96)

Signers of DGS, almost exclusively sign descriptions of both simple and complex scenes from their own view [Pragmatics – Section 8.3], which is external to the event. As can be seen in the example above, if objects are placed on the lateral axis they are mapped exactly in the same manner into the signing space. The same convention applies for the entities on the saggital axis as well.

8.2. Temporal expressions

Signing space can also function to convey temporal information. Timelines, which are projected into the signing space are utilized at the lexical level and discourse level to express tense information mainly via adverbials. Among these timelines the *basic timeline*, which is stretched starting from the shoulder of the dominant hand and forward, lies vertical in relation to the torso of the signer. In this timeline the point of the reference is the locus of the body, which deictically refers to the utterance time. In DGS, time information is generally expressed by temporal adverbs at the beginning of the sentence, For expression of the present, adverbs are produced close to the body of signer, for future adverbs are directed forwards while for past adverbials are realized through backward path movement. All three-time periods are illustrated in the examples below.



a. TODAY NOW



b. JUST-AFTER ONE-DAY-AFTER TWO-DAYS-AFTER



c. JUST- BEFORE YESTERDAY TWO-DAYS-BEFORE

(Papasprou et al. 2008: 149-151)

Another time line projected into the signing space is the *sequence time line*, an abstract line that expands either across the lateral axis in the left-right direction or saggital axis in the front-to-back direction, the choice of the axis is mainly stylistic. Successive periods of time for temporal elements such as hours, weeks, months and years are expressed with respect to a particular reference point on this time line.



a. BEFORE (sagittal axis)



b. BEFORE (lateral axis)

(Papasprou et al. 2008: 154)

8.3. Perspective

One of the devices which plays an important role in organization of the spatial entities, especially the spatial relations or depictions of motion events in the signing space, is the signing perspective. Signing perspective corresponds to a viewpoint from which the actual event is mapped into the signing space. Such mapping can be done either from *observer's perspective* or from *character's perspective*. The size of the signing space, usage of spatial axes and type of classifier predicates differ in two usages of perspectives.

In observer's perspective signers take the role of observer. They convey events from external point, using lateral axis and reduced signing space in front of the body. Typically, entity classifiers [[Morphology – Section 5.1.1](#)] are used in the observer's perspective. In DGS example below the characters of the reported movie strip are expressed by entity classifiers, the mouse is represented on the right and the elephant on the left side of the lateral axis facing each other. This arrangement directly reflects the position of the characters on the visual. The signer herself does not take the role of any of the characters and stays external to the event.



RH: CL_E(mouse): locR
LH: CL_E(elephant): locL

(Perniss 2007:203)

In DGS, very rarely the events from observer's perspective can also be described using handling classifiers [Morphology – Section 5.1.3]. In the example below, the signer uses lateral axis and has located the mouse character of the motion event on her left. However, the manner of handling the pan, is expressed by the handling classifier.



RH:
LH: CL_H(pan): hold at locL

(Perniss 2007:203)

In the character's perspective the signer gets into the role of the character and depicts events internally. Hands and the body of a signer are also used to depict the events. The signing space is large, entities are depicted on the sagittal axis and there is a great usage of handling classifiers. In the example below a signer depicts the scene from a cartoon and he takes the perspective of the mouse in the described movie strip. The hands of the signer correspond to the hands of mouse which holds the ball, this is done through the usage of handling classifier predicate. The signer holds the ball in front of his body, in the same way as the mouse character does.



RH: CL_H(ball): hold
LH: CL_H(ball): hold

(Perniss 2007: 202)

Signers of DGS quite frequently make use of entity classifiers while reporting motion events from the character's perspective. In the example below, which is depiction of a scene on the left, a DGS signer expresses the event from the mouse character's perspective using sagittal axis for the pancake on the floor. The pancake is signed with the entity classifier on the left.

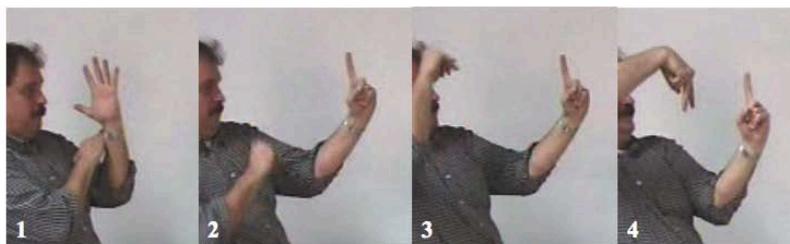


RH: $CL_H(\text{pan})$: hold
 LH: $CL_E(\text{pancake})$: loc floor

(Perniss 2007: 204)

In connection to the perspective different frames of reference are employed to convey the direction according to which one object is situated relative to another one. The frame of reference can be of three different types, relative, intrinsic or absolute. In relative frame of reference, the coordinates of the signer's body are projected onto the ground object, and it is dependent on the location of the signer with respect to the event scene. In intrinsic frame of reference, spatial relation between the objects is depicted from internal angle and is based on the intrinsic properties of one of the objects. In the absolute frame of reference, the absolute relations which are based on conventional directions or geographical landmarks of a culture are expressed. This frame of reference does not depend the position of the signer. In DGS, we see relative and intrinsic frame of references as well as a combination of these.

The relative frame of reference typically occurs within observer's perspective. As can be seen in the example below, a signer of DGS first places one of the objects (TREE) into the signing space and the second object (MAN) is positioned behind the tree, as the signer views it on the still on the left side.



RH: MAN CL_E(man): locN,ornA
 LH: TREE CL_E(tree): locF---hold-----

(Perniss 2007:145)

The intrinsic frame of reference is rarely used by DGS signers and it usually comes in alignment with character's perspective. An example of this is given below, where the signer projects one of the objects into his body (MAN) and depicts the placement of the other object (TREE) with respect to his body.



RH: *blue* + SASS(body) MAN LOOK: movA TREE INDEX(thumb):behind
 LH: *blue* + SASS(body) TREE

(Perniss 2007:147)

When both intrinsic and relative frame of reference are used, one object is located according to intrinsic properties of the other and this placement is at the same time similar to the one seen from the signer's view. In the visual example below, the MAN figure is put in the space first and the TREE is placed relative to the MAN hence from intrinsic frame of reference. Such arrangement as well corresponds to the external viewpoint, therefore relative frame of reference is also employed.



RH: MAN CL_E(man): locR,ornL LOOK: locR,ornL ---hold-----
 LH: tree + CL_E(tree): locL

(Perniss 2007: 146)

Information on Data and Consultants

See the references below for information on data and consultants

Authorship Information

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References

- Perniss, Pamela M. 2007. *Space and iconicity in German sign language (DGS)*. Nijmegen: Radboud University Nijmegen dissertation. (87-115) – [8.1.2], (145-203) – [8.1.3]
- Perniss, Pamela & Asli Özyürek. 2008. Representation of action, motion and location insign space. A comparison of German (DGS) and Turkish (TİD) Sign Language Narratives. *Signs of the time. Selected papers from TISLR 8*. 353-378. (4-16) – [8.3]
- Papaspyrou, Chrissostomos, Alexander von Meyenn, Michaela Matthaei & Bettina Herrmann. 2008. *Grammatik der Deutschen Gebärdensprache aus der Sicht gehörloser Fachleute*. Seedorf: Signum. (149-154) – [8.2]
- Steinbach, Markus & Edgar Onea. 2016. A DRT Analysis of Discourse Referents and Anaphora Resolution in Sign Language. *Journal of Semantics* 33(3). 409-448. [8.1.1]

Chapter 9. Figurative meaning

9.1. Metaphor

9.1.1. Cognitive basis of metaphors

9.1.2. Types and combinations of metaphors

9.1.3. Metaphors in grammar

9.2. Metonymy

9.2.1. Metonymy vs. metaphor

9.2.2. Body as metonymy

Chapter 10. Communicative interaction

10.1. Discourse markers

10.2. Turn taking

10.2.1. Types of turn taking constructions

10.2.1.1. Smooth turn taking

10.2.1.2. Turn taking with pause

10.2.1.3. Overlapping turns

10.2.2. Turn taking signals

10.2.2.1. Different turn taking signals

10.2.2.2. Turn-yielding signals

10.2.2.3. Turn taking signals

10.3. Back-channeling

10.4. Repairs

Chapter 11. Register and politeness

11.1. Register

11.2. Politeness

Annex 2. LIS (Italian Sign Language) Grammar

A Reference Grammar
of
Italian Sign Language (LIS)

Socio-historical Background

Chapter 1. History

The present chapter provides an introductory framework for the next parts of the grammar. First mentions of gestures in historical documents, educational methodologies applied over the centuries for training deaf people and history of Italian Sign Language (LIS) are topics which will be addressed in the following sections.

The term 'Deaf' (written with a capital letter 'D') relates to the common culture shared among Deaf community, by contrast the term 'deaf' (written with a lowercase 'd') concerns the medical and clinical condition of deafness.

It is difficult to trace back how deaf people were treated in primitive societies. Probably, deafness started to be considered as a deficit in societies influenced by Judeo-Hellenic tradition, where oral language played a prominent role in religious rites and social activities. Indeed, the Judaic laws proscribed by the Torah (which were orally transmitted by rabbis until 70 AC) were the first to contemplate society as a guardian of the deaf population, considered unable to assume the responsibilities of adults. This attitude is exemplified in the *Baba Kamma* treatise (*Babylonian Talmud*, 3th-5th century AC), which can be considered an ancient Judaic civil code.

Deaf people were considered either as idiots or minors, the reason why they were not subjected to punishment. Furthermore, they were not allowed to possess any object found by chance. The first reference on gestural language is in the description of a Judaic ceremony of marriage, when the rabbi sanctified the union by means of a ritual sign. In Judaic culture, deaf people were considered to be possessed by demons and that their lives were an admonishment for the sins committed by their forefathers.

In the ancient Greece, especially in Spartan culture (900-146 BC), when a baby was born with some kind of impairment, he was considered useless and killed. However, deaf babies were probably not affected by these executions because their deafness would be noticeable only later on.

A different perspective is found in the *Cratylus*, written by Platon in the 4th century AC: here an imaginary dialogue between Socrates and Hermogenes is reported. They discuss the necessity of communication among people. Language is so essential that even without an acoustic communication channel people communicate through a visual-gestural code.

Aristotele (384-322 AC) claimed in his *Historia Animalium* that "all people who are deaf from birth are dumb as well". This sentence has been misunderstood in the following centuries, allowing scholars of Aristotele to confuse deafness and muteness with senseless and lack of reason. What the philosopher was saying was that deaf babies cannot learn to speak if not properly instructed. Furthermore, he differentiated the concept of deafness and mutism, carrying out some studies on the acquisition of language. He also identified a sympathetic connection between the auditory and vocal organs. In the following centuries, his affirmation was assumed by scientists such as Galeno who searched for shared nerves between the tongue and the ears.

One of the first lives of a deaf person attested to in ancient documents is in *the Gospel of Matthew*, where Jesus works the miracle of *Effatà* by making a deaf man hear.

Pliny the Elder (23-79 AC) in the *Naturalis Historia* (77-78 AC) discussed Quintus Pedius, a noble mute who lived in Rome during the Augustan Age and instructed on the art of painting.

It was under the Emperor of Justinian (527-556 AC) that we may find the first distinction made between different types of deafness: people who were deaf from birth and people who became deaf after some illness or accident. Civil rights were granted to the latter, if they were educated before becoming deaf, and the same rights were assured for men and women, but people who were born deaf were still considered to be dumb as well.

In the Middle Ages the history of the education of the deaf might begin with the Venerable Bede, a priest of the Abbey of Jarrow. In 731, he wrote the *Ecclesiastical History of the English People* and in the same text also mentioned the cure of a young deaf-mute boy. The story tells that the Bishop of Hagulstad, in 685, trained this boy and in around two years he became capable to express his desires and thoughts. In his book, Bede also refers to a new system based on numerical signs matched with the letters of the Greek alphabet. This system facilitated education, but it was not used as a communication system, simply as a tool in stimulating intelligence.

One of the first forms of gestural language is mentioned by the Cardinal Jacques de Vitry (1170-1240 AD). During his visit to a monastery, he notes that in accordance with the rule of silence the monks used their hands in order to communicate with each other. Curiously it seems that their communications were not only about primary urgencies, but they also discussed about something a little lighter!

Except for these few famous examples, during the Middle Age deaf people were used for menial jobs. Furthermore, without any kind of educational training they were often marginalized and locked in their silence of incommunicability.

In the 16th century, an Italian physician named Girolamo Cardano (1501- 1576) affirmed the necessity to train and educate deaf people. He studied the physiology of the ears, the mouth, the eyes and the brain and reasoned that the sense of hearing and the capability of speaking were not indispensable for understanding ideas. In any case, his ideas were never put in practice, and two centuries passed in Italy before some visible changes were made.

In the 16th century an increasing interest for new experimental educational methods started to spread among educators, and especially among religious spheres. The first teachers of deaf people worked in isolation, and were very highly paid to follow few and selected pupils. A silence hid their method from the risk of plagiarism and little information exists about their educational systems.

In Spain, a Benedictine monk named Pedro Ponce de León (1520-1580) set up a school for deaf pupils of high social status in the village of San Salvator de Oña. He taught them the written alphabet and then instructed them on the pronunciation of each

sound, showing the correct position of the mouth. Once they learn to combine the letters composing words, he associated the correspondent object to these words. Unfortunately, most of his writings around this method were lost in a fire that destroyed the monastery's archives.

Another interesting account of signs comes from Ambrogio de Morales (1513-1591), historian to Felipe II (1527-1598), King of Spain. In his *General Chronicle of Spain* he reported some information about the Ottoman Empire, where the deaf guardians of the Sultan checked the entrance of his Staff. According to his telling, these people were used to communicate with signs and other people in the court including the Sultan himself were able to understand them.

During the early 17th century, another important figure in the history of deaf education was born in Spain, the priest Juan Pablo Bonet (1573-1633). He published *Reducción de las letras y arte para enseñar a hablar a los mudos*, a book considered to be the first modern treatise of the phonetics of sign language. The manual alphabet used by Bonet probably comes from other previous alphabets, such as the one acquired by Yebra (taken in turn from St. Bonaventure), or maybe from an Italian one published in Rossellini's *Thesaurus* in 1579.

Other famous educators were Emanuel Ramirez de Carrión (1579-1652), who behaved with his deaf pupils more like a wild animal tamer than a teacher, and the Physician Pietro di Castro (1603-1663), who wrote the *Colostro* about childhood illnesses. In this book, he supported the possibility of teaching deaf-mutes to speak. During the 17th many references were found about the issue of deafness and the education of deaf people, in particular from a medical or a philosophical perspective. Sometimes these speculations remained at a theoretical level, but sometimes they attempted to develop the empirical structure of language useful for the instruction of deaf.

An important physician of this period, John Bulwer (1614-1684), analyzed the use of the language of the hands, considering it a natural language in the art of rhetoric. He took lip-reading into account as an important tool for teaching deaf people to speak, showing how this use is common among hearing people. Nonetheless he considered the use of manual alphabets and signs to be much more effective for deaf people, affirming the necessity of setting up academies for deaf people where this system of communication could be taught.

In Great Britain, other figures famous for having studied the methods of teaching deaf people were George Dalgarno of Aberdeen in Scotland, who, attempting to elaborate a universal language, studied deaf education techniques for 20 years and coined the term *dactylology*, today known as fingerspelling. The other figures were the mathematician John Wallis (1616-1703) and the theologian William Holder (1616-1698), both members of an Academy founded by the philosopher Sir Francis Bacon (1561-1626). The former (John Wallis) wrote a very successful work about the sonic elements of language, useful not just for foreigners, but also for deaf people, while the latter (William Holder) was the arch rival of Wallis. Holder was in favor of teaching

writing before every other stimuli, because the learners were able to easily memorize the combination of sounds with the written symbols. Their rivalry was based on the demonstration of the efficiency of each of their own educational methods. Since Bonet, teaching methods have not been deeply modified; however, each instructor claimed the novelty of his own method, taking credit for its paternity.

The first teacher who described his method in detail was Johann Konrad Amman (1669-1724). He recommended gradually increasing the degree of difficulty in the education of deaf people. With his method, the word became the aim of instruction, taking a clear oralist connotation and laying the basis for the so called *German school*, which is oriented towards orality in opposition with the *French school* for philosophical and methodological choices. Germany, France and England promoted different educational system. In Germany, the principalities were in favor of opening public schools, while in England the schools were privately financed by rich exponents of the noble class. In France, centralized education favored deaf people.

The Spaniard Jacob Rodrigues Pereire (1715-1780) developed some further strategies to improve the speech skills of deaf-mutes in France, using an improved fingerspelling system. According to his technique the handshapes represented the phoneme of spoken French. This method will become part of teaching system used by de l'Épée.

The public education of the Deaf in Europe is crucially improved in the 18th century, which represents an important turning point in the history of deafness. In line with the spirit of Enlightenment, the interest in improving and sharing knowledge also grew concerning the public education of the Deaf. During this century, two prominent figures were very influential in the development of the teaching methods for Deaf people: Samuel Heinicke (1729-1790) and the Abbé De l'Épée (1712-1789). The former adopted a vocal oriented approach, thinking that everything was orientated around the spoken language. This is the reason why he is considered the father of the *oralism*, approach which refuse to use signs. On the contrary, the Abbé De l'Épée is recognized as the main promoter of *methodical signs*. Methodical signs were a mixture of gesture system combined with other invented signs representing grammatical functions of the written French, as for example verb endings, articles, prepositions or auxiliary verbs. This system was used for supporting the teaching of spoken language. Although he did not contest the validity of teaching in spoken words, as the most useful means for becoming part of hearing society, nonetheless he considered signs as the natural means of communication for Deaf people.

In the past, education of Deaf people was individual and elitist, while the Abbé created the conditions for the establishment of a little Deaf community by founding a deaf school in Paris in 1755. In this little community, Deaf pupils developed and increased the sign language system thanks to their daily contacts. Consequently, in 1760 he founded the *Institut National de Jeunes Sourds de Paris* (see **SOCIO-HISTORICAL BACKGROUND 2.4**). There, the very promising Deaf students were encouraged to become teachers after having finished the training courses, as happened to Laurent

Clerc. Indeed, Clerc (1785-1869), at the age of 12, entered the Royal Institution for Deaf in Paris, where he excelled in his studies. After the graduation, the school asked him to stay on as an assistant teacher and consequently he was promoted to teach the highest class, as evidence of the innovative nature of the Parisian system, which was training and fostering deaf professional profiles.

Another great difference between the previous educators of Deaf people and the Abbé was that he made his methods available to foreigner educators. He also established a teacher-training course that allowed these methodical signs to be exported to other countries. Since this experience, and with the collaboration of Roch Ambroise Cucurron Sicard (1742-1822) who headed up the School after the death of De l'Épée, the method was improved and spread across other countries.

As evidence of this open methodological system, in 1815, the National Institution for Deaf children in Paris hosted Thomas Hopkins Gallaudet (1787-1851), an American preacher interested in deaf education. There, he was trained with the manual method taught by the Abbot Sicard and the deaf teacher Laurent Clerc. Since this teaching approach impressed Gallaudet, he persuaded Clerc to accompany him back to America. The two men raised private and public funds to establish a school for deaf in Hartford, the *American School for Deaf* (ASD) in 1817. In 1864, Edward Miner Gallaudet (1837-1917), son of Thomas Hopkins Gallaudet, founded the first college for deaf, which in 1986 will became the important *Gallaudet University*.

Influenced by the French method three schools for deaf have been opened in the early 19th in Switzerland: one in Zurich by M. Ulrich, a second one in Geneva, in 1822, managed by Isaac Etienne Chomel, a deaf teacher trained by Sicard, and a third one in Berna, in 1823. The French method also spread to Austria, in 1871, when the Abbey Storck returned to Vienna and founded the first deaf school there. Few years later, the same methodology was exported to the Netherland and Belgium by M. Delo (for further information, see [SOCIO-HISTORICAL BACKGROUND 2.4](#)).

As for Italy, in 1784 the first school for the Deaf was founded by the Abbot Tommaso Silvestri (1744-1789) in Rome, financed by the lawyer Concistoriale Pasquale Di Pietro. Nevertheless, after a brief experience with the Abbé De l'Épée, he came upon the Amman's writings and converted his French method into a new spoken-oriented method. The person considered by Deaf people as the true promoter of a sign-oriented method was the Abbot Ottavio Giovan Battista Assarotti (1753-1829). He taught in Genoa, but he was never directly influenced by the French method; in fact, his system was based on the widespread dissemination of the books of French educators. In 1802, he founded an Institute for Deaf which received funds from the Government of France and then from the King of Sardinia.

In 1841, the new directors of the Institute in Rome, which was founded by the Abbot Silvestri, introduced the method of the Abbot Assarotti into the school, which was based on signs and fingerspelling, although in 1865 the oral method was once again restored by Padre Muti and Madre Kuntz, the following directors. This intermittency between methodologies was continued until the Congress of Milan in 1880, in fact this

date represents a watershed in the educational system for all European Countries; The Congress took place in the *Regio Istituto Tecnico di Santa Maria* (Royal technical Institute of Holy Mary) from the 6th to the 11th of September to improve the condition of Deaf-mutes. The delegations came from about ten European Countries and one, led by Thomas Gallaudet and his son Edward Gallaudet, came from the USA. The Abbot Giulio Tarra, a stronger supporter of oralism, was designed to preside over the Congress and the prof. Pasquale Fornari was the Secretary instructed to write the Acts of the Congress. Very few Deaf people have been invited to the Congress, and those who participated have been deliberately chosen for their positions in favor of oralism. Except for Thomas and Edward Gallaudet, who were openly in favor of a mixed method of signs and words, a larger majority supported oralism. Therefore, the debated was closed under the slogan *Viva la parola* (Hooray for the word) and *Viva la parola pura* (Hooray for the pure word). As consequence, at the end of the Congress, sign oriented methods or mixed sign and spoken-written systems were banned from all official circles - academic, social and political - since the oral method used in Germany was considered the most scientific and reliable. Signs were also considered to be damaging for word acquisition. However, other types of reasons were identified as causes of the decision against signs, some of these were also driven by national interests. One of these reasons concerned the intentions to eradicate linguistic deviations according to the national project of literacy started in Italy since its unification in 1861. Another possible cause was the philosophic conviction that words reflect the superior dimension of abstraction and ideas necessary to acquire intellectual and moral faculties. Finally, religious reasons supported the necessity to give the voice to Deaf people in order to actively participate to the Sacrament of Confession. Based upon these political, scientific and religious reasons, the Congress of Milan closed the question about the best methodological system supporting the superiority of the pure word.

Although neither the opinions nor the requests of Deaf people were considered during the Congress of Milan, in these years Deaf people increased the awareness about their social rights, thanks to the acquisition of a fundamental education and training. Indeed, several associations and friendly societies were founded by Deaf people in different cities, such as Milan (1874), Turin (1880), Genoa (1884) and Siena (1890). These types of societies laid the foundations for the following development of the National Body for the representation of Deaf people: the *National Deaf Institution* (ENS). In 1888, Francesco Micheloni (the president of the friendly society of Rome) printed a record condemning abuse against Deaf people and defending the mimic-gestural method. This and other examples testify a rising awareness of Deaf educators about their rights. In 1911, the *First International Congress of deaf-mutes* took place in Rome, in order to demand improvements in the educational system, in the workplace and in all of society. Ten years later, the *Second International Congress* in Rome demanded to the extension of the legal recognition of compulsory schooling to all deaf-mutes. Only in 1923 did, the Gentile Reform apply the extension of the mandatory school to deaf children from 6 to 16 years. Moreover, the Congress demanded the

revision of the Article n. 340 of the Civil Code in order to grant deaf-mutes their social and civil rights. Indeed, this Article stated that deaf and blind people, when they came of age, had to be automatically considered unable by right, except for those who have been defined able by the Court. The Article was repealed by the Decree 12 December 1938. In 1932, the padovano Antonio Magarotto (1891-1966) organized a national meeting among groups and associations which after a long and heated debate established the *Deaf of Padua* and the birth of the *Ente Unico* (Unique Institution) on behalf of the national Deaf community. Ten years later, in 1942 the Law n. 889 on 12 May 1942 officially recognized the Institution. Later on, the Law n. 698 on 21 August 1950 established the legal status of the *National Deaf Institution* (ENS). Since then, ENS officially became national representative Institution to protect Italian Deaf people. During this period, the debate about public schools with equal opportunities for all children was reopened and ENS was the main forger of the vindication of rights and services. In the 1950s, the State reconsidered this topic in relation to the effectiveness of the special school managed by different institutions across Italy. The debate about public education of Deaf people was driven by medical and social reasons connected to democratic administrations and associations. Indeed, the necessity to reconsider the function of the special school was threefold: political, scientific, and pedagogic. Politically, there was the attempt to weaken the strong dominion of religious Institutions, in favor of a national control of the education. Scientifically, medical sciences claimed their primacy over religious institutions in managing the condition of Deaf people. Finally, from a pedagogical perspective, the intention was to encourage a secular purpose released by religious power.

After a long debate, in the 1970s, deaf children began to be mainstreamed into schools for hearing people thanks to the Law n. 517 of 1977; After the administrative decentralization, ENS was changed into a private-law Charitable Trust by the Decree Law n. 616/1977. One year later, in the same vein of the Law n. 517/1977, the Law n. 833/1978 set up a new *National Health Service* which granted deaf people health-care services.

After the Law n. 517/1977 Deaf people could go either to the special school or to a public school and there have a re-education. The consequences were chaotic, since neither the teachers nor the assistants were trained about deafness. Consequently, during that transitional period, in their classrooms Deaf children did not learn much about either Italian or signs. Another cause of disorder, indeed, was the lack of linguistic standardization. Signs around Italy were various, since they came from different Institutes (see **SOCIO-HISTORICAL BACKGROUND 2.4**). Although signs were not officially used in education, and not accepted in official circles or at work, the daily interactions among Deaf scholars, living within the Institutes, and the unofficial communications between Deaf students and educators allowed signs to survive and to be developed anyway. However, neither a conception of common national sign language nor the awareness of linguistic status of signs were spread among Deaf and hearing people until the first linguistic researches have started in the late **1980s** (see

SOCIO-HISTORICAL BACKGROUND 3). Indeed, only in the last 30 years has linguistic research on LIS begun to make any inroads, and the situation has slowly begun to change.

A crucial step toward the improvement of educational condition for deaf scholars has been done with the Article n. 13 of the Law n. 104/1992 which established the presence of individual assistants for people with physical or sensory impairments. This professional profile was already mentioned within the Law n. 616/1977, however only with the Law n. 104/1992 the presence became mandatory. The individual assistant has been introduced in the class with the function to facilitate and support the communicative relationships of the deaf student with teachers and other scholars. This professional role could be covered by Deaf educators or by hearing assistants who know LIS. The Law n. 104/1992 also grants the support of a special education teacher whose task is to facilitate the educational programs and to enhance the growing of scholars. The presence of these professional profiles in the schools allowed to develop a contemporary model of bilingual bimodal educational programs. These models consist in training deaf scholars by fostering the development of both the communication channels (speech and signs).

Since 2005, the *Instruction and University Research Ministry* (MIUR) recognized the *National Deaf Institution* (ENS) as an accredited training centre on LIS, in order to create professional educators and individual assistants profiles for promoting and supporting bilingual bimodal educational approaches into schools (Decree 18 July 2005).

Although the education and training system needs to be improved in order to assure deaf people (and people with other types of disabilities) a higher quality in services and rights, the current Italian educational model for inclusion represents an important sign of civilization, and a forefront of social and cultural changes.

Information on Data and Consultants

The descriptions in this chapter are based on the references below. Please see the data and consultant information in these references.

Authorship Information

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References

- Corazza, Serena & Virginia Volterra. 2008. La Lingua dei Segni Italiana: nessuna, una, centomila. In Caterina Bagnara, Serena Corazza, Sabina Fontana, Amir Zuccalà (eds.), *I segni parlano. Prospettive di ricerca sulla Lingua dei Segni Italiana*, 19-29. Milano: Franco Angeli. [1]
- Radutzky, Ellen J. 1989. *La lingua italiana dei segni: Historical change in the sign language of deaf people in Italy*. New York University: PhD dissertation. [1]
- Russo Cardona, Tommaso & Virginia Volterra. 2007. *Le lingue dei segni. Storia e semiotica*. Roma: Carocci. [1]
- Zattini, Franco. 1997. Storia e cultura della comunità sorda in Italia 1874-1922. In Amir Zuccalà (ed.), *Cultura del gesto e cultura della parola*, 69-83. Roma: Meltemi. [1]

Sitography

- Eugeni, Carlo. 2008. *Una panoramica della situazione dei sordi italiani in generale e della lingua dei segni italiana in particolare*. Version updated after amendments by Dino Giglioli president of the National interpreters' association (ANIMU). http://www.unapeda.asso.fr/article.php3?id_article=551 [1]
- Ente Nazionale Sordi (ENS)
<https://www.ens.it> [1]
- Ministero dell'Istruzione, dell'Università e della Ricerca (MIUR)
<http://hubmiur.pubblica.istruzione.it/web/istruzione/home> [1]
- Storia dei Sordi di Franco Zattini
<http://www.storiadeisordi.it> [1]

Chapter 2. The sign language community

The following chapter addresses the question of cultural and social features which are shared among Deaf people at national and international level. Specifically, the following sections describes: (SOCIO-HISTORICAL BACKGROUND 2.1) the characteristics of Deaf Community, (SOCIO-HISTORICAL BACKGROUND 2.2) the sign language users, (SOCIO-HISTORICAL BACKGROUND 2.3) issues related to Deaf culture, such as the sign name's system, the artistic forms of LIS (poetry, theatre, etc.), the cultural and social centres representative for the Deaf community, the national and international Deaf festival and events and finally, (SOCIO-HISTORICAL BACKGROUND 2.4) a general overview on Deaf education.

2.1. Community characteristics

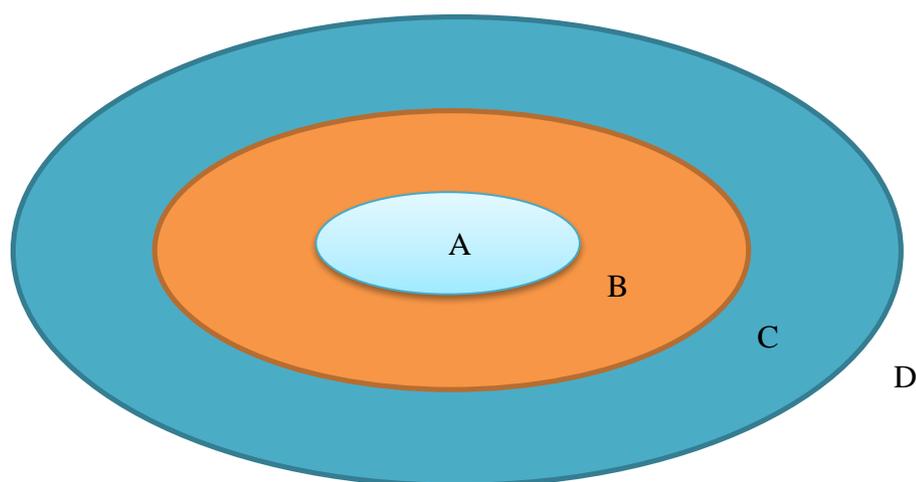
Deaf signers around the world appear to share some common features, which make it possible to speak about a cultural universe of Deaf people. Indeed, the types of relationships among signers, the interactions which occur in sign language, and the concept of time are all part of a specific cultural identity which is shared among Deaf people. Poetry, stories, rhymes and typical narrations in sign language all contribute towards improving this sense of belonging within the Deaf community.

Although nowadays the general standardization processes supported by implementations of technology are unifying the Deaf community, defining its boundaries still remains a complex task.

Deaf identity is based on the awareness of sharing the same language and fighting for the same purpose: the possibility to gain equality in a dominant hearing society. There is a similarity here to other historical communities which were considered minority cultures, for example ethnic or linguistic minorities who fought against the pressures of colonialism and racism towards black people, or those countering prejudices and violence directed toward the gay and lesbian communities.

On the basis of these similarities, it is possible to consider the Deaf culture as a *microculture*. The anthropological studies of Deaf people are still trying to defend the autonomy and the integrity of this culture, although the definition of Deaf Culture is elusive and much debated. According to a model proposed in 1989 by two American researchers, Carol Erting and Robert Johnson, Deaf culture is based on two factors: patrimony and paternity. Patrimony refers to the unit of norms, uses and behaviours of Deaf people in addition to the positive disposition to learn and share knowledge; while paternity concerns the biological status of deafness, which is a crucial factor in being part of Deaf culture in the strict sense. People who share both these features are part of Deaf culture, while people who only share sign language and some of the uses of this culture are only part of Deaf community. Indeed, the Deaf community is a broader

concept and involves all the people who have professional or personal relations with the Deaf culture. On the basis of this theory, three different types of people can be considered part of the Deaf community: the group of native signers born into Deaf families, the Deaf people who cannot be considered native, and all the remaining people who know or use sign language and have contact with Deaf culture. As shown before, the hard core is composed by native signers (circle A, below), deaf children with deaf parents who have used sign language since they were born. This group is very small and represents 8/10% of signers. Another group is composed of Deaf signers who started to sign later in life (circle B, below), thanks to educational institutions or for personal reasons. Finally, a broader group is composed of hearing people (circle C, below), who have professional or personal relationships with the Deaf community. This group includes the relatives of deaf people, interpreters, educators and teachers who share variable competence in sign language. In this way, the third group represents the ideal society where Deaf and hearing people have no communication barriers thanks to the shared knowledge of sign language. The space with the letter (D) represents, instead, all the remaining hearing part of society, with respect to which Deaf culture often defines itself.



Composition of Deaf community

(adapted from Russo Cadorna & Volterra 2007: 40)

The subcategories within the definition of Deaf are much more complex. Indeed, the Deaf group is far from being homogeneous, and in fact the concept of deaf can be subdivided into more specific categories such as inborn/acquired, pre-linguistic/post-linguistic, signer/oralist, child of deaf parents/ child of hearing parents, with prosthesis/without prosthesis. The first refers to the period of life when the condition of deafness first appeared, namely congenital deafness or acquired. The second subcategory reflects the condition of deafness with respect to language acquisition. The third defines deaf people in relation to their linguistic choice of either sign language or spoken language. In the fourth opposition, the deaf or hearing condition of parents can

affect the social, psychological and emotional developments of the deaf child. Finally, a prosthesis is generally considered as a facilitation tool for spoken language acquisition.

However, all these background conditions could be considered as irrelevant if the deaf person identifies himself as part of Deaf culture. Elements relating to deaf backgrounds can only be relevant in the social status of Deaf people within the Deaf culture. Indeed, if a Deaf person descends from generations of Deaf people, his status will be proudly considered as pure Deaf.

Another sensitive topic inside the Deaf community concerns the cochlear implant. In some parts of pure Deaf groups, implants are considered as a process of cultural genocide and people who have been implanted are generally not considered pure Deaf anymore. The discussion over cochlear implants is part of broader fears shared among many Deaf people about the possibility that the Deaf culture is going to disappear in a few decades. Technological and scientific progresses treat deafness as an illness, trying to find a cure for it. The debate about cochlear implants is complex and implantation is far from being the final solution for acquiring the hearing. The Deaf community is split over this topic and scared to lose sign language and disappear, as many other minority cultures have done.

Related to the concept of Deaf community, it is important to mention Deafblind people, an almost unknown community which count 198,000 people in Italy (ISTAT, 2013). Not being able to see, hear or speak are conditions which can led to a complete form of isolation. This is one of the reasons why Deafblind people struggled to be recognized as a community. Deafblind people communicate in different way depending on the nature of their physical conditions, their educational and their backgrounds. Method of communications include (i) the use of residual hearing or sight, for example signing with a restricted visual area, (ii) Italian Tactile Signs Language (LISt) or adapted LIS, (iii) and/or other communication strategies, as Screen Braille Communicator, and (iv) alphabetic methods, as the *Malossi* method or the tactile dactylogy. Similarly to LIS for Deaf people, LISt is created and evolved among those Deafblind people who chose tactile sign language as preferential communication channel.

In Italy, the first network among Deafblind people was founded in 1964 by Sabina Santilli a Deafblind woman born in a little village of Abruzzo. The founded association is the *Lega del Filo d'Oro* which still today represents one of the main clubs supporting Deafblind people's rights in Italy.

2.2. Sign language users

This section provides relevant statistical information about deafness in general, the Deaf community, and the Deafblind situation.

General deaf impairments and national spread

Features	Numbers	Percentage	Descriptions
National population	60,600,000		Persons residing in Italy
Hard-of-hearing	5,000,000	8.2% of national population	Total number of people with hearing impairments (Carlo Eugeni-Unapeda)
People with hearing impairments	1,198,000	2% of national population	People with only hearing impairments as sensorial disability (ISTAT, 2013)
Women with hearing impairments	638,000	53.3% of 1,198,000	(ISTAT, 2013)
Men with hearing impairments	560,000	46.7% of 1,198,000	(ISTAT, 2013)
People with hearing impairments over 65	895,000	74.7% of 1,198,000	(ISTAT, 2013)
Nationwide: North-West	289,920	24.2% of 1,198,000	(ISTAT, 2013)
North-Est	233,610	19.5% of 1,198,000	(ISTAT, 2013)
Centre	258,770	21.6% of 1,198,000	(ISTAT, 2013)
South	268,350	22.4% of 1,198,000	(ISTAT, 2013)
Islands: Sicily and Sardinia	147,350	12.3% of 1,198,000	(ISTAT, 2013)

Deafness and education

Features	Numbers	Percentage	Descriptions
Total number of scholars with hearing impairments.	6,217	2.64% of 234,788, the total number of scholars with deficit	Preschool, primary school, junior high school, high school (ISTAT 2014/2015)
People with hearing impairments and compulsory education.	994,340	83.0% of the total number of people with hearing impairment, 1,198,000	(ISTAT, 2013)
People with hearing impairments and high school graduation.	165,324	13.8% of the total number of people with hearing impairment, 1,198,000	(ISTAT, 2013)

People with hearing impairments and a university degree.	38,336	3.2% of the total number of people with hearing impairment, 1,198,000	(ISTAT, 2013)
Profoundly deaf people.	70,000	0.1% of national population, 60,600,000	Born deaf or became deaf before learning any language. Deafness is considered profound when the hearing loss is equal or higher than 90 decibel (EUD, 2014)
Profoundly deaf scholars in primary school	4,930	2.1% out of scholars with deficit (234,788)	Deafness is considered profound when the hearing loss is equal or more than 90 decibel (ISTAT, 2014-2015)
Deep deaf scholars in junior high school	4,226	1.8% out of scholars with deficit (234,788)	(ISTAT, 2013)

Deaf community

Features	Numbers	Percentage	Descriptions
Deaf registered by ENS	60,000		(ENS, 2010)
Deaf sign language users	40,000	60% out of profoundly deaf people are signers	(EUD, 2014)
Deaf signers with Deaf parents	7,000	10% out of profoundly deaf people	Carlo Eugeni-Unapeda

Deafblind

Features	Numbers	Percentage	Descriptions
Total Deafblind people	189,000	0.3% of national population	(ISTAT, 2013)
Nationwide: South and Island	89,586	47.4% of 189,000	(ISTAT, 2013)
Centre	40,450	21.4 % of 189,000	(ISTAT, 2013)
North	59,157	31.3% of 189,000	(ISTAT, 2013)
Deafblind people graduated from compulsory school	169,910	89.9% of 189,000	(ISTAT, 2013)
Deafblind people graduated from high school	14,553	7.7% of 189,000	(ISTAT, 2013)
Deafblind with university	4,536	2.4% of 189,000	(ISTAT, 2013)

degree			
Deafblind without other sensorial deficit	68,000	36.1 % of 189,000	(ISTAT, 2013)
Deafblind with motor deficit	98,000	51.7% of 189,000	(ISTAT, 2013)
Deafblind with mental deficit	76,000	40.1% of 189,000	(ISTAT, 2013)

2.3. Deaf culture

As introduced in **SOCIO-HISTORICAL BACKGROUND 2.1**, Deaf Culture considers deafness as a cultural factor, and medical or scientific perspectives are not relevant in its definition. Instead the relationships between Deaf people, their language, the shared knowledge about the history of Deaf people or their traditions and uses of life are considered important for the construction of Deaf identity. However, this construction reflects the power forces of the opposite hearing society. The boundaries of Deaf culture are both external and internal. The internal boundaries are built upon the sense of belonging to Deaf culture and sign language, while the external boundaries seem to be imposed by the inaccessibility to hearing social or economic sources. The perspective of Deaf culture as a linguistic and cultural minority implies economic government support, just as the medical perspective requires economic facilities and medical services such as cochlear implants, speech therapies and supporting devices. Deaf culture is enhanced as acts as a cultural in opposition to the social and economic conditions of a minority being imposed by the hearing model of society. Moreover, Deaf culture is powered by a circular revitalization: generation by generation Deaf people define their identity through constructive processes. These processes claim an independent identity, rejecting the definitions which come from the point of view of the majority hearing culture. For the same reason, Deaf people generally do not appreciate the same politically correct definitions as *non-hearing* people. Indeed, the definition of people who lack something is automatically related to an intact hearing dominant culture. In this sense, the word Deaf, like the word Blind, defines a condition without implying a dominant reference model.

Concerning Deaf identity and culture, an important concept is *Deafhood* which has been introduced by Paddy Ladd in *Understanding Deaf Culture-In search of Deafhood* (2003). The suffix *-hood* in spoken English concerns the status or the quality of a previously mentioned noun (in this case the deaf population). No literally translation are possible in Italian, but, in a nutshell, the concept expresses the condition of being deliberately part of Deaf culture and community in contrast to the simply medical condition of deafness. Deafhood is a psychological and social process of increasing the aware of deaf condition, in order to not consider it as a loss of something, but as part of an individual and collective identity. Another crucial concept in reframing deafness with respect to society is the notion of *Deaf Gain*. It is a framework proposed in 2009 by an article of H-Dirksen Bauman and Joseph Murray; even though the first

mention was by Aaron Williamson, a deaf artist performer, who firstly wondered why it was that not a single doctor told him he was *gaining his deafness*, instead of *losing his hearing*. Indeed, the concept is conceived as a redefinition of *deafness* as a sensory and cognitive diversity which has the potential to contribute to the enrichment of humanity. In addition to the benefits to society, there is a direct benefit for Deaf people who use a visual based language. For example, researches have shown that Deaf people have a more well-developed peripheral vision, a greater ability to form quick mental images and better facial-recognition skills. New concepts such as *Deafhood* and *Deaf Gain* contribute in increasing the awareness of Deaf identity by reframing the traditional notion of 'normalcy'.

The presence of cultural prevailing schema among the hearing population created barriers in the social inclusion of Deaf people, enhancing misconceptions and marginalization. However, the minority status of Deaf people is not common everywhere, indeed in other cultures there are no boundaries between hearing and Deaf people or between the two different cultures. Two examples are the story of a Mayan village in Yucatán and the story of Martha's Vineyard, an island off the coast of Massachusetts. In the first case, the high number of deaf people yield deaf inhabitants to be well integrated in the community. Indeed, since hearing people knew sign language, no communication problems are considered as obstacles for the relationships between hearing and deaf people inside the village. It seems that hearing villagers are still used to communicate through Yucatec Maya Sign Language, even if the number of deaf inhabitants started to decrease. The second story concerns the case of Martha's Vineyard island, which draw the linguistic researches attention to both the deaf and hearing islanders. Indeed, since the unusually high percentage of deaf people within the community, the Martha's Vineyard Sign Language (MVSL) was able to thrive on the island from the early 18th century to 1952.

In the island, deafness was a hereditary trait, so that Deaf people of the island did not consider themselves as impaired and they live in a complete autonomy. In addition, they were deeply integrated among the remaining hearing island's inhabitants. The sign language was used and taught to hearing children as early as their first years and signs were spread among hearing people even when no deaf people were present. MVSL started to decline when the population migrated to the mainland, and today no fluent signers are attested anymore. The last deaf person died in 1952, since then, very few elderly islanders were able to recall MVSL, when in the 1980s linguistic researchers started to examine the language in order to save it. These example, together with few others represents unusual cases of complete integration between hearing and deaf people, due to the absence of communication barriers. However, Deaf people are generally discriminated and marginalized by dominant hearing group. In post-industrial societies, Deaf people seem to share common life experiences. This is the reason why Deaf culture appears to overcome national boundaries by sharing a common ground of uses and universal perceptions, for example: the types of relationships shared among Deaf people; the visual channel of sign languages; the concept of time which is not

dependent on the production or working dimension of post-industrial societies; the way in which they are used to meeting each other. All these factors seem to be part of a specific sense of belonging to a broader Deaf culture.

An important part of Deaf identity is represented by sign names. In our post-industrial societies, from birth it is common to recognize our identity in the name which is has been chosen for us. However, in other culture names are not unique and unchangeable, and in fact a person can have several names to identify different social roles or s/he can change names to mark different moments of life. In Italy, in the past, something similar happened when a married woman changed her surname to take that of her husband. Furthermore, in post-industrial societies the specific meaning of the name is often lost, while in other cultures, names are chosen because they describe behavioural or physical characteristics. Something similar happens in Deaf cultures, where Deaf people, but also hearing people part of Deaf communities, are identified with one or more sign names. Every Deaf people share two names: one in spoken language and one sign name. These two names represent the double belonging to the hearing and Deaf spheres. Sign names in LIS can be arbitrary or descriptive. The latter are descriptions of specific physical characteristics as for example related to the hair or to particular facial traits. For example, someone with curly hair can be named with the sign CURLY-HAIR (as shown in the video, below).

CURLY-HAIR

[video example]

These descriptions can also represent the specific attitude of the person designed with that sign name, as for example the smile, if the person is often cheerful, or they can refer to the job or to some specific abilities of the person who bears the sign name (as shown below).

SMILE

[video example]

The arbitrary sign names, on the other hand are not expressions of specific individual qualities, but are initializations or typical representations or translations of the name or surname in Italian. In the first case, initialized sign names use the first letter of the spoken Italian name or surname, as for example for the name Laura, the initialisation will be L. The letters are signed with the hand-alphabet which is a contact point between signs and words (see example below).

L-INITIALISATION

[video example]

In the second case, sign names are correlated to very common Italian name, as for example Pietro or Paolo. Very often these typical names come from the religious tradition and have fixed signs which correspond to them. Thus, Pietro will be signed as a key, because it is a specific identification of Saint Peter, according to the Christian tradition.

PIETRO

[video example]

Finally, a translated sign name is a literal translation of Italian names or surnames. For example, if the surname is *Scarpa* it is translated with the sign SHOE (Ita. *scarpa*).

SHOE

[video example]

Sign names can also be mixed, it means that these classifications are not rigid and fixed, but that sometimes they can be used together.

Sign names can be inherited and transmitted generation by generation, but this is not a rule. Furthermore, more than one sign name can coexist in the same person, for example the family sign name can be different from the sign name spread among the Deaf community, in this way a person can be identified with a specific sign from the family and with another specific sign from the community. Generally, there are three steps for changing a sign name: the first sign name is given by the family, the second is given by classmates or teachers and, thirdly, a sign name can change depending on the person's job. The ability to keep track of the sign names in different times and spaces is a property of complex language system.

The Deaf community also shares cultural and artistic types of expressions in LIS. Poetry, theatre, rap performance, painting, cinema, cultural events and many other forms of artistic communication have been spreading and growing in the recent decades in Italy, also thanks to contact with other international Deaf artists. In Italy, festivals of theatre and poetry are organized yearly in different cities, and these meetings represent important opportunities where Deaf artists can improve their skills and establish a social reputation in the Deaf community. However, thanks to scientific progresses and social media, the community mostly shares cultural performances through YouTube, Facebook pages, personal blogs, Instagram and other forms of social communication.

As for sign language poetry, it started to appear in Italy by 1976, thanks to Joseph Castronovo, a Deaf American poet who was looking for his Sicilian origins. He married Graziella Anselmo and together they encouraged the spreading of poetry, enhancing the visual channel of this special linguistic expression. In Palermo, they joined a theatre company, *Il Gabbiano* (The Seagull) founded by Rosaria, Giuseppe, Maurizio and Fabio Giuranna in order to promote LIS. These four Deaf siblings, coming from a long Deaf family tradition, were emerging in the Deaf community thanks to their special

artistic skills. Their performances were appreciated by the Deaf community and interest in them grew; in 1997, when the first International Festival of theatre, poetry and sketches in LIS was organized in Trieste, they won the first award for poetry. Other similar cultural events have been organized in Genoa in 2000, Naples in 2005 and Rome in 2017.

Rosaria Giuranna can be considered one of the first woman poets, and together with her, the brother Giuseppe Giuranna is one of the most well-known performers of Visual Vernacular, another form of artistic expression. Year by year, many other Deaf poets or performers started to run the social scene: one of the first was Renato Pigliacampo, who, was specialized in written Italian poem, although he was Deaf; while poets who are used to sign are Lucia Daniele, Valentina Bani, Nicola Della Maggiora, Laura di Gioia and Chiara Di Monte.

Topics of poetry are often linked to the condition of being Deaf in a hearing society, they can be metaphors or expressions of personal experiences, reinterpretations of historical events, or short symbolic fantastic narrations. Visual perceptions are prominent and unusual and new linguistic forms are created in emphasizing the force of communication by expanding the boundaries of every sign. Poetry testifies a specific linguistic awareness, the ability to catch the relationship between expressive forms and meanings and the straightforward capability to create rhythmic sequences, symmetries, rhymes, repetitions, assonances and text-internal references. In a poetic performance, the linguistic form is valued as well, although the poet may not necessarily be aware about all the choices made. The poetic language seems not to obey the common rules of the grammar, indeed poets are those who use language in unusual way, finding new formal and stylistic solutions. Language is folded to the poetic intentions in order to support and enhance the layers of meaning. Among others, one of the properties of a poetic text is repetition. This stylistic strategy can be used in different linguistic layers of LIS: at a phonological layer by repeating the same configurations, movements or orientations of signs, at a morphological level by repeating the same signs, and at a syntactic level by repeating the sentences with or without variations of manual and non-manual features. Repetition makes the interpretation of content easier and enhances the relevance of the message. Another recurrent property of poetry is the symmetry in signing. This is a stylistic technique which reinforces visual patterns and the structural order of the signs, moreover, it makes signs balanced and more fluent.

A common scheme of poetry reflects a circular structure, like some refrains in spoken songs, where repetition and symmetric patterns create a visual melody comparable to the musicality of some oral forms of poetry. Contrary to common misconceptions, even sign language has a rhythm. Rhythm is not only transmitted through acoustic sounds, in fact there is a visual rhythm built upon repetition of signs, duration and movements. The uses of these factors produce different types of emphasis, for example accelerations or downturns affect the rhythm of signing.

Iconicity is a further property of languages: in spoken languages, onomatopoeic sounds are iconic because they reproduce real sounds by codifying them into words,

such as the verb 'mooring' which reproduces the sound of a cow. Sign languages also use iconicity, but since the communication channel in sign language is visual they use visual iconicity. In poetry, iconicity supports the artistic expression of signs. Generally, it is reflected by the choice of handshapes, while movements, orientations, locations and non-manual features can emphasize iconicity as well.

The collection *Sette poesie in LIS* (Seven poems in LIS) is one of the first examples of poetry which was published and disseminated by means of CD-ROM. The project was realized by Rosaria and Giuseppe Giuranna. In the CD, one of the poems, *Orologio* (Clock), is about the passing of time and the individual perception of the temporal dimension (the video is available online: <https://www.youtube.com/watch?v=i9TW4-jC6cE>). Time is affected by meetings with people who can break the monotony of daily life. Different rhythms accompany different time perceptions, slow repetition and the cyclicity of signs emphasise for example the boredom of life, while a sudden change in the speed of signing shows an emotional break in the circular perception of time. In this way, linguistic forms and content overlap giving back the visual effect of passing of time.

Together with repetition and iconicity, semantic indeterminacy is another characteristic property of poetry. This kind of semantic vagueness allows the extension of interpretations and meaning of the poems over its formal and semantic boundaries. A good example of semantic indeterminacy arises in the poetry of Lucia Daniele: *Matita* (Pencil) (the video is available online: <https://www.youtube.com/watch?v=GIMJa8yaBHC>). Since this poetry is less narrative than *Orologio*, more of the semantic interpretation is left up to the audience. *Matita* is a metaphor for life, its gentle track can be cancelled and the pencil is worn like the life of human being which is used right to the end. On this vein, the poetry could be interpreted as a description for an entire human life, from birth to death. It is not accidental if the repetition of the handshape 1 is the same one used for person, in this way the metaphor is visually enhanced. However, the semantic vagueness of this poetry allows other level of interpretations; for example, it is possible to read the necessity of facing the hardships of life, of not giving up to obstacles, and as a pencil can be sharp, a life can also be made sharp by pains. All these interpretations are possible, because the use of classifiers and role shift make the reading broader and stratified.

Since poems in LIS cannot be written (yet), the reproduction of poetry are performative moments for the artists. Indeed, poetry and theatre are close in this genre and require not only a physical, but also a deep mental presence and concentration from the poet. Based on this performative nature of poetries, each reproduction is unique and unrepeatable.

Other genres of artistic performances exist, not only poetry, such as Visual Vernacular, ABC stories and creative storytelling.

Visual Vernacular (VV) is an artistic genre which is related to cinematographic effects. Although it has a high use of iconicity, contrary to common misconceptions, it is not universally understandable. Visual Vernacular uses sign language mixed with

visual techniques based on classifiers and role shifts. In Italy, Giuseppe Giuranna is an internationally known VV performer. In the video (available online <https://www.youtube.com/watch?v=iAnNEINxmKo>), pieces of several of his performances make clear the deeply iconic nature of these types of performance, which require a perfect ability in assembling the scenes and taking into account the rhythms, time sequences, points of view and foci. In Italy, another famous national Visual Vernacular performer is Gabriele Caia.

ABC stories are performances in signs which follow a regular pattern given by the order of the hand alphabet. Because of their nature, they represent a contact point between spoken languages (they use alphabetic letters) and sign languages (they use the hands in order to produce letters). Gabriele Caia and many other Deaf artists, as the deaf blogger Lorenzo Laudo, have played with ABC-stories (an example by Lorenzo Laudo is available online: <https://www.youtube.com/watch?v=WIMy-FCUuG0>).

Theatre companies and performers represent an important piece of artistic forms and expressions within the Deaf culture. It is impossible to establish when the first theatre company in sign language was founded in Italy. Probably, in the first decades of 1900 a group of Deaf people enjoyed performing shows and sketches in the local clubs of their cities. No written documents have been found and the unique performances are transmitted via the memories of old signers.

The list below shows some theatre companies playing at international and national level, which participated at the first Deaf Festival (Trieste October 30th-november 2nd 1997).

The theatre company of *Mime Senza Parole* (Without Words): it was founded in Milan by Sergio Cattivalli, born to Deaf parents. After a break, in 1979 leadership was assumed by the director Antonio de Pieri. The proposed topics are original and cross several genres, such as cabaret, drama and comedy, all of them turning around Deaf culture. Other shows are reinterpretations of famous masterpieces. The company plays in Italy, but also in other countries, such as Spain, Denmark, USA, Japan.

The theatre company *Il Ciclope* (The Cyclops) was founded in Palermo by a group of Deaf people in 1976. It performs musicals with LIS songs, sketches, poems concerning Deaf cultures and communities, daily life, and typical Deaf experiences in hearing society are performed as well. The company is open to Deaf and hearing players. Its tournées are usually conducted across in Italy, but also France, Spain and Japan.

The theatre company *Laboratorio Zero* (Zero Laboratory) was founded in Rome by Ginetta Rosato, a Deaf director. Initially the name of the Company was “La Mandragola”, and in 1986 it was changed in the current one. Since 1993 the company started to perform only reinterpretations of famous comedies and it has performed in several Italian cities.

The theatre company *Padre Luigi Aiello* is based in Molfetta-Bari and was founded in 1985 by Domenico Binetti and other friends. The group plays cabaret and

comedies, which are represented using signs and gestures. This accessibility is appreciated by the local and national schools, where the company played several shows.

The theatre company *Teatro del Sole* (Theater of the Sun) was born in Catania and directed by Antonio D'Urso. Initially, the company was composed of both hearing and Deaf players. Since 1992, it has only been formed of Deaf actors.

The theatre company *Maschera Viva* (Live Mask) operates in Turin and it is run only by Deaf players. The shows are represented in sign language and are related to scenes of Deaf daily life. Lucia Daniele used to perform with the company. The group have performed in several Italian cities.

In Milan, the association *Orgoglio Sordo* (Deaf Pride) was founded in 1983. The main goal of the group is to spread knowledge about Deaf culture and LIS among hearing and deaf people. In 1995, it organized a short linguistic and poetic course about sign language run by Clayton Valli, a famous Deaf American poet. The course was one of the first chances to learn and develop poetic techniques. The group performs in several Italian cities with poetry and songs.

The group *Mimico Trentino* (Trentino Mime) was born in Trento thanks to the support of the City of Trento and the local ENS. The project was initially run by Enzo Maria Caserta, who disappeared in 1997. It proposes funny sketches and shows about Deaf culture at a national level.

The theatre company *Il Gabbiano* (The Seagull) was founded in 1997 by the Giuranna siblings and performs poems and songs in LIS. It won the First Deaf Festival in Trieste with the poem *Grazie* (Thanks).

The *Arte&Mani-Deaf Italy Onlus* (Art&Hands) was established in Rome in 2011 together with the experimental company *Teatro Sordo Lis* (Deaf LIS Theatre). The group is composed by hearing and deaf actors who work together to create accessible performances for both hearing and deaf audience.

Theatre companies and artistic performances contribute in disseminating LIS at national and international levels, however, the increasing interest for sign language and Deaf culture in Italy is also fostered through the presence of new private and public associations which are promoting LIS among hearing people, fighting against the stereotypes for a better knowledge of the Deaf universe. Across Italy, beside the presence of the national club (ENS), other associations work for the promotion of LIS. Examples of this growing interest are given by the rising numbers of subscriptions to LIS courses at different levels (see [SOCIO-HISTORICAL BACKGROUND 3.3](#)).

The social empowerment and life changing effects on Deaf people are also testified by the recent opening of new public places, such as bars or pubs run by Deaf people or with Deaf people. In Italy, the first and most important place totally run by young Deaf people is the *Senza Nome* bar (Without Name) opened in Bologna, in Via Belvedere, 11/B. The space was founded by Alfonso Marrazzo and Sara Longhi and represents a contact point for hearing and Deaf people, and the main goal is to create opportunities for mutual relationships. It is a welcoming place where boundaries break down, leaving room for daily inclusion experiences. The space is also a frequent

promoter of cultural and artistic events, such as book presentations, cultural and linguistic discussions, and workshops and courses of different kinds. Indeed, many of the Deaf people who work there come from artistic backgrounds, and the bar has been opened with the precise purpose to foster LIS through public artistic performances or installations.

Another central place for Deaf culture is *L'Altro Spazio* (The Other Space) opened in Bologna (in via Nazario Sauro, 24f) after the success of the *Senza Nome* bar and supported by the association *Farm*. Unlike *Senza Nome*, *L'Altro Spazio* has a broader vocation, and is designed as a contact space for people with various disabilities. It fights against the stereotype of disability as a lack of something. The idea came from the sisters Nunzia and Santa Vannuccini together with Jasha Blume.

All these experiences are examples of new awareness of Deaf people of their rights and their changed social status. The new Deaf generations are people who want to review welfarisms and old mentality, testifying their proactivity and their right to be independent. The success of these spaces cannot be only justified as fashions or social tendencies, but seem rather to be consequences of a renewed awareness conception of social diversities which describe a new relational model of society. These examples are parts of the concept of *Deaf Gain*, which suggests to counter the predominant schema of being Deaf as a 'loss' by reframing 'deafness' as an opportunity for the humanity enrichment [2.3].

The spreading of this changed vision of deafness and the growing of Deaf identity and culture can also be attributed to the increase of national and international events and festivals organized by the Deaf community in the last decades. One of the most important events for the Deaf community is *CineDeaf*, the Italian Festival of Deaf Cinema. It was started in Rome in 2012 thanks to the support of the *National Deaf Institute*, and has had four editions so far (2013, 2015, 2017). The team who organized this international Festival is composed of both hearing and Deaf people. Their idea is to work together to promote knowledge and organize meetings between the traditional cinema circles and the Deaf artists and directors. The Festival wants to create dialogic spaces where perspectives and different point of views can be exchanged and shared. Furthermore, the project's goal is to find new paths and new expressive languages of communication in order to renew and enrich traditional experiences. It also aims to spread and disseminate new independent talents, and even young talents are involved through the participation of schools. Culturally, the CineDeaf represents an important network with other foreign film projects across the world and it is a great opportunity among international Deaf communities.

As already mentioned in the previous section, Deaf theatre is generally celebrated across Italian cities and represents an important opportunity to experience international Deaf cultures and to share experiences between Deaf and hearing people from different parts of the world. The First Theatre Festival was organized in Trieste (1997), and others were based in Genoa (2000), Naples (2005), and the last was run in Rome on December 2017.

Other representative occasion related to the international Deaf community are: (i) the *World Deaf Day* (WDD), which is celebrated every year in the last week of September to direct the attention of the media, politicians and authorities towards the achievements of Deaf people, as well as the hearing communities. People are also encouraged to celebrate this day to expand new technologies and improve the opportunities to change their lifestyle in society. (ii) The *Summer and Winter Deaflympics* (Olympic games for deaf and hard of hearing people). The first game, known as the *International Silent Game*, were held in 1924 in Paris by the *French Sport Deaf Federation* involving athletes from nine countries, in order to prove that deaf people were not intellectually inferior, common misconception at that time. Today, *Deaflympics* has mostly organized by the *International Committee of Sport for Deaf* (ICSD) and involves 113 memberships. Another very important event spread among Deaf community is the (iii) *Deaf Champion League* (DCL). Since the first competition in 2008 based in London, DCL is played every year in a different city. Today DCL includes 29 different countries. Not only sport represents an important occasion for sharing and fostering Deaf identity around world, but also art, culture, and fashion, which are crucial points in the *DeafNation World Expo* (DNWE). The first DWE was held in Las Vegas from 19 to 22 July 2010, the idea of a World Expo come from the *DeafNation*, a social media company co-founded in 2003 by the brothers Joel and Jed Barish. The DNWE was established in order to create an opportunity for Deaf people around the world to meet and exchange life experiences. A known event linked to the DWE and spread among Deaf national and international community is *Miss & Mister Deaf International* (MMDI). The first MMDI pageant was established in 2010, thanks to the idea of Ms. Bonita Ann Leek. Indeed, in 2010, the pageant, which before 2010 was local, received the opportunity to be incorporated in the *DeafNation World Expo*, acquiring an international visibility. Since then, seven editions have been organized in various cities across world. However, the beauty pageant has also a national version, *Miss & Mister Deaf Italy*, held in Italy since the first edition in 2011. The pageant is organized by *Alphabet Onlus* in order to raise the profile of Deaf people across Italy, but the Onlus also supports Deaf families with limited means and promote the developments of technological tools for deaf people.

These types of events are part of the sense of belonging to the same community, and they come from the will to share experiences and integrate Deaf conditions among society. Internationality is a way to recognize similarities over differences and become stronger in shared new projects and new ideas.

2.4. Deaf education

As introduced in **SOCIO-HISTORICAL BACKGROUND 1**, in the past, the education of deaf children was managed through various methods, but nonetheless there were two main tendencies: one spoken oriented and another sign oriented. Both theories were

improved during the 18th century: the first by Samuel Heinicke (1729-1790) and the second by the Abbé De l'Épée (1712-1789). Heinicke was born on a farm in Germany, and after an experience in the military he worked as private tutor. Around 1754, he taught a deaf boy to write with great success, following the spoken-oriented book by Amman. In 1768, he took on another deaf boy and taught him how to speak and write with brilliant results. In 1778, Heinicke opened a school for the deaf in Leipzig. His method is defined as oralist because he claimed that spoken language is the starting point for thoughts, and the written form is simply a consequence of it. This was the reason why he avoided teaching the written language first. Heinicke's use of signs is unclear, but it is most likely that he did not reject their use, using natural signs and the manual alphabet as a means in supporting of his spoken oriented system.

A completely different educational model was promoted by the Abbé De l'Épée, who was born in Versailles in a wealthy family. He came upon twin deaf sisters, who had just lost their spiritual leader, and being moved to pity decided to take care of their instruction. In a short time, thanks to his success, he took on other deaf pupils. In 1760, he founded the *Institut National des Jeunes Sourds* in Paris. Initially, he developed his own method, using the natural signs of deaf people in Paris as the primary means of communication. Increasing the number of his students, De l'Épée began to be well-known in other countries. Unlike his predecessors, he was more than happy to spread his methodology at an international level, welcoming foreign teachers who were interested in his work.

According to these ideal principles, in 1776 he published a book, later improved and republished in 1784, where he expounded the theory and practice of his method. His primary goal was not to teach speaking and writing to his pupils, but to enrich them through intellectual and spiritual education. In order to pursue this aim, he found sign communication the most efficient method. L'Épée added the *signs methodiques* to the *langue de sign naturel* in an attempt to adapt French sign language to the grammar of spoken French (see **SOCIO-HISTORICAL BACKGROUND 1**). He also used to consider fingerspelling as a methodological tool, and the verbs taught were followed by *methodological signs* which marked the tense and the aspect of the verb. Furthermore, he considered lip-reading hard to teach, but also very useful for deaf people to acquire spoken languages.

The spreading of this sign oriented method provoked attacks from the men who supported the opposite educational theories, such as Heinicke and Pereire. They declared that L'Épée's method was useless and dangerous for the learning purposes of deaf people. Although a commission analysed his method and claimed that it was valid, Heinicke remained doubtful and sceptic. De L'Épée died in 1789, and Ambroise Sicard (1742-1822) became the director of the *National Institute*. In 1818, he completed and published the dictionary begun by De L'Épée *Theorie de Signes*, where for the first time signs were organized by a criterion of classes of idea and not alphabetically. Sicard improved the method of his predecessor, considering the final purpose of teaching to allow students to be able to express their own thoughts. He abandoned De L'Épée's aim

to teach signed French, in favour of a bilingual approach. Finally, Roch Ambroise Bebian (1789-1839), Sicard's successor, refined his method and produced a manual for teaching the French language through sign language. The French method, improved by these additional revisions, was widely spread throughout Europe and across the ocean as well.

One of the most fruitful heirs of these developments was Thomas Hopkins Gallaudet (1787-1851), an American reverend interested into deaf educational methods (see **SOCIO-HISTORICAL BACKGROUND 1**). In 1816, thanks to an invitation from Sicard, he visited the Institute for the deaf in Paris, and after some months he got a permit to go back to America with Laurent Clerc, a brilliant deaf teacher of the Institute. In 1817, at Hartford, in Connecticut, Gallaudet and Clerc opened the first school for deaf students: the *American School for Deaf* (ASD).

French Sign Language was introduced to the new school and this is the reason why American Sign Language (ASL) is so similar to French Sign Language (LSF).



The deaf Institutes in Italy

(adapted from <http://www.istc.cnr.it/mostralis/pannello10.htm>)

In Italy, the first school for the deaf was opened in Rome in 1784 by the Abbot Tommaso Silvestri (1744-1789). Although he was trained for six months by De L'Épée, he chose a spoken oriented method. In fact, he was convinced that only words had the power to distinguish men and beasts. The oral method was used until 1841, when the school was converted to signs.

As mentioned in the Historical Background (see **SOCIO-HISTORICAL BACKGROUND 1**), Padre Giovan Battista Assarotti is considered the real father of the sign-oriented method in Italy. In his school in Genoa he adopted the visual-gestural method spread by Sicard. Assarotti founded his Institute in 1805, and his motto was *The best method is to have no method!*. He created his own method, but unfortunately it has been lost because he never made any kind of written documentation. Probably, thanks to

the books published by L'Épée and Sicard, the French signs were imported to Genoa, influencing the Italian signs, but no proof of this contamination exists.

In the same vein as Assarotti, the priest Tommaso Pendola founded the *Real Tuscan Institute for Deaf-mutes* in the 1828 in Siena, financed by Leopold II of Tuscany. Deaf students from the whole region were welcomed and trained in order to become employed in professional activities. However, in 1871 the educational system was changed and converted to an oral method.

In 1849-1950, in Bologna, Don Giuseppe Gualandi and his brother Don Cesare Gualandi founded an Institute for Deaf children, with the purpose of educating and securing a proper catholic instruction for their deaf students. Cesare and Giuseppe Gualandi visited many specialized centres around Italy in order to document numerous experiences and apply the best methodology. Even if spoken acquisition remained the primary aim of both the brothers, their methodology was tailored to each single student, everyone being considered as an individual case. The attempt was to avoid the overrule of a unique and universal top-down method to apply in all the situations, and to create a bottom-up method, as flexible and adaptive as a *dress to cut or extend depending on the real cases*. However, this individual education required an open-minded comparison with other schools and deaf Institutions, in order to start a national dialogue and create a level playing field between the different approaches. In the same vein, on the 1st January 1872 in Siena the magazine *L'educazione dei Sordomuti* (The education of Deaf-Mutes) was created with the purpose of connecting specialized teachers to exchange opinions and solve common problems.

Meanwhile, in Rome in 1841, pope Gregory XVI sent the new directors of the Roman Institute for the deaf (the one funded by the Abbot Silvestri) to learn the Padre Assarotti methodology. And by that moment the oral method of the Roman Institute was changed, following the Assarotti's approach based on signs and fingerspelling. However, this new input lasted only 20 years, and in 1865 Padre Muti e Madre Kuntz (director of the opened female section) restored the spoken oriented education. After Italian Unification, the Institute passed under the authority of the Ministry of Public Instruction, and in 1889 was moved to via Nomentana 54, where it still exists today.

Generally, during the first part of the 19th century, signs were mostly used in the Deaf Institute, or at least admitted as a transitional phase to proceed with an oral/written type of education. In that period, the emphasis was on learning and the linguistic developments of deaf children appeared to be valuable. However, towards the end of the century, this mixed approach changed in favour of a purely oralist method. The reason for this important turning point can be found in the fact that most of the Institutes were concentrated in the northern part of Italy, precisely in the Lombardo-Veneto Kingdom. This area, being part of the Austro-Hungarian Empire, was very influenced by the nearby Germanic culture. The progress in biology, medicine and linguistics opened new questions on educational discussions and the oral methodology was considered part of this progress. Another relevant factor was the Unification of Italy in 1861, accompanied by the pressure to homogenize all local differences. Such processes led to the

suppression of cultural and linguistic minorities, in favour of one unique national culture and language. In the same spirit, educators had been questioning the relevance of training students with the majority spoken language. The first Congress of educator took place in Siena in 1873 and concluded that signs had to be considered as a middle phase until the Deaf students had acquired sufficient control of the oral language. Some years later, the Universal Congress in Paris (1878) claimed that the best way to include Deaf people in hearing society was articulatory oriented, namely based on lip-reading. However, crucial point in the history of signs was the International Congress of Milan (6-11 September 1880) chaired by the Abbot Giulio Tarra, a strong supporter of oralism (see **SOCIO-HISTORICAL BACKGROUND 1**). The participants invited at the Congress supported the superiority of oral method, except for the convinced opposition of Thomas Gallaudet, who were in favour of a mixed method. Indeed, at the end of the Congress, a vast majority voted for the purely oral system as the preferred one and signs were banished because they were considered to be damaging for acquisition of words.

After the Congress, all of the European Deaf schools became oralist, except for the Unites States where signs-oriented methodologies and oralistic approaches continued their coexistence. Neither the opinions nor the requests of Deaf people were considered during the Congress of Milan, and in this situation several associations and friendly societies were founded by Deaf people in different cities, such as Milan (1874), Turin (1880), Genoa (1884) and Siena (1890). These types of societies represent the first social representational forms of Deaf community and will lead to the development of the national body for the representation of Deaf people: ENS. In 1911, the *First International Congress of deaf-mutes* took place in Rome, in order to demand improvements in the educational system, in the workplace and in all of society. Ten years later, the *Second International Congress* in Rome demanded to the extension of the legal recognition of compulsory schooling to all deaf-mutes. Meanwhile, in 1920 with the support of Giuseppe Enrico Prestini the *Federazione Italiana delle Associazioni fra I Sordomuti* (FIAS) was established during the *First Meeting of Italian Deaf people*. Thanks to the pushing actions of FIAS, in 1923 the Gentile Reform apply the extension of the mandatory school to deaf children. Since its unofficial establishment in 1932 as the *Deal of Padua* managed by Antonio Magarotto until the official recognition with the Law n.889/1942, ENS fostered and promoted rights and equal opportunities for Deaf people. The increased awareness among Deaf community, during this period, led to reopen the debate about public schools with equal opportunities for all children. (see **SOCIO-HISTORICAL BACKGROUND 1**).

In the following decades, during the years 1949-1954, special schools and differentiated classrooms were created in order to grant education to all people with impairments. However, the level of illiteracy among deaf was still high in the census of 1995. 1962 was the year in which compulsory schooling was extended until middle school.

Finally, after many discussions and disagreements, the situation changed with the Law n. 517/1977 which stated the possibility for the families of deaf children to make a

choice: they could continue to attend classes at the special schools or they could decide to submit to the public schools receiving re-educational moments offered by public or private services.

Since then, doctors and not educators were engaged in solving the problem of language acquisition and oral skills of deaf children. In fact, with the Law n. 833/1978 the local agencies set up a new *National Health Service* and the local health center became responsible for the rehabilitation of subjects affected by any kind of impairments.

Although the Law 517/1977 represents a crucial change in educational methods, the situation during the 80s was chaotic and vague, most of the families opted for the public hearing schools, because they considered the public schools superior to the special schools, but none of the teachers had had training about the deaf educational methodology. Furthermore, very few assistants were assigned to the classes with Deaf students, and these assistants also frequently lacked specific competencies about deafness. At the time, there was not enough knowledge about the linguistic issues of deaf children and in particular the fact that they should have better mastered the spoken language was ignored. The interpreters were not very widely spread, and in addition, most of the Deaf students have been raised with an oralist oriented education, without any natural language. The paradox was that the Deaf students who were often left alone in the classroom, without the support of specialized support teachers or educators, were unable to learn either the Italian language or signs.

A crucial step toward the improvement of educational condition for deaf scholars has been done with the Article n. 13 of the Law n. 104/1992 which established the presence of support teachers and individual communication assistants for people with physical or sensory impairments. These professional profiles were already mentioned within the Law n. 616/1977, however only with the Law n. 104/1992 their presence became mandatory. The individual assistant has the function to facilitate and support the communicative relationships of the deaf student with teachers and other scholars, while the support teacher profile has been introduced to facilitate the educational programs and to enhance the growing of scholars. The presence of these professional profiles in the schools had improved the educational programs. One of the contemporary educational models is the bimodal bilingualism program, which consists in training deaf scholars by fostering the development of both the communication channels (speech and signs). The Bimodal-bilingualism describes the knowledge of languages based on different modalities, for example the vocal-auditory modality of spoken languages and the visual-gestural modality of sign languages. In 1989, the first experiment was conducted at the National Deaf Institute in Rome, starting with a class in the elementary school. Later, the experiment was applied to the kindergarten and then also opened up to hearing children. In 1994, another similar experiment took place in Cossato (a small town in Piemonte) in a public Nursery School. Although in the school there was no specific expertise in LIS, the parents of three deaf children decided to enrol their infants anyway. The program was strongly supported by the teachers and by a group of speech

therapists who together wrote the educational plan and methodology. Another interesting experiment started in 2006 at the Institute Santini in Noventa Padovana (a town near Padova, in Veneto), and finally in 2008 in Milan a new program was initiated, entirely sponsored by local public institutions and coordinated by ENS.

Recently, the project *MoSSSiS* (Model of integrated special school services for Deaf individuals) was presented to the Ministry of Education by the *AIES* (Italian Association of Educators of Deaf Children) which stated a national educational plan for integrating Deaf and hearing children (see **SOCIO-HISTORICAL BACKGROUND 3.2**). One of the purposes of the project was to increase and support the knowledges of teachers and educators of Deaf children and to promote bilingual programs. The project encouraged an important lifelong learning attitude in order to prevent the situation of Deaf adults returning to illiteracy.

Nowadays, in Italy, the visibility of bilingual programs is rising, especially into the Deaf community and an increasing number of deaf children are included in bilingual bimodal educational programs. Furthermore, today sign language is taught as a communication form in other educational environment, even to hearing children who show spoken language impairments and to children with other types of physical and/or intellectual disabilities, among other Down's Syndrome (Trisomy 21), Landau-Kleffner Syndrome, and Autism Spectrum Disorders (ASD).

New bilingual educational programs have been also submitted within the Decree Law n. 302, which was approved by the Senate Chamber on October 2017. The Decree Law n. 302 represents a further attempt, after many others failed, to official recognize LIS and to promote the social inclusion of Deaf and Deafblind people. However, so far it remains still not discussed by the Chamber of Deputies (see **SOCIO-HISTORICAL BACKGROUND 3.2**).

The absence of national language planning officially approved by Government and the lack of funds for supporting services and tools, in order to improve the integration of Deaf students, represent serious obstacles to the final disclosure of LIS in educational and training environments.

Information on Data and Consultants

The descriptions in this chapter are based on the references below. Please see the data and consultant information in these references. The video clip exemplifying the linguistic data have been produced by a fluent native signer grown in the northern part of Italy who belongs to a younger generation of signers. The data were recorded at the University of Milan, Bicocca.

Authorship Information

References

- Bertone, Carmela. 2002. I segni nome nella tradizione e nella cultura della comunità dei sordi italiana. *Quaderni di Semantica*, 22:2, 335-346. [2.3]
- Bertone, Carmela. 2003. L'iconografia sacra all'origine di un gruppo di segni nome nella Lingua Italiana dei Segni. *La voce silenziosa dell'istituto dei sordomuti di Torino*, 21, 11-29. [2.3]
- Calderone, Chiara. 2014. *Segni di poesia*. Università di Bologna. Master thesis. [2.3]
- Caselli, Maria Cristina, Simonetta Maragna & Virginia Volterra. 2006. *Linguaggio e sordità. Gesti, segni e parole nello sviluppo e nell'educazione*. Bologna: Il Mulino. [2.4]
- Corazza, Serena & Virginia Volterra. 2008. La Lingua dei Segni Italiana: nessuna, una, centomila. In Caterina Bagnara, Serena Corazza, Sabina Fontana, Amir Zuccalà, (eds.) *I segni parlano. Prospettive di ricerca sulla Lingua dei Segni Italiana*, 19-29. Milano: Franco Angeli. [2.2]
- Folchi, Anna & Emiliano Mereghetti. 1995. Tre educatori sordi italiani. In Giulia Porcari Li Destri & Virginia Volterra (eds.), *Passato e presente: uno sguardo sull'educazione dei sordi in Italia*, 61-75. Napoli: Gnocchi. [2.4]
- Fontana Sabina & Amir Zuccalà. 2009. Lo spazio sociale della sordità: da individuo a comunità. In Caterina Bagnara, Sabina Fontana, Elena Tomasuolo & Amir Zuccalà (eds.), *I segni raccontano: esperienze, strumenti e metodologie*, 35-45. Roma: Franco Angeli. [2.2]
- Fontana Sabina & Amir Zuccalà. 2012. Dalla Lingua dei Sordi alla Lingua dei Segni: come cambia la comunità. In Sabina Fontana & Elena Mignosi (eds.), *Segnare, parlare, intendersi: modalità e forme*, 31-50. Milano-Udine: Mimesis. [2.2]
- Giuranna, Rosaria & Giuseppe Giuranna. 2000. Poesia in LIS: iconicità e arbitrarietà, concreto e astratto. In Caterina Bagnara, Giampaolo Chiappini, Maria Paola Conte & Michaela Ott (eds.), *Viaggio nella città invisibile. Atti del 2° Convegno nazionale sulla Lingua Italiana dei Segni*, 341-348. Pisa: Edizioni del Cerro. [2.3]
- Maragna, Simonetta & Roberta Vasta (eds.). 2015. *Il manuale dell'abate Silvestri. Le origini dell'educazione dei sordi in Italia*. Roma: Bordeaux Edizioni. [2.4]
- Marziale, Benedetta & Virginia Volterra (eds.). 2016. *Lingua dei segni, società, diritti*. Roma: Carocci. [2.4]
- Palazzo, Dario. 2014. *Il mio cammino verso la comunità sorda*. Bari: La Matrice. [2.1]
- Pendola, Tommaso. 1867. *Istituzioni dei sordomuti in Italia*. Siena: Porri. [2.4]
- Pigliacampo, Renato. 2001. *Il Genio Negato: Giacomo Carbonieri Psicolinguista Sordomuto Del XIX Secolo*. Siena: Cantagalli. [2.4]
- Russo Cardona, Tommaso & Virginia Volterra. 2007. *Le lingue dei segni. Storia e semiotica*. Roma: Carocci. [2.1] and [2.3]

- Russo, Tommaso, Rosaria Giuranna & Elena Pizzuto. 2001. Italian Sign Language (LIS) poetry: iconic properties and structural regularities. *Sign Language Studies*, Vol. 2, I, Fall, 84-112. [2.3]
- Russo, Tommaso. 2004. Iconicity and Productivity in Sign Language Discourse: An Analysis of Three LIS Discourse Registers. *Sign Language Studies*, 4(2), 164-197. [2.3]
- Trovato, Sara. 2009. Bambini non udenti nella scuola dell'infanzia. *Insegnare* 1, 21–25. [2.4]
- Trovato, Sara. 2009. Le ragioni del diritto alla lingua dei segni. In Caterina Bagnara, Sabina Fontana, Elena Tomasuolo & Amir Zuccalà, *I segni raccontano: esperienze, strumenti e metodologie*, 21-34. Roma: Franco Angeli. [2.4]
- Zinna, Simona. 2010. *Dar voce alla cultura sorda. Il teatro come strumento di comunicazione e partecipazione culturale*. Villalba di Guidonia: Editore Aletti. [2.3]
- Zuccalà, Amir (ed.). 1997. *Cultura del gesto e cultura della parola. Viaggio antropologico nel mondo dei sordi*. Roma: Meltemi. [2.1] and [2.3]
- Zuccalà, Amir. 2000. L'invenzione della sordità. Riflessioni sulla rappresentazione sociale. In Caterina Bagnara, Giampaolo Chiappini, Maria Paola Conte & Michaela Ott (eds.), *Viaggio nella città invisibile. Atti del 2° Convegno nazionale sulla Lingua Italiana dei Segni*, 405-412. Pisa: Edizioni del Cerro. [2.1]

Sitography

- Eugeni, Carlo. 2008. *Una panoramica della situazione dei sordi italiani in generale e della lingua dei segni italiana in particolare*. Version updated after amendments by Dino Giglioli president of the National interpreters' association (ANIMU).
http://www.unapeda.asso.fr/article.php3?id_article=551 [2.1]
http://www.unapeda.asso.fr/article.php3?id_article=551 [2.2]
- Lega del filo d'oro, association for Deafblind people (ISTAT, 2016)
<https://www.legadelfilodoro.it/news/presentazione-dello-studio-istat-sulla-popolazione-sordocieca-italia> [2.2]
- Ethnologue archive
<https://www.ethnologue.com/language/ise> [2.2]
- Deaf statistics in Gallaudet University Library
<http://libguides.gallaudet.edu/c.php?g=773916&p=5553198>

Chapter 3. Status

LIS is not still recognized as official language by political institutions. However, hospitals, courthouses, notaries, schools, and other public institutions make reference to this language and may require its use in public and private situations recognizing its importance and status by furnishing an interpreter or a communication assistant. This contradictory situation creates a gap between the social condition (status) of LIS, supported by local and national associations, and its official recognition.

The present chapter addresses the following topics: (SOCIO-HISTORICAL BACKGROUND 3.1) ongoing issues about the current legislation on LIS, (SOCIO-HISTORICAL BACKGROUND 3.2) specific language policies, (SOCIO-HISTORICAL BACKGROUND 3.3) and language attitudes, namely the opinions concerning the status of LIS at the population level.

3.1. Current legislation

In Italy, social attitude toward LIS has changed in the past thirty years. In the 1980s, Deaf people still limited their use of signs to closed environments. Indeed, the domain of LIS was spread in unofficial occasions, like daily life experiences. Signs barely appeared in classroom and in public occasions: the consequences were the marginalization of Deaf signers from public contexts, as conferences or public lectures. Furthermore, the lack of knowledge about this deficit and common misconception, like the fact that Deaf people are also mutes contributed to the exclusion of Deaf signers from society (for further information, see SOCIO-HISTORICAL BACKGROUND 3.3).

At European level, the perceptions and conceptions about acoustic deficit started to change politically in the last decades thanks to the *Rights of people with hearing impairments* Statement promoted by *United Nations Educational Scientific And Cultural Organization* (UNESCO) on 5 July 1971, and to the first document of the *World Health Organization* (WHO), called ICIDH (*International Classification of Impairments, Disabilities and Handicap*), spread in 1980. These two documents introduced a new definition of deficit, namely, the individual status of a person was no longer associated only with physical conditions, but it started to be also considered at the social and relational level. In particular, the document distinguished between impairment, disability, and handicap. Impairment was defined as the lack or the anomaly of a psychologic, physiologic, or anatomic function. Disability was defined as limitations to the capacity to undertake typical human activities, limitations which are consequential to the impairment. Finally, handicap was defined a disadvantageous condition due to an impairment or a disability, which limit the subject in respect with age, gender and socio-cultural factor. Many years later, in Spain took place the UNESCO's *Salamanca Statement and Framework for Action on Special Needs*

Education (7-10 June 1994) which enhanced the necessity that ordinary schools should accommodate all children, regardless for their physical, intellectual, social, emotional or linguistic conditions. Simultaneously to the increasing of care about inclusive educational programs and conceptual redefinitions of disabilities, the linguistic issues related to the recognition of sign languages drew attention from various political Institution and Organizations. The establishment of *World Congresses of World Federation of the Deaf* (WFD) act a fundamental international role for ensure equal rights for deaf people around world. The WFD was established in Rome on 23 September 1951. To date, every four years the WFD organized a World Congress about deaf-related topics for advancing human rights and sign languages worldwide; moreover, since 1958, the WFD has a consultative status in the UNESCO. Thanks to this role, *Resolutions* promoted in the Congresses affected the international debated about Deaf people conditions. In collaboration with WFD, the promotion of *European Parliament Resolutions on Sign Languages for Deaf People* (17 June 1988) and *on Sign Languages* (18 November 1988) represented crucial steps toward achievement of awareness about Deaf rights and identity, fostering the official recognition of sign languages. Both the *Resolutions* also called upon member states to ensure European funding programs in the field of education and employment, including training of sign language tutors and interpreters. Later on, the European Council in Strasburg drawn up the *European Charter for Regional and Minority languages* (5 November 1992) for the protection and promotion of languages used by traditional minorities. To date, many years after the proclamation of the *European Charter*, the Law (482/1999) for preserving the status of minority languages has been approved in Italy granting every year special funds to support dialects and other linguistic minorities. However, the concept of minority language is strictly related to the existence of communities using the language in a specific territory. Therefore, LIS is not included among linguistic minorities because it is not associated to a specific local territory, rather it is spread all over the country

In 2006, the United Nations (UN) promoted the *Convention on the Rights of Persons with Disabilities* which represented a fundamental point towards the achievement of pair opportunities for people with deficits in that it granted fundamental human rights and freedom. The general principles of the Convention are: (i) respect for inner dignity, individual autonomy and personal independence of people; (ii) non-discrimination; (iii) full participation and inclusion into society; (iv) respect for the differences and in particular for people with deficit as part of human differences; (v) pair opportunities; (vi) accessibility; (vii) pair opportunities between men and women; (viii) respect for the developing of the capacity in people with disabilities who have not yet come of age. The Convention also includes specific dispositions concerning the protection of deaf people, supporting the importance of the recognition of their linguistic and cultural identity. After the promulgation of the Convention, the Italian Parliament opened an internal discussion in 2009. The Parliament, through the Law n. 18 (3 March 2009) authorized the ratification of the Convention and, finally, in the 14

June 2009 the Convention came into force. The approval of the Convention forced the Italian legislator to promote an internal legislation according to the principles of the law. Nonetheless, this law made no mention to LIS. In fact, only in March 2011, a special committee of the Italian Parliament proposed the *Deaf People's Rights and Recognition of Italian Sign Language* (n. 37/S) bill for the recognition of LIS. The bill was discussed and approved by the Senate Chamber, but the discussion was never concluded. The bill considers deafness from two different perspectives: *pathological*, which describes deafness simply as an auditory deficit, and *sociocultural* which perceives deafness as a cultural and socio-linguistic condition. Although the bill recognized the linguistic status of LIS, it still did not include LIS among other minority languages. This exclusion of sign languages from the status of minority language could lead to serious consequences, especially concerning the financial funding necessary for language policy and planning (see **SOCIO-HISTORICAL BACKGROUND 3.2**). Indeed, the bill established that all funding had to be locally found, and that the State Administration was not responsible for it. Despite the indifference of some political institutions at a national level, the bill represented an important step towards achieving greater awareness of the essential needs of the Italian Deaf Community.

It is important to mention that not all the deaf people are signers and support sign language recognition, indeed many deaf people support Italian spoken language acquisition fighting against the spread of signs. In Italy, one of the main opposing groups to sign language is the association FIADDA (see **SOCIO-HISTORICAL BACKGROUND 3.2**). Among other, a reason of their opposition is the fear of a further marginalization of Deaf people, caused by the spread of sign language. The consequences of this split among deaf people contribute to obstacle the process of LIS recognition.

After further unsuccessful attempts, in October 2017 the Senate Chamber approved the Decree Law n. 302 (*Legge quadro sui diritti di cittadinanza delle persone sorde, e con disabilità uditiva in genere e sordocieche*) and others (n. 1019; n. 1151, n. 1789; n. 1907), which includes dispositions regarding (i) the importance of removing communication barriers, (ii) the official recognition of Italian Sign Language and tactile Italian Sign Language (LIS_t), and (iii) the promotion of the social inclusion of deaf and deafblind people. Furthermore, the Decree Law declares the freedom to choose the best channel of communication (spoken or signed), promoting social integration in schools, universities, working environments and health services. It also grants accessibility to historical, artistic and cultural heritage and political participation. Moreover, the Draft Law establishes a unique national register for interpreters of LIS and LIS_t, since today this professional rule is still locally coordinated. However, like the previous Drafts, the effort to monitor the implementation of the Law, and to penalize its violations, is assigned to local administrations and it does not include additional expenses for the national Government. The consequence is that services are not granted to people with deficit, since very often local administration are not able to fund projects of inclusions.

The Decree Law reopened a heated discussion among members of the Deaf community and their opponents, which has been ongoing on social media and in public spaces. Once again, the final decision depends on the Chamber of Deputies, which has not dealt with the issue yet.

Although LIS has not been officially recognized yet, it is unofficially supported by local and national institutions. For example, LIS courses are often directly cosponsored by local administrations, and LIS interpretation is currently provided in court cases, where Deaf people are involved. Some funding comes from the budgets designated for local welfare, health or educational services. However, none of this can be considered as systematic language planning (see **SOCIO-HISTORICAL BACKGROUND 3.2**). Furthermore, some Italian regions have already locally recognized LIS supporting its dissemination in order to grant to Deaf people the free expression of their identity and equal rights. So far, the regions which have officially promoted the recognition of LIS are:

- (i) Valle d'Aosta (Resolution: *'Iniziativa per un intervento legislativo per il riconoscimento ufficiale della Lingua dei segni'* approved on 9 November 2006);
- (ii) Calabria (n. 46, approved 23 November 2007);
- (iii) Sicilia (Regional Law n. 23, 4 November 2011);
- (iv) Piemonte (Draft Law n. 86, 29 October 2010 and approved on 24 July 2012);
- (v) Campania (Regional Draft Law n. 21/2012);
- (vi) Abruzzo (Regional Law n. 17, 17 March 2014);
- (vii) Lazio (Regional Law n. 6, 28 May 2015);
- (viii) Lombardia (Regional Law n. 20, 5 August 2016);
- (ix) Basilicata (Regional Law n. 30, 20 November 2017);
- (x) Veneto (Regional Draft Law n. 220, 1 February 2017) unanimously approved on 15 February 2018.

3.2. Language policy

The national political situation is chaotic and not many sources exist in order to trace back the historical stratifications of legislative proposals and Draft Laws which have had no effect.

The bill (n. 37/S) proposed in March 2011 included an explicit reference to the use of LIS in public and private context. Specifically, (i) it included a statement (art. 2, subsection 1b) concerning the use of LIS in schools and universities and the realization of specific programs for the education of professional figures, such teachers and interpreters. (ii) It also stated that LIS must be integrated among the courses offered in both undergraduate and postgraduate programs, promoting the use of LIS and other technologies by students and teachers in order to allow the communication with deaf

people. (iii) Furthermore, the bill includes dispositions to promote the use of LIS in public and private administrations and in the media, through subtitles and other tools, to grant full accessibility to information. Finally, it established that hearing aids, speech therapy and other technical means must be provided along with LIS, in order to remove communication barriers and to leave deaf people the freedom of choice. The bill was discussed in the Chamber of Deputies in May 2011, but after this debate a totally different approach was adopted. Representatives of all the political parties accepted the use of the term *Linguaggio o tecnica comunicativa mimico-gestuale* (lit. ‘mimed-gestural language or communication technique’) rather than Italian Sign Language. Such definition appeared to be a serious step backwards within the process of LIS promotion. In fact, the adoption of this term contradicted the international declaration and ignored thirty-years of linguistic research supporting the dignity of this language. Moreover, the participants agreed in claiming that technological innovations make sign languages useless, thus ignoring the fact that not all kinds of deafness can be treated by the use of hearing aids. Such bill probably enhances the misconception that bilingualism in signing and spoken languages negatively interferes with the correct acquisition of spoken languages. On the contrary, there is increasing evidence, both at an international and national level that the use of sign language helps with the correct acquisition of spoken language. Thanks to an increasing of political and social measures, many schools and educational centres, today, are inclined to integrate sign language as a social inclusion tool for Deaf children. Bilingual/bimodal education programs are growing in visibility, especially with the rise of awareness of the Deaf Community (see **SOCIO-HISTORICAL BACKGROUND 2.4**). However, the lack of official language planning represents an obstacle to the final disclosure of LIS in educational and training environments.

New encouragement for the promotion of LIS and LISt comes from the Law n. 302 of 2017, even though no national funds are provided for supporting the organization of courses and educational structures. As a result, training courses in LIS and LISt and other initiatives depend on local and national associations which support Deaf communities, the use, and the promotion of LIS.

A complete list of associations for deaf and Deaf people in Italy is available online

(<http://www.cdila.it/cdila/Index?q=object/detail&p=system cms node/ a ID/ v 98>).

Most of the initiatives which support and promote the recognition of LIS are carried out by the *National Association of the Deaf*, ENS (see **SOCIO-HISTORICAL BACKGROUND 1**). Since it is spread across Italy through local clubs, it represents a crucial national referent for Deaf people in the dialogue with political institutions. Furthermore, since its creation (1932), ENS promotes the use of sign language at all levels of the everyday life, being primarily involved in the definition of language planning. Specifically, a specialized department of ENS takes care of issues related to educational policies, university accessibility, bilingualism and training of interpreters and other professional figures. ENS is not only an association promoting the recognition

and use of LIS, but it is also important for the preservation of the cultural heritage related to LIS. Indeed, the libraries of many of the local clubs have collected publications about deafness, sign languages and the Deaf world and they represent an important archive for Deaf culture and history. Moreover, ENS is the promoter of many national and local workshops, seminars and conferences about various topics related to LIS. For the important impact they had, we recall here three conferences on LIS which were held in Trieste in 1995, Genoa in 1998, and in Verona in 2007.

However, as anticipated before, the picture is not so homogeneous and favourable everywhere, as in Italy there are also some associations which support a strict oralist tradition and deny the use of LIS for deaf children education. One of the most famous associations overtly against the use of LIS is the *Italian Families Associated for Defending deaf Rights* (FIADDA). According to the member of this association, it is impossible to define a community on the basis of a physical deficit. The association fears that through the official recognition of LIS, deaf people will be kept in a state of cultural, economic and power dependency due to its linguistic closure.

Despite the difficulties that such internal oppositions can create, this debate is a remarkable sign of vitality within the Deaf Community. In the past thirty years, many changes took place which modified the domain of the use of LIS. Thanks to the advances in linguistic and psycholinguistics studies which allowed to prove that LIS is a natural language. The Deaf Community has started to use LIS with pride for everyday communications, and not just in a domestic environment, becoming more aware of its own rights. After the discussion of the bill (n. 37/S) at the chamber of Deputies, a unified movement composed by hearing and Deaf people was born online in support of the recognition of LIS (www.lissubito.it). The movement organized a three-day protest in Rome (on March 25-27 2011) to request the return to the original proposal, claiming that the definition of mimed-gestural languages is not just wrong, but offensive.

Together with ENS, another important supporter of the promotion of LIS is the Academic World: universities and academic researchers collaborate to support and give visibility to the importance of LIS recognition. In Italy, research on LIS began in the late 1970s, thanks to a group of scholars at the National Council of Research (CNR). They started with the investigation of the process of language acquisition and language mastery in deaf children, which was first analysed by the team led by Elena Pizzuto, Virginia Volterra and Elena Radutsky, in collaboration with ENS. Soon after, some deaf researchers joined the group: Serena Corazza, Emanuela Cameracanna, Anna Folchi, Paola Pinna, Paolo Rossini, and Benedetto Santarelli. The researches carried out by the CNR also focus on sign writing projects and acquisition of LIS in both deaf and hearing children.

About 20 years later, in the late 1990s, at the University of Salerno, the professor Sandro Zucchi opened a second vein of research focused on the formal aspects of LIS Linguistics. A few years later, he moved to the University of Milan and continued working on this project with the professor Carlo Cecchetto from the Bicocca University of Milan-Bicocca. Quite soon, several deaf associates started to contribute to the

research at this University. Furthermore, in collaboration with the national association for Deafblind people in Italy (*Lega del Filo d'Oro*), the Milan group started a research project on the tactile variety of LIS, the sign language used by Deafblind people.

A crucial step that allowed to spread LIS and its knowledge within the national borders was the introduction of an optional LIS course among the classes offered at Ca' Foscari University of Venice starting from 1999, thanks to the interest of the professor Anna Cardinaletti. In 2002, the Department of Linguistics and Comparative Cultural Studies of Ca' Foscari University of Venice offered the first official bachelor degree program in LIS. Since then, students can choose LIS from more than 40 foreign languages. Ca' Foscari is really committed to the promotion of LIS offering both a bachelor's degree (BA) and a master's degree (MA). Today, in the BA program various courses on LIS and Deaf culture are available: three language courses on LIS, three courses on Deaf culture, a course on LIS linguistics, a course on Tactile Italian Sign Language, and two courses on Linguistic for deafness and hearing impairments. The MA program offers a course on Linguistics for deafness and hearing impairments, and a general course on LIS. In 2011, Ca' Foscari University of Venice hired the first teacher of LIS with a permanent position within an Italian University and in the same year a research position was created for a linguistic working on sign language linguistics.

Together with Venice, one of the main institutions which provides formational courses on LIS is ENS. As for the former, in ENS, a central administration provides detailed guidelines establishing the number of grades, the main objectives and the contents to be acquired in each grade. The general program of LIS courses is divided in three main stages: the first consists in a short introduction to LIS (20-40 hours) which provides a general overview of LIS and Deaf culture; the second focuses on the teaching of LIS language and is structured into three levels: *beginner* (120 hours), *intermediate* (150 hours) and *advanced* (210 hours) levels, which provides extensive theoretical and practical knowledge, and the third stage consists in the professional grade for training students in three different professions: technical operators, educators and interpreters.

Before each course starts, FALicSEU (a specific department of ENS responsible for the quality of teaching programs) has to approve them. For this reason, three national registers of LIS teachers have been created: one for teachers of language, one for teachers of grammar and Deaf culture and one for coordinators. The teachers for the practical part are generally Deaf, while the teachers of the theoretical part may also be hearing people.

The involvement of ENS and the academic world plays a crucial role in the standardization of LIS, which is important to gain official recognition. An important project supporting standardization was developed in 2007: La Sapienza University of Rome, Bicocca University of Milan, and Ca' Foscari University of Venice received a two-year grant (2008-2010), PRIN 2007: *Dimensioni di variazione nella Lingua dei Segni Italiana*, for investigating linguistic variations in LIS. The project led to the creation of the first LIS Corpus (see **SOCIO-HISTORICAL BACKGROUND 4.3**). Indeed, corpus planning is one of the most important tasks for language planning. It

consists in the attempts made to improve the adequacy of the form and structure of a language. It is related to the issue of standardization processes and language documentation which are necessary to understand the development stages of a language. Specifically, the existence of a language corpus allows to account for the variability among signers living in different geographical area and of different ages. In particular, the LIS Corpus has detected a strong age effects among signers: show how younger Deaf signers use more standardized forms than older signers (see **SOCIO-HISTORICAL BACKGROUND 4.4**). Standardization has consequences for acquisition planning, and in fact it could increase the acquisition of LIS as second language, reducing the communication obstacles caused by its great variability.

The Universities also promote the visibility of LIS, organizing workshops, meetings and national and international events. In 2004 *Verbal and Sign Languages, Comparing Structures, Constructs and Methodologies* was held by the University of Rome-La Sapienza; in 2005 *Signa Volant* was set up by the University of Milan-Bicocca; in 2011, in 2014 and in 2016 the University of Venice-Ca' Foscari coordinated the conference on *Formal and Experimental Advances in Sign Language Theory* (FEAST), an international conference which focuses on formal and experimental approaches to sign languages. In order to increase foreign exchanges among Deaf people and Deaf communities, recently the Siena School of Liberal Arts introduces a Deaf studies program, which includes a semester where one class is taught in American sign language (ASL). A fundamental opportunity for Deaf people is represented by *the Mason Perkins Deafness Fund* (MPDFonlus), created in 1985, which provides scholarship for Italian Deaf students. The winners receive the opportunity to spend one academic year at the Gallaudet University. The association also promotes the organization of accessible cultural events and the creation of a national and international network of people, who work in support of the Deaf community. Similarly, every year, the *Fulbright-Roberto Wirth Fund Scholarship at Gallaudet University* offers to Italian citizen the opportunity to spend one academic year at the Gallaudet University. The scholarship *Fulbright-Roberto Wirth* allows the winner to specialize in deafness studies which can support deaf or deafblind children research in Italy.

In the last years, two European projects have been developed thanks to the collaboration of Universities. The first project: COST Action IS1006 (2011-2015) *Sign Gram: Unraveling the grammars of European sign languages: pathways to full citizenship of deaf signers and to the protection of their linguistic heritage* led to design the SignGram Blueprint, the first guide for sign language grammars. The chair of the Action was Prof. Josep Quer, and Ca' Foscari University of Venice, Bicocca University of Milan and La Sapienza University of Rome were the national research groups involved in the project. The second European project is *SIGN-HUB: preserving, researching and fostering the linguistic, historical and cultural heritage of European Deaf signing communities with an integral resource*. It is a new 4-year research project (2016-2020) funded by the European Commission within Horizon 2020 involving different European and non-European countries (Spain, Italy, Netherlands, Germany,

Turkey, France, Israel). The national groups involved in the project are: Bicocca University of Milan and Ca' Foscari University of Venice. It aims at creating an innovative and inclusive resource for the linguistic, historical and cultural documentation of the different sign languages, Deaf communities and for sign language evaluation on clinical and school frameworks (<http://www.sign-hub.eu/>). The SIGN-HUB project is developing a digital platform to host: (i) a digital grammar of 6 sign languages (DGS, LIS, LSC, LSE, NGT, TID); (ii) an interactive digital Atlas sharing the linguistic properties of sign languages; (iii) the development of diagnostic tests for sign language assessment, and (iv) the creation of a digital archive of older signers' linguistic and cultural heritage.

Another relevant issue for increasing the possibility of official recognition for LIS consists in the language planning. After several local experiments (see **SOCIO-HISTORICAL BACKGROUND 2.4**) an important attempt to set up a national plan for the education of deaf children was the project entitled *Model of integrated special school services for Deaf individuals* (MoSSSiS) presented to the Ministry of Education by the *Italian Association of Educators of Deaf Children* (AIES). The project aimed at offering an educational model which successfully integrates hearing and deaf children, involving a national centre of coordination and local branches. The national centre promotes specific training courses for the educators and teachers of Deaf children, and provides teaching materials and relevant documentations on the education of deaf children. Often special needs teachers received general training for covering a broad variety of children with different impairments, but the issues related to deafness are not properly faced. Moreover, this project wants to create specific bilingual programs and a lifelong learning program which prevents Deaf adults to return to illiteracy.

Evidences for the greater awareness of the importance of LIS come from the increasing of professional roles and figures related to sign language: language teachers, interpreters, cultural mediators and educators (see **SOCIO-HISTORICAL BACKGROUND 2.4**). As for the professional education of sign language interpreters, there are two important associations in Italy: ANIOS and ANIMU. The former is mostly based in the north part of Italy, and the latter in the south. The quality of the interpreters has increased in the last few decades, but the interpretation from LIS to other sign or spoken languages (and from foreign sign or spoken languages to LIS) still needs to be improved to ensure access for Deaf people into international scenarios. Cultural Mediators are professional figures who work in official situation such as public administration, public security, social and welfare services, facilitating communication among Deaf and hearing adults. As for educators, they are facilitators who work in public schools with educational programs for deaf children, in order to support the integration between Deaf and hearing children. Improving the educational planning for Deaf people is crucial to assure them the possibility to access highly qualified professional jobs.

3.3. Language attitudes

This section provides a description of the way in which signers and non-signers perceive Sign Language. Since LIS have long been considered an inferior communication system, it is likely that attitude toward signs differs across generations of signers and non-signers. Within this process, the Law 517/1977 facilitated the inclusion of Deaf people into public social contexts, but it had no impact on the linguistic condition of the Deaf community. When and how the situation started to change is hard to say. It is likely that LIS started to gain importance and raise awareness thanks to the development of the researches investigating its structure and impact on acquisition. Among the precursors of this important process it is worth mentioning Massimo Facchini, the director of the phonological centre in Bologna. At the end of the 1970 he reopened the discussion about the effectiveness of the *gestures* in deaf training, since *gestures* have often been forbidden in the past. Further scientific research developed in Rome, following the pioneering studies of Stokoe on American Sign Language (ASL), provided further evidence to the importance of sign language investigations. Elena Pizzuto, Virginia Volterra, Elena Radutzky have been the first researchers to take steps in that direction. Thanks to them, the first meeting on sign language studies took place in Rome at the Psychological Institute of CNR in February 1979. In June of the same year, the *First International Symposium on Sign Language Research* was organized in Stockholm, followed by another in Copenhagen sponsored by NATO, consequently, many other conferences in Italy have been organized, testifying a new increasing wave of interest in the sign language field.

This huge interest of academics leading to the recognition of sign languages as fully fledged natural languages developed in a period in which Deaf people were still not aware of the richness of their own language. As a matter of facts, in those years, signs were used in very familiar contexts or in the Deaf clubs, and their use was purposely avoided in public situations for reasons of shame. Hearing people used the term *sordomuto* (Eng. *deaf and dumb*) to refer to deaf people, because of the common misconception that Deaf people were also mutes (nowadays the Law 95/2006 has changed the term to *deaf*). The local and individual variation of signs was significant, and many Deaf people with a strong oral education background only used signs in support of spoken Italian speech, increasing the confusion about the boundaries between signs and the Italian language. Moreover, the few existing interpreters were only called to translate signs from the Italian language, in fact, no translation from signs to voice was provided for Deaf signers.

Therefore, in such a context Deaf people were not completely in agreement with this new research on LIS, as they considered inappropriate the interest of hearing academics in a language recognized as exclusive property of the Deaf Community. This one of the reasons why for several years the Deaf people continued using the term mimic-gestural language in opposition to the term LIS, which was coined by academics.

Indeed, the term *Italian Sign Language* was created in order to distinguish gestures from signs and to support its status of natural language.

Together with the increasing of linguistic researches on LIS, it arose the necessity to properly train interpreters. The first to be officially trained were the interpreters involved for the *Third International Symposium on Sign Language research* organized in Rome in 1983. Nowadays the CNR has become one of the beating hearts of sign language research and is a proactive promoter in its dissemination around Italy.

Moreover, by 1986, some scholarships offered by the Association *Mason Perkins Deafness Fund* allowed young Deaf students to attend courses at the Gallaudet University in Washington (see [SOCIO-HISTORICAL BACKGROUND 3.2](#)). After this experience, these students became important reference for fostering cultural and educational events in their own cities promoting LIS. In so doing, the attitude of deaf people towards their own language started to change and in the same period some collaborations between hearing and Deaf communities were created, with the same will of promote LIS courses and cultural events. We mention among other, *SILIS* (group for studies and information of LIS) created in Rome in 1989, the cooperative *DIRE* born in Turin in 1990 and *Orgoglio Sordo* (Deaf Pride) formed in Milan 1990.

Nowadays, Deaf people are aware of the status of their own language and use LIS in public with great pride. Actually, the number of Deaf users increases year after year, and there is a deeper consciousness about the difference between LIS and Signed Italian (see [SOCIO-HISTORICAL BACKGROUND 2.4](#)).

During the last few decades, the attitude of hearing people has changed as well, and LIS courses have become extremely popular. This led to the necessity of creating the first collection of signs and the first vocabularies to facilitate the learning of LIS (see [SOCIO-HISTORICAL BACKGROUND 4.2](#)). Moreover, the increased possibility of the last years of having the interpreter provided, is leading more Deaf students to start the university and the academic career.

Crucial in the process changing the attitude towards sign language has been the spreading of sign language through the media. Since 1993, several editions of the national TV news are interpreted in LIS every day representing a key source of information for Deaf people, especially among the older signers. By 1995, the President's New Year speech is interpreted in LIS and some documentaries on Sign Language started to be made and transmitted via public channels, among other: *LIS, la Lingua dei Segni* broadcasted by *Geo* on 13 November 2013, or *Segna con me* (Sign with me), a film documentary on LIS realized by Silvia Bencivelli and Chiara Tarfano and broadcasted on *Rai Storia* on 26 September 2015.

In the last years, Deaf artists and Sign Language started to appear on TV or have been called onto public shows, increasing the visibility of the Deaf community. Examples are the Silent Beat hosted by Fabio Fazio in *Quello che (non) ho* (Eng. *The things I do (not) have*) broadcasted on La7 (on 16 May 2012), the singer Daniele Silvestri who appeared with an interpreter in *Sanremo*, a very popular music festival, or the Deaf rapper Eugenio Scarlato, who participated at the *Italia's Got Talent*, and many

others (for further information see **SOCIO-HISTORICAL BACKGROUND 2.3**). All these events are contributing towards deeply changing the perception of signs for both signers and non-signers.

Surely, the increasing awareness and knowledge of sign languages is parallel to technological developments. The most important resources used by Deaf people are digital technologies and the internet. ENS's main websites provide daily information about the community, local association activities and everyday life. Beside these, social networks and video blogs (*Vlogs*) are the preferred platforms for sharing opinions and comments among the members of the Deaf community. Younger Deaf signers are surprisingly not the unique internet users: the 9.92% of signers over fifty-years old regularly use the Internet for communication as well. Many web pages regarding sign languages in general have been created in social networks, which have become not only a tool of communication, but also a way through which fostering the standardization and broadcasting of LIS across the country.

Despite these positive signals of general improvements, common misconceptions about deafness are still present, especially among hearing people who have never been in contact with Deaf people and Deaf culture. Deafness has often been defined as an invisible deficit, indeed a deaf person is not suddenly identifiable, unlike other types of impairments, for example a blind person who may be more recognizable, with a white stick, dog and black sunglasses. Blindness in history has always been recognized as a noble deficit, since blind people attended higher training organizations and could benefit from a significant status in society.

The invisibility of deafness, instead, contributed to the consolidation of false prejudices and misconceptions about deaf people. As mentioned before, one of the most common mistake concerns the use of the term *sordomuto*, which is often spread among hearing people who have never been in contact with deafness. In fact, it is very rare that deaf people are also mute, being this a situation occurring only when deafness is linked to a vocal and articulatory problem. Thus, the term *sordomuto* is wrong and inappropriate, as also stated by the Law 95/2006.

Much worst is the misconception about deaf people who are also considered to be dumb, reminiscence of the old term *deaf and dumb* used in the past. Because of their lack of hearing, many deaf people were institutionalized in clinical for mental diseases just because of a wrong diagnosis or clinical ignorance. Deaf people were also deported under Nazism and they were analysed by scientists and doctors for eugenics studies, together with other people considered untypical, for example gypsies and homosexuals.

Other false conceptions about Deaf people are related to sign language. Indeed, signs are often considered a rude pantomime through which it is impossible to share complex thoughts and deep meanings. Furthermore, signs are supposed to be dangerous for the acquisition of spoken language. Although linguistic and psycholinguistic studies have proved this belief to be wrong, it is still widespread in many clinical and educational environments, where doctors and teachers still obstacle and discourage the use of LIS in education. One of the most common misconceptions about sign languages

concerns the believed universality of signs across the world. For unknown reasons, probably linked to the iconicity of sign languages, signs are supposed to be the same everywhere. However, every country has its own developed and codified sign language, which, just like spoken languages, can share etymological influences and connections, depending on the historical processes of contact.

Prejudices and misconceptions represent barriers for the total integration and inclusion of Deaf people into the society, and this is the reason why it is important to support and spread knowledge and information about this unknown world.

Information on Data and Consultants

The descriptions in this chapter are based on the references below. Please see the data and consultant information in these references.

Authorship Information

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References

- Bagnara, Caterina, Sabina Fontana, Elena Tomasuolo & Amir Zuccalà. 2009. *I segni raccontano. La Lingua dei Segni Italiana tra esperienze, strumenti e metodologie*. Milano: Franco Angeli. [3.3]
- Geraci, Carlo. 2012. Language Policy and Planning: The Case of Italian Sign Language. *Sign Language Studies*, 12(4), 494–518. [3.2]
- Maragna, Simonetta & Benedetta Marziale. 2009. *I diritti dei Sordi. Uno strumento di orientamento per la famiglia e gli operatori: educazione, integrazione e servizi*. Milano: FrancoAngeli. [3.1]
- Marziale, Benedetta & Virginia Volterra (eds.). 2016. *Lingua dei segni, società, diritti*. Roma: Carocci. [3.1]
- Quaman, I. 2000. L'extracomunitario sordo e udente: quale differenza nella comunità di minoranza? In Caterina Bagnara, Giampaolo Chiappini, Maria Paola Conte & Michaela Ott (eds.), *Viaggio nella città invisibile. Atti del 2° Convegno nazionale sulla Lingua Italiana dei Segni*, 448-451. Pisa: Edizioni del Cerro. [3.3]
- Zuccalà, Amir. 2000. L'invenzione della sordità. Riflessioni sulla rappresentazione sociale. In Caterina Bagnara, Giampaolo Chiappini, Maria Paola Conte & Michaela Ott (eds.), *Viaggio nella città invisibile. Atti del 2° Convegno nazionale sulla Lingua Italiana dei Segni*, 405-412. Pisa: Edizioni del Cerro. [3.1]

Zuccalà, Amir. 2000. La sordità del pregiudizio ovvero alcuni pregiudizi sulla sordità.
In Luigi Attenasio (ed.), *Fuori norma. La diversità come valore e sapere*, 264-
284. Roma: Armando Editore. [3.3]

Chapter 4. Linguistic study

The present chapter offers a brief overview of the main linguistic studies investigating LIS. Specifically, the first section (4.1) provides a description of the phonological, morphological, syntactic and pragmatic structures of LIS, comparing their analyses and contributions to the investigation of LIS. The second section (4.2) deals with lexicographic works hinting to some related issues. The third section (4.3) contains a description of corpora and data collected in the last few decades on LIS. The last section (4.4) of this chapter concerns socio-linguistic and diachronic variation in relation to LIS, considering Deaf education, age, gender, and socio-economic background as socio-linguistic factors.

4.1. Grammatical description

4.2. Lexicographic work

Several lexicographic works have been produced since the research on LIS was started. This section provides an account of the most important resources available in this field. Some details concerning the external form of the text (printed or digital), the internal structure of the text (as a proper context for the examples or the inclusion of socio-linguistic and geographic variations), and other specific information about the existing lexicographic work will be provided. For an exhaustive list see the section about dictionaries available at the website *I segni come parole* (Signs as words): http://www.istc.cnr.it/sites/default/files/u182/bibliolis_arg_2011.pdf.

In the past, several collections of signs have been prepared as handouts to support LIS courses. One example of these first attempts is *Il Corso di lingua italiana dei segni* (The Italian Sign Language Course) written for the course organized by the provincial section of ENS and the Institute of Regional training (IRFOP) in Trieste. Another example is *L'Abecedario della LIS* (The Spelling Book of LIS), created for the course in LIS organized in Rome with the support of the CNR. However, these collections have never been published, and only disseminated on those occasions as didactic tools for people who studied LIS.

The first nationally published works are more detailed and present more complex and different internal structures. *I primi 400 segni in LIS* (The First 400 Signs in LIS) is the first attempt to create a national list of signs. This work is structured in topics (as the family, the club, the work) and it was collected for Deaf and hearing people, both Italian and foreign. Each sign is briefly described and glossed in Italian, Spanish, English and French. The purpose was to make Deaf culture accessible also to foreigners who were interested to learn and study LIS.

Other dictionaries of LIS were published in the same period, but with completely different purposes. As a matter of fact, they appeared to be oriented to the needs of hearing people, such as speech therapists, educators or teachers. Examples of this tendency are *Il Dizionario dei segni* (Dictionary of Signs) or *Il vocabolario della lingua gestuale italiana dei sordi* (The vocabulary of the Italian gestural language of deaf). These works are alphabetically organized, following the order of Italian alphabet. Similarly, the most recent *Dizionario tematico dei segni* (Thematic Dictionary of Signs) shares the same hearing-oriented purposes, even though it is thematically organized. These dictionaries could be defined as Italian/LIS works, indeed the dominant keys of codification are structured in accordance with the Italian criteria.

Il Dizionario bilingue elementare della Lingua dei Segni (The Bilingual Elementary Dictionary of Sign Language) represents, instead, a useful tool for academics and linguistic researchers. Signs are grouped according to their handshapes and each sign is accompanied by a drawing, a transcription and a translation into Italian. Furthermore, each sign is followed by: examples of contexts where it could be found, the grammatical category it belongs to, a list of possible signs as synonyms and, some sociolinguistic variants of the signs.

Other dictionaries concern specific spheres, for instance: (i) a specific vocabulary about the catholic signs or (ii) the colourful child-oriented *Immaginario: immagini per un abecedario* (Imaginary: Images for a Spelling Book), or (iii) the local dictionary of signs promoted by Regione Marche: *Dizionario Regionale del Linguaggio Mimico Gestuale Marchigiano* (Regional Dictionary of Mimic-gestural Marchigiano Language). The publication of dictionaries is a useful tool for researchers who are interested in linguistics. For instance, this allowed Paola Pietrandrea to analyse a corpus of 2.055 signs and support the linguistic value of sign languages with respect to spoken languages. According to the same linguistic purpose, *Parole e numeri* (Words and Numbers) explores the relation between arbitrariness and iconicity in LIS, defending the linguistic nature of signs.

The works described so far are written and printed, however in the last 20 years several dictionaries have started to be available in a computer readable form. Some examples are *Il Dizionario mimico gestuale essenziale* (The Essential Mimic-Gestural Dictionary); the *Dizionario Italiano/Lis* (The Dictionary Italian/Lis) available online and created by the co-op Alba; the multimedia dictionary *Dizionario multimediale dei termini informatici per audiolesi* (The Multimedia Dictionary of informatics terms for people with hearing impairments) planned by ASPHI (Acronym for *Avviamento e Sviluppo di Progetti per ridurre l'Handicap mediante l'Informatica*), in Bologna. Moreover, in 2005, StarLIS, a company which develop multimedia tools for deaf and hearing people, promoted the first illustrated multimedia dictionary of LIS in 12 Cd-rom; It includes 2000 signs translated in four languages. One year later, an e-LIS Electronic Bilingual Dictionary LIS-Italian was created in Bolzano by Eurac group.

Thanks to these open-access tools, an important Glossary for mobile devices has now been properly created for Deaf people who work with media and communication.

The concepts and words are designed according to topic criteria. It was financed by European funding and is available online (www.signmediasmart.com) in four different sign languages: LIS, British Sign Language (BLS), Austrian Sign Language (ÖGS), Swedish Sign Language (STS). Finally, *Spread the Sign* is one of the biggest international projects of sign language dictionaries in the country. It started to be available online between October 2008 and October 2010 and is still growing. Today, it includes the signs of 35 different sign languages (see more on www.spreadthesign.com/it) and it represents one of the most detailed lexical resources online.

4.3. Corpora

A corpus represents a fundamental tool for the investigation of the grammatical features of a language. Indeed, it records the linguistic variations and uses of the language among different countries, creating a common base for different types of studies on spontaneous and semi-spontaneous data. Although various research has been conducted about the evolution of signs in Italy across different geographic areas (diatopic changings) and time (diachronic changings), a national corpus has never been developed before the *PRIN* (Research Project of National Interest). The project was financed by the Ministry for Education, University and Research in November 2008; it lasted two years and was created with the partnership of three Universities: the University of Urbino (then moved to La Sapienza University of Rome), Ca' Foscari University in Venice and Bicocca University of Milan. One of the main results of this project was the creation of the first national Corpus in Lis (for other information about the project see <http://w3.uniroma1.it/progettolis/index.php>). The LIS Corpus is based on video recordings saved in high quality: mpg2. The large quantity of videos collected and the representative variations of signers recorded were very important factors, in order to obtain accurate analyses. Moreover, geographic and social factors, indeed, have been taken into account to build the corpus. The data was recorded among 10 cities, covering Northern, Southern and Central part of Italy: Turin, Milan, Brescia, Bologna, Florence, Rome, Salerno, Bari, Catanzaro, and Ragusa. For the purposes of the project, only deaf people were involved in the research and no other people linked to Deaf society and culture were included, such as the hearing families of Deaf people or their interpreters. However, not only native signers were considered (the native signers are between 5% and 10% of Deaf people in Italy), but also Deaf signers who mainly used LIS in everyday communication, despite having learnt sign language later on in life. Other social factors that were taken into account were: gender, deafness in families, schools attended, educational level, lifestyles with respect to the city or country where they live, and social status (in hearing communities and among Deaf people). An average of 18 participants was selected for each city and divided into three groups: 6 for the young group, 6 for the middle-aged group, and 6 for the old group.

During the recording of videos, only Deaf researchers or collaborators took part to the recording session in order to minimize the effect of the *paradox of the author participant*, namely the influence of the researchers relating to the linguistic choices of the signers. Furthermore, the session took place in locations which were familiar and commonly frequented by the Deaf informants, in order to avoid an uncomfortable atmosphere and to allow more spontaneous productions.

Four different types of data have been recorded: spontaneous group conversations, individual narrations, dialogues and, picture-naming. The section of spontaneous conversation involved three Deaf people and lasted about 45 minutes. Free conversations are good resources for the collection of frequent linguistic structures, but they are less useful to investigate the occurrence of specific constructions in that they lack negative evidence. Individual narrations consisted in an individual story telling which lasted only a few minutes. The signer was sitting in front of another participant. The function of the second participant was to avoid anxiety during the performance due to the presence of the camera, and to make the narration look more spontaneous. The third section aimed at investigating the production of questions. Therefore, participants were invited to ask each other questions to gain detailed descriptions of a car crash. Although these types of productions are not completely spontaneous, (in that there is a guide-line to follow), this task is useful for the elicitation of specific linguistic structures and elements, as in this case the wh-questions. The fourth section asked participants to name some pictures in order to explore possible variations among signers coming from different areas of the country. The signers were told to produce all the signs they knew about the same picture. The pictures belong to different semantic fields: colours, months, family words, compounds, words without signs, classifiers, signs expressed through *dactylogogy* (hand alphabet), initialized signs, diachronically evolved signs and diatopically evolved signs.

The results were analysed and the linguistic annotations have been added in a separated file through a specific software called ELAN.



ELAN dialog box (Mantovan 2015: 111)

ELAN is a piece of software created at the Max Planck Institute in Nijmegen, Netherlands. It can be used with several operating systems and it can be downloaded for free at the following link: <http://www.lat-mpi.eu/tools/elan/download>. ELAN allows the simultaneous analysis of four videos in the video viewer. Linguistic information can be hierarchically organized in the tier panel and then, inserted in the annotation panel with personal classifications, depending on the specific research interests. In the upper right corner, the tabs panel allows users to visualize the annotations in various format and modify the volume and the rate of the videos; when the annotation is concluded, data can be exported to Excel for the statistical analysis of the corpus.

4.4. Sociolinguistic variation

Language is not a monolithic entity, since it is not homogeneously used by all speakers. Language can display variation for sociolinguistic reasons, leading to the existence of several alternative expressions to refer to the same thing. These variations can be due to language-internal or language-external factors. Among sociolinguistics, there is a general consensus about the existence of five main kinds of variation: diachronic, diastratic, diaphasic, diamestic, and diatopic. Diachronic variation depends on temporal factors or arises from the comparison between old and young signers. Modifications are diastratic, if the changes are related to different social and economic conditions. Diaphasic variation is affected by communicative settings, for example the shifting between formal or informal registers. Diamestic modifications depend on the communicative medium (for example, face-to-face communication, video recordings or

online video calls). In fact, in LIS, video calls and recorded videos often imply some reductions of space or adjustments due to a two-dimensional type of transmissions. Modifications which depend on the geographic area determine diatopic variation. Some cases of diatopic variations for LIS can be traced back to the different Institutes attended by deaf people. In these cases, for example, in a city it is possible to find more than one variant for the same sign, because different signs came from different Institutes based in the same city. *Il Dizionario bilingue elementare della Lingua dei Segni* (see **SOCIO-HISTORICAL BACKGROUND 4.2**) collected many of these instances of linguistic variation.

Among the language-external factors for sociolinguistic variation, we find education (see **SOCIO-HISTORICAL BACKGROUND 2.4**), age, gender, ethnicity, sexual orientation, religion, linguistic background, and socio economic condition.

As far as LIS is concerned, highly relevant factors in sociolinguistic variation are: (i) the lack of formal recognition by Italian government; (ii) the pressure caused by the spoken Italian language, which in some cases is considered as more prestigious; (iii) the paucity of bimodal bilingual educational programs for deaf students at school; (iv) the absence of a written form of LIS. Different types of variation can co-occur together in relation to various layers of linguistic structure: lexical processes, phonological processes, morphological processes, syntactic processes and discourse level processes. The videos below show the diachronic evolution of the lexical sign PHONE (a-d).

a. PHONE₁
[video example]

b. PHONE₂
[video example]

c. PHONE₃
[video example]

d. PHONE₄
[video example]

Generally, diachronic variation concerning lexical changes seems to undergo a process of loss of iconicity, whereas an opposite tendency leads younger signers to adopt and codify more arbitrary forms. Furthermore, younger users of LIS seem to use the most standardized and unified variety of LIS.

The variability attested on word order seems to be related to both diatopic and diachronic variation. Indeed, northern signers tend to produce SVO structures, as in example (a) below. On the contrary, southern signers seem to prefer the SOV order, as in example (b). Moreover, SVO seems to be the order preferred by older signers, while younger signers show a marked preference for SOV. Exceptions to these two tendencies

depend on the presence of functional elements or on the reversibility of the verb, and in these cases, the social variables are not significant.

a. GIANNI BUY HOUSE

[video example]

‘Gianni buys a house.’

b. GIANNI HOUSE BUY

[video example]

‘Gianni buys a house.’

Another example of a diachronic variation concerns the sign ONE, used as cardinal and as indefinite determiner. Middle-aged and older generations use the sign ONE both as cardinal number and as indefinite determiner (probably it depends on influences of Italian). According to some studies, middle-aged and older generations of signers are used to sign ONE as an indefinite determiner by associating it with trembling motion, a slight trembling movement of the forearm and hand. In these cases, the sign ONE is not articulated in a particular point in space, rather in an unmarked location. Furthermore, the sign ONE used as indefinite determiner could also be accompanied by a facial expression denoting uncertainty, namely pulling the corners of the mouth down (see [LEXICON 3.6.2](#)). More recent studies argue that the indefinite determiner ONE seems to be mostly accompanied by upward head tilt and a shrug of the shoulders. An example is provided below.

indef

ONE-DET WOMAN COME

[video example]

‘A woman comes.’

On the contrary, new generations tend to use the sign ONE only as a cardinal number. Therefore, indefiniteness is only expressed by facial expressions of uncertainty, as in the example below.

indef

WOMAN COME

[video example]

‘A woman comes.’

Example of diatopic modification is the different realization of the sign ONE. Indeed, depending on the region, the signers tended to sign ONE in two different ways. In the northern regions, ONE is signed with the index finger (example (a)), namely, with the

handshape G, while in the southern regions it is articulated with the thumb extended (example (b)), namely with the handshape S (see also [LEXICON 3.6.2](#)).



a. ONE-DET-G



b. ONE-DET-S

Information on Data and Consultants

The descriptions in this chapter are based on the references below. Please see the data and consultant information in these references. The video clips exemplifying the linguistic data have been produced by two fluent native signers, who grew up in the north of Italy. Specifically, one of them belongs to the younger generation of signers, another one belongs to the older generation. The data was recorded at the University of Milan-Bicocca.

Authorship Information

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References

AA. VV.. 2010. *Dizionario di Arte Contemporanea in Lingua dei Segni Italiana*. Edizione Umberto Allemandi & C. [4.2]

- Angelini, Natalia, Rossano Borgioli, Anna Folchi & Matteo Mastromatteo. 1991. *I primi 400 segni. Piccolo dizionario della Lingua Italiana dei Segni per comunicare con i sordi*. Firenze: La Nuova Italia. [4.2]
- Battaglia, Katia, Anna Cardinaletti, Carlo Cecchetto, Caterina Donati, Carlo Geraci & Emiliano Mereghetti. 2012. La variazione nel lessico della lingua dei segni italiana. *Proceedings of the XLIV Congresso Internazionale della SLI, Lessico e Lessicologia*. Viterbo, 27-29 Sept. 2010. [4.4]
- Bertone, Carmela. 2007. La struttura del sintagma determinante nella Lingua dei Segni Italiana (LIS). Venezia: Ca' Foscari University, doctoral dissertation. [4.1]
- Bertone, Carmela. 2009. La grammatica dello spazio nella LIS. In Carmela Bertone & Anna Cardinaletti (eds.), *Alcuni capitoli della grammatica della LIS*, 79-100. Venezia: Editrice Cafoscarina. [4.1]
- Bertone, Carmela. 2011. *Fondamenti di grammatica della lingua dei segni italiana*. Milano: Franco Angeli. [4.1] and [4.4]
- Betto, Rosanna, Maria Luisa Franchi, Piera Massoni, Anna Maria Peruzzi, Paolo Rossini & Benedetto Santarelli. 1988. *Abecedario della L.I.S. - Lingua Italiana dei Segni*. Roma: Regione Lazio Ass.to I.C.A. e I.P. [4.2]
- Boschin, L., Serena Corazza, (eds). 1985. *Materiale di lavoro. Corso di Lingua Italiana dei segni*. Trieste: E.N.S - Regione Autonoma Friuli V. Giulia: I.R.Fo.P. [4.2]
- Branchini, Chiara & Carlo Geraci. 2011. L'ordine dei costituenti in LIS: risultati preliminari. In Anna Cardinaletti, Carlo Cecchetto & Caterina Donati (eds.), *Grammatica, lessico e dimensioni di variazione nella LIS*, 113–126. Milano: Franco Angeli. [4.1]
- Branchini, Chiara, Anna Cardinaletti, Carlo Cecchetto, Caterina Donati & Carlo Geraci. 2013. Wh-duplication in Italian sign language (LIS). *Sign Language & Linguistics* 16(2), 157–188. [4.1]
- Branchini, Chiara, Carlo Cecchetto & Isabella Chiari (2014), La lingua dei segni italiana. In *La linguistica italiana all'alba del terzo millennio (1997-2010)*, 2, 369-404. Roma: Bulzoni Editore. [4.1]
- Branchini, Chiara. 2006. On relativization and clefting in Italian Sign Language. Urbino: University of Urbino, PhD dissertation. [4.1]
- Branchini, Chiara. 2014. *On relativization and clefting. An analysis of Italian Sign Language*. Berlin: Mouton de Gruyter. [4.1]
- Brunelli, Michele. 2006. *The Grammar of Italian Sign Language, with a Study about its Restrictive Relative Clauses*. Venezia: Università Ca' Foscari, MA thesis. [4.1]
- Brunelli, Michele. 2011. *Antisymmetry and Sign Languages. A Comparison between NGT and LIS*. Utrecht: LOT. [4.1]
- Cardinaletti, Anna, Carlo Cecchetto & Caterina Donati (eds.). 2011. *Grammatica, lessico e dimensioni di variazione nella LIS*. Milano: FrancoAngeli. [4.1], [4.2], [4.3], and [4.4]

- Caselli, Maria Cristina, Simonetta Maragna & Virginia Volterra. 2006. *Linguaggio e sordità. Gestì, segni e parole nello sviluppo e nell'educazione*. Bologna: Il Mulino. [4.2]
- Cecchetto, Carlo & Sandro Zucchi. 2006. Condizioni di verità, sottospecificazione e discorso nelle lingue dei segni. In: Rocco Pititto & Simona Venezia (eds.), *Tradurre e comprendere. Pluralità dei linguaggi e delle culture*, 353-385. Roma: Aracne editrice. [4.1]
- Chesi, Cristiano & Carlo Geraci. 2009. *Segni al computer: manuale di documentazione della Lingua dei Segni Italiana*. Siena: Cantagalli. [4.3]
- Corazza, Serena & Luigi Lerose. 2008. L'origine della lingua dei segni, variante triestina. In Caterina Bagnara, Serena Corazza, Sabina Fontana, Amir Zuccalà, (eds.) *I segni parlano. Prospettive di ricerca sulla Lingua dei Segni Italiana*, 132-139. Milano: Franco Angeli. [4.4]
- Epifano, Manuela. 2003. *Immaginario. Immagini per un abbecedario, comunicare con i segni*. Osmannoro: PLAN. [4.2]
- Fontana, Sabina, Vincenzo Carratello, Salvatore Fontana. 2008. Uno studio della LIS in diacronia: alcune riflessioni. In Caterina Bagnara, Serena Corazza, Sabina Fontana, Amir Zuccalà (eds.), *I segni parlano. Prospettive di ricerca sulla Lingua dei Segni Italiana*, 123-131. Milano: Franco Angeli. [4.4]
- Geraci, Carlo & Lucia Toffali. 2008. Tendenze innovatrici e conservative nell'uso delle lingue: la variabile dell'età nella Lingua dei Segni Italiana. In G. Bella & D. Diamantini (eds.), *La qualità della vita nella società dell'informazione*, 97-115. Milano: Guerini e Associati. [4.4]
- Geraci, Carlo, Carlo Cecchetto & Sandro Zucchi. 2008. Sentential complementation in Italian Sign Language. In Michael Grosvald, and Dionne Soares (eds.), *Proceedings of the thirty-eighth Western Conference On Linguistics, WECOL 2008*, 46-58. DAVIS, CA. [4.1]
- Geraci, Carlo, Katia Battaglia, Anna Cardinaletti, Carlo Cecchetto, Caterina Donati, Serena Giudice & Emiliano Mereghetti. 2011. The LIS Corpus Project. A discussion of sociolinguistic variation in the Lexicon. *Sign Language Studies*, 11(4), 528-574. [4.3] and [4.4]
- Geraci, Carlo, Robert Bayley, Chiara Branchini, Anna Cardinaletti, Carlo Cecchetto, Caterina Donati, Serena Giudice, Emiliano Mereghetti, Fabio Poletti, Mirko Santoro & Sandro Zucchi. 2010. Building a corpus for Italian Sign Language: Methodological issues and some preliminary results. In *LREC 2010, 4th Workshop on Representation and Processing of Sign Languages: Corpora and Sign Language Technologies*, 98-101. [4.3] and [4.4]
- Geraci, Carlo. 2015. Italian Sign Language. In Julie Bakken Jepsen, Goedele De Clerck, Sam Lutalo-Kiingi and William B. McGregor (eds.) *The World's Sign Languages*, 473-510. Berlin: De Gruyter Mouton. [4.1]
- Gianfreda, Gabriele. 2011. Un corpus di conversazioni in lingua dei segni italiana attraverso videochat: una proposta per la loro trascrizione e analisi. In

- Cardinaletti, Anna, Carlo Cecchetto & Caterina Donati (eds.), *Grammatica, lessico e dimensioni di variazione nella LIS*, 95-109. Milano: FrancoAngeli. [4.3]
- Lerose, Luigi. 2011. *Fonologia LIS*. Tricase (Lecce): Libellula Edizioni. [4.1]
- Magarotto, Cesare. (ed.). 1995. *Vocabolario della lingua gestuale italiana dei sordi*. Roma: Armando Editore. [4.2]
- Mantovan, Lara. 2015. *Nominal modification in Italian sign language (LIS)*. Venezia: Università Ca' Foscari, PhD dissertation. [4.3] and [4.4]
- Mazzoni, Laura. 2008a. *Classificatori e impersonamento nella Lingua dei Segni Italiana*. Pisa: Edizioni Plus – Pisa University Press. [4.1]
- Pietrandrea, Paola. 1995. *Analisi semiotica dei Dizionari della Lingua Italiana dei Segni*. Roma: Università La Sapienza, dissertation. [4.2]
- Pietrandrea, Paola. 1997. I dizionari della LIS: analisi quantitative e qualitative. In Maria Cristina Caselli & Serena Corazza (eds.), *LIS. Studi, esperienze e ricerche sulla lingua dei segni in Italia. Atti del 1° Convegno nazionale sulla Lingua dei Segni*, 42-54. Tirrenia (Pisa): Edizioni del Cerro. [4.2]
- Pietrandrea, Paola. 2000. Complessità dell'interazione di iconicità e arbitrarietà nel lessico della LIS. In Caterina Bagnara, Giampaolo Chiappini, Maria Paola Conte & Michaela Ott (eds.), *Viaggio nella città invisibile. Atti del 2° Convegno nazionale sulla Lingua Italiana dei Segni*, 38-49. Pisa: Edizioni del Cerro. [4.2]
- Pignotti, Giorgio (ed.). 1997. *Dizionario mimico gestuale* (CD-ROM). Ascoli Piceno: Rinascita Informatica. [4.2]
- Puricelli, Emilio, Manlio Marcioni, Domini Mara & Erennio Leogrande. 1993. *Anch'io voglio comunicare. Manuale dei principali segni religiosi*. Milano: Arte Grafica 2B. [4.2]
- Radutzky, Elena. 1992. *Dizionario bilingue elementare della lingua dei segni italiana LIS*. Roma: Edizioni Kappa. [4.2]
- Radutzky, Elena. 2000. Cambiamento storico della Lingua dei Segni. In Caterina Bagnara, Giampaolo Chiappini, Maria Paola Conte & Michaela Ott (eds.), *Viaggio nella città invisibile. Atti del 2° Convegno nazionale sulla Lingua Italiana dei Segni*, 120-139. Pisa: Edizioni del Cerro. [4.4]
- Radutzky, Elena. 2009. Il cambiamento fonologico storico della Lingua dei Segni Italiana. In Carmela Bertone & Anna Cardinaletti (eds.), *Alcuni capitoli della grammatica della LIS*. Atti della Giornata di Studio, 16-17 maggio 2007, 17-42. Venezia: Editrice Cafoscarina. [4.4]
- Regione Marche, Servizi Sociali e ENS, Comitato Regionale Marche. 1996. *Dizionario Regionale del Linguaggio Mimico Gestuale Marchigiano*. Ancona: Edizione Regione Marche. [4.2]
- Romeo, Orazio. 1991. *Dizionario dei Segni. La lingua dei segni in 1400 immagini*. Bologna: Zanichelli. [4.2]
- Romeo, Orazio. 1997. *La grammatica dei segni. La Lingua dei segni in 13000 immagini e 150 frasi*. Bologna: Zanichelli. [4.2]
- Romeo, Orazio. 2004. *Dizionario tematico dei segni*. Bologna: Zanichelli. [4.2]

- Russo Cadorna, Tommaso & Virginia Volterra. 2007. *Le lingue dei segni. Storia e semiotica*. Roma: Carocci. [4.1]
- Russo, Tommaso. 2005. Un lessico di frequenza della LIS. Tullio DE MAURO e Isabella CHIARI (eds). *Parole e numeri. Analisi quantitative dei fatti di lingua*. Roma: Aracne. Marzo-aprile. pp. 277-290. [4.2]
- StarLIS (ed.). 2005. *Dizionario Illustrato della Lingua dei Segni Italiana*. Roma: StarLIS. [4.2]
- Tota, M. 2010. *Uno studio diacronico della LIS: la varietà segnica coratina*. Roma: Università degli Studi La Sapienza, MA thesis. [4.4]
- Volterra, Virginia. 2004. *La Lingua dei Segni Italiana. La comunicazione visivo-gestuale dei sordi*. Bologna: Il Mulino. [4.1]
- Volterra, Virginia. 2004. *La Lingua dei Segni Italiana. La comunicazione visivo-gestuale dei sordi*. Bologna: Il Mulino. [4.4]

Sitography

Spread the sign

<https://www.spreadthesign.com/it/>

SignMedia Smart

<http://www.signmedia.eu/>

Phonology

This part deals with the phonological and prosodic organization of LIS. It is divided into three chapters. The first one (Sublexical structure) provides an overview of the smallest elements of the language, namely the phonemes. The second chapter (Prosody) deals with the main prosodic features of LIS from the syllable to the utterance level. The third chapter (Phonological processes) illustrates the main phonological processes occurring both at the lexical and supra-lexical levels.

Chapter 1. Sublexical structure

Signs do not represent unanalyzable wholes, but rather entities that have an internal structure and can be decomposed into smaller units called 'phonemes'. This chapter describes the phonological organization and the inventory of phonemes in LIS.

As any other language, LIS contains a finite set of phonemic units. These can be grouped into five classes, also known as 'phonological parameters'. Four classes are related to the hands: handshape, orientation, location, and movement. Hands are not equally functioning, as one of the two acts as the dominant hand. This is the most active one while signing and it is typically the hand the signer feels most comfortable with. The fifth class is represented by non-manuals, a term that refers to facial expressions, head and body movements. Note that many signs are characterized by neutral facial expressions, hence do not realize a specific phoneme for non-manuals.

To see how the five classes of phonemes are integrated into one sign, we observe the phonological structure of the sign THIN.



THIN

This sign is a one-handed sign because it is realized with the dominant hand only. It can be decomposed into the following phonemes: i) handshape: extended pinky; ii) orientation: wrist side directed toward the endpoint of the movement; iii) location: neutral space (the space in front of the signer's upper body); iv) movement: straight downward; and v) non-manuals: contracted cheeks and/or protruding tongue.

Phonemes do not carry any meaning per se. However, when they combine with each other to form signs, the presence of a phoneme rather than another can produce a change of meaning. When two signs differ in only one phonological parameter, share

the others, and have distinct meanings, they form a minimal pair. An example of minimal pair in LIS is provided by the signs FAMILY and FULL.

a. FAMILY

[video example]

b. FULL

[video example]

These two signs form a minimal pair because: i) they carry distinct meaning and ii) differ in only one phoneme. As shown in the video examples, they have the same handshape (dominant hand open), orientation (palm directed toward the location), location (non-dominant hand) and non-manuals (neutral facial expression), but different movement (circular in FAMILY and straight in FULL).

Because of their capability to produce change of meaning, phonemes are considered contrastive units. In this chapter, the presentation of the inventory of LIS phonemes is accompanied by relevant minimal pairs showing their contrastive nature. When minimal pairs are not available, near-minimal pairs are shown.

Notice that phonemes in LIS represent a limited inventory which does not include all the possible articulatory forms. For instance, one phoneme may be realized in the language through different articulatory variants called 'phones'. Although visually recognizable, they do not cause any meaning difference. Therefore, differently from phonemes, phones are not contrastive. To illustrate, the phonological form extended pinky can have two different phonetic realizations: one with adducted thumb (a) and the other with the thumb crossed over the folded fingers (b).



a. adducted thumb



b. crossed thumb

Crucially, the difference between (a) and (b) is not meaningful: they both can be used to produce the sign THIN (see example above) without any change in meaning. In other words, the sign THIN with handshape (a) and the sign THIN with handshape (b) do not form a minimal pair. Because of their non-contrastive nature, phones are not considered two distinct phonemes, but rather two alternative phonetic realizations of the same phoneme. The use of one or the other may depend by independent factors, such as the form of neighboring signs and the signing speed. Note that this chapter aims at abstracting away from all the possible phonetic realizations, providing an overview of the distinctive phonological forms only.

In the next sections the five classes of phonemes are described: handshape and orientation (PHONOLOGY 1.1), location (PHONOLOGY 1.2), movement (PHONOLOGY 1.3), and non-manuals (PHONOLOGY 1.5). Section 1.4 illustrates the phonological patterns emerging from two-handed signs, namely those signs articulated both by the dominant and non-dominant hand.

1.1. Active articulators

Signs in LIS are expressed by two primary active articulators, namely the two hands. This section aims at providing the inventory of hand configurations of the language. Note that hand configuration includes both handshape (PHONOLOGY 1.1.1) and orientation (PHONOLOGY 1.1.2): the former is the shape assumed by the hand, while the latter refers to the alignment of the relevant part of the hand with respect to the place of articulation.

1.1.1. Contrastive handshapes

The first phonological parameter discussed here is handshape. The internal structure of handshape is captured by two characteristics: finger selection and finger configuration. On the one hand, finger selection (PHONOLOGY 1.1.1.1) indicates which finger(s) of the hand is/are active during the articulation of the sign. On the other hand, finger configuration (PHONOLOGY 1.1.1.2) indicates the position assumed by the selected finger(s). For instance, the handshape of the sign EXIST-NOT is characterized by: two selected fingers (thumb and index) and extended configuration.



EXIST-NOT

The distinction between finger selection and finger configuration is relevant because there are signs in LIS that have one set of selected fingers and two distinct finger configurations occurring one after the other. An example is shown below.



GO-AWAY

The sign GO-AWAY is articulated with one set of selected fingers (thumb and index) and two different finger configurations, changing from flat open to closed. Changes in handshape are extensively discussed in [PHONOLOGY 1.3.2](#).

1.1.1.1. Selected fingers

In the composition of the handshape, fingers do not behave uniformly. An important distinction is that between selected and unselected fingers. In the sign EXIST-NOT, which has been discussed in the previous section, the selected fingers are thumb and index, while the unselected fingers are middle, ring, and pinky.

Selected fingers differ from unselected fingers because of three properties. Selected fingers can: i) change during the articulation of the sign (e.g. opening or closing), ii) contact a location, iii) be specified for marked finger configurations ([PHONOLOGY 1.1.1.2](#)). On the contrary, unselected fingers cannot have internal movement, cannot contact any location, and can only assume two finger configurations, namely fully open or fully closed. The three properties characterizing selected fingers are exemplified by the LIS signs GO-AWAY, MOON, and OBLIGATION, respectively.



a. GO-AWAY



b. MOON



c. OBLIGATION

These three signs share the same finger selection because all three of them select the thumb and index as active fingers. In the sign GO-AWAY the selected fingers are subject to internal movement, from flat open to flat closed. In the sign MOON, the selected fingers contact the signer's face. In the sign OBLIGATION the selected fingers are bent, hence adopt a specific configuration.

As for finger selection, LIS allows for a limited number of combinations. The table below shows that the selected fingers range from one to five and there is a limited number of possible combinations. In most cases the unselected fingers are flexed, but there are also a couple of cases in which they are extended (3/5, F, and 8 handshapes). For the sake of simplicity, the handshape names are in line with those typically used in LIS dictionaries.

Nr. of selected fingers	Selected fingers	Flexed unselected fingers	Extended unselected fingers
one	thumb	 S handshape	/
	index	 G handshape	/
	middle	/	 3/5 handshape
	pinky	 I handshape	/
two	thumb + index	 L handshape	 F handshape
	thumb + middle	/	 8 handshape
	index + middle	 V handshape	/
	thumb + pinky	 Y handshape	/
	index + pinky	 U handshape	/
three	thumb + index + middle	 3 handshape	/
four	index + middle + ring + pinky	 4 handshape	/
five	thumb + index + middle + ring + pinky	 5 handshape	/

In the remainder of this section relevant minimal pairs are reported to show how finger selection can create minimal contrasts in LIS signs. To show clear comparisons, all handshapes included in the minimal pairs are in extended configuration, the most common one (except handshapes 3/5 and F, and 8 which, by nature, do not have extended selected fingers).

Handshapes S and 5 are contrastive in the minimal pair TOURNAMENT - PANTOMIME.



a. TOURNAMENT (handshape S)



b. PANTOMIME (handshape 5)

Handshapes V and Y are contrastive in the minimal pair TWELVE - YES.



a. TWELVE (handshape V)



b. YES (handshape Y)

Handshapes F and I are contrastive in the minimal pair CORRECT - THREAD.



a. CORRECT (handshape F)



b. THREAD (handshape I)

Handshapes 3/5 and 5 are contrastive in the minimal pair NAUSEA - SATISFIED.



a. NAUSEA (handshape 3/5)



b. SATISFIED (handshape 5)

Handshapes G and I are contrastive in the minimal pair NOBODY - NEVER.



a. NOBODY (handshape G)



b. NEVER (handshape I)

Handshapes L and 5 are contrastive in the minimal pair LUXURIOUS - INFORMATION.



a. LUXURIOUS (handshape L)



b. INFORMATION (handshape 5)

Handshapes 3 and 4 are contrastive in the minimal pair KING - QUEEN.



a. KING (handshape 3)



b. QUEEN (handshape 4)

Handshapes U and 3 are contrastive in the minimal pair JOKE - FORMULA-ONE.



a. JOKE (handshape U)



b. FORMULA-ONE (handshape 3)

Handshape 8 is an exceptional handshape in that it is included only in some signs articulated with closing and opening hand-internal movements (1.3.2) and in a few regional lexical variants used in Trieste.

A few signs allow for two distinct lexical variant forms articulated with different handshapes. This possibility is exemplified by the sign TRAIN, which can be realized either with 2 selected fingers (handshape V) or 3 selected fingers (handshape 3).



a. TRAIN (handshape V)



b. TRAIN (handshape 3)

1.1.1.2. Finger configuration

In the composition of handshapes, the selected fingers combine with a specific configuration. The most common configuration in LIS is extended finger(s). Other possible configurations are: i) flat open (base joint flexion with no contact between thumb and fingers), ii) flat closed (base joint flexion with contact between thumb and fingers), iii) curved open (base and non-base joint flexion with no contact between

thumb and fingers), iv) curved closed (base and non-base joint flexion with contact between thumb and fingers), and v) closed (full base and non-base joint flexion). Note that certain configurations allow the fingers to be either spread [+S] or unspread [-S]. These special combinations are reported in the table as well.

hand-shapes	extended	flat open	flat closed	curved open	curved closed	closed
S		/	/	/	/	/
G		/	/		/	
3/5	/		/	/	/	/
I		/	/	/	/	/
L					/	/
F	/					/
8	/	/	/	/		/
V	 [+S]	/	/		/	/
	 [-S]					
Y		/	/	/	/	/
U		/	/	/	/	/

3					/	/
4			/	/	/	/
5	 [+S]			 [+S]		
	 [-S]			 [-S]		

In the remainder of this section relevant minimal pairs are reported to show how different finger configurations (flat open, flat closed, curved open, curved closed, closed, and finger spreading) can create minimal contrasts in LIS signs.

The flat open configuration is contrastive in the near-minimal pair FORMULA-ONE - CHESS (extended 3 vs. flat open 3, with a slight difference in orientation).



a. FORMULA-ONE (extended 3)



b. CHESS (flat open 3)

However, it should be noted that flat open L, flat open 3, and flat open 5 are selected by a limited number of signs, typically lexicalized signs derived from classifier constructions (1.1.3).

The flat closed configuration is phonologically contrastive in the minimal pair MAY - UNEMPLOYED (extended 5 vs. flat closed F).



a. MAY (extended 5)



b. UNEMPLOYED (flat closed 5)

Flat closed L and flat closed 3 are handshapes used in a limited number of signs, most of which are probably derived by handling classifiers (1.1.3).

The curved open configuration is phonologically contrastive in the minimal pair GESTURE - CONFUSION (extended 5 vs. curved open 5).



a. GESTURE (extended 5)



b. CONFUSION (curved open 5)

The curved closed configuration is phonologically contrastive in the minimal pair SUGGESTION - CIGAR (extended 5 vs. curved closed 5).



a. SUGGESTION (extended 5)



b. CIGAR (curved closed 5)

The closed configuration is phonologically contrastive in the minimal pair LET - REJECT (extended 5 vs. closed 5).



a. LET (extended 5)



b. REJECT (closed 5)

Another contrastive phonological feature is finger spreading. This can be seen in the minimal pair GLASS - MIRROR (spread 5 vs. unspread 5).



a. GLASS (spread 5)



b. MIRROR (unspread 5)

1.1.2. Orientation

Orientation defines the relation between hand(s) and location. More specifically, it indicates which part of the hand is directed toward the place of articulation. Active articulators include six sides: i) palm, ii) back, iii) ulnar, iv) radial, v) wrist, and vi) fingertip side. The six sides of the hand relevant to orientation are illustrated below.



Two cases need to be distinguished: signs articulated on the body and signs articulated in neutral space. In signs articulated in a location on the signer's body, orientation

consists in the side of the hand facing that location. For example, the sign DEAR is produced on the cheek. The orientation of this sign is palm because the hand faces the cheek with the palm of hand side.



DEAR (palm)

The same approach is adopted for signs articulated on the non-dominant hand. For example, in the sign WOUND the orientation is ulnar because the dominant hand faces the non-dominant one with the ulnar side.



WOUND (ulnar)

In the case of signs articulated in the neutral space, orientation consists in the side of the hand pointing in the direction of the endpoint of the movement. For example, the orientation of the sign STREET is tips because the fingertip side of the articulators face the end of the movement trajectory of the sign.

STREET (tips)

[video example]

Orientation can be phonologically contrastive. The following pairs of signs show minimal contrasts with respect to orientation: CORRECT - MEASURE (wrist vs. ulnar), COMPLIMENT - EVIDENCE (palm vs. back), and HOUSE - DOOR (tips vs. radial).

a. CORRECT (wrist)

[video example]

b. MEASURE (ulnar)

[video example]

c. COMPLIMENT (palm)

[video example]

d. EVIDENCE (back)

[video example]

e. HOUSE (tips)

[video example]

f. DOOR (radial)

[video example]

A few signs allow for two lexical variants produced with different orientation. For example, the sign PROGRAM is a two-handed sign in which the dominant hand can touch the non-dominant one either with the radial (a) or ulnar side (b).



a. PROGRAM (radial)



b. PROGRAM (ulnar)

The articulation of some signs involves a hand-internal movement resulting in a change in orientation ([PHONOLOGY 1.3.2](#)).

1.1.3. The manual alphabet & number signs

A few handshapes are limited to specific domains. This is the case of handshapes appearing in: i) fingerspelled words, ii) lexicalized signs derived from fingerspelling, and iii) lexicalized signs derived from classifier constructions. Illustrative examples are provided below. No particular handshapes are exclusively used in number signs.

Some handshapes are exclusively used in borrowings from Italian, namely in fingerspelled words and signs derived from fingerspelling. In fingerspelled words, each letter of the Italian word is fingerspelled one after the other (see section on fingerspelling [LEXICON 2.2.3.3](#)). In signs derived from fingerspelling, the handshape typically corresponds to the first letter of the Italian translation of the sign (see section on initialization [LEXICON 2.2.2.1](#)). The handshapes that are exclusively used in fingerspelled words and signs derived from fingerspelling are shown and described below.

 handshape P	 handshape D (new version)	 handshape D (old version)	 handshape E
 handshape K	 handshape R	 handshape T	 handshape W

Handshape D (new version) and handshape P (same handshape but with different orientation) is realized by extending the index and partially bending the other fingers so that the thumb touches the middle. Handshape D is realized with outward palm orientation and is found in the initialized sign SUNDAY (Ita. *domenica*), as shown in (a). Handshape P is realized with downward palm orientation and is found in the initialized sign POWERPOINT, as shown in (b).



a. SUNDAY - new sign (handshape D, new version)



b. POWERPOINT (handshape P)

Handshape D (old version) is realized by bending the middle over the index. Notice that this handshape was used to represent D in the old manual alphabet and it appears in the old initialized sign SUNDAY (Ita. *domenica*).



SUNDAY - old sign (handshape D, old version)

Handshape E is realized by bending and hooking all the fingers. It is found in the initialized sign EUROPE (Ita. *Europa*).



EUROPE (handshape E)

Handshape K is realized by extending the index, bending the middle at base joint, and extending the thumb so that it touches the base of the middle. It is found in the sign OK.



OK (handshape K)

Handshape R is realized by crossing the middle over the index and it is used in the initialized sign RECORD.



RECORD (handshape R)

Handshape T is realized by bending the index at base joint and extending the thumb so that it touches the base of the index. No initialized signs have been found with this handshape.

Handshape W is realized by extending index, middle, and ring. Because of its articulatory complexity, it is not frequently used by LIS signers. In borrowings from English (see section on borrowings [LEXICON 2.2](#)), the handshape W can be replaced by handshape 4 for ease of articulation (as in the sign WORKSHOP).



a. WORKSHOP (handshape W)



b. WORKSHOP (handshape 4)

Some handshapes are exclusively, or almost exclusively, found in signs derived from classifiers. Notice that, in some cases, the distinction between core lexical elements ([LEXICON 1.1](#)) and classifiers ([LEXICON 1.2.1](#)) may not be straightforward. This set of handshapes usually represent the referent in the way it looks (Size-and-Shape-Specifiers, [MORPHOLOGY 5.2](#)) or is handled (handle classifiers, [MORPHOLOGY 5.1.3](#)). The handshapes that are mostly used in signs derived from classifiers are shown and described below.

			
Flat open L	Flat closed L	Flat open 3	Flat closed 3
			
Flat open 5	Curved open 5 [-S]	Curved closed 5	

Flat open L appears in signs referring to thin rectangular objects (e.g. TICKET, FILM, and COLLAR).



COLLAR (flat open L)

Flat closed L appears in signs referring to small sharp objects (e.g. PENCIL, MATCH, and WOODPECKER).



WOODPECKER (flat closed L)

Flat open 3 appears in signs referring to little thin objects (e.g. CHESS).



CHESS (flat open 3)

Flat closed 3 appears in signs referring to small objects handled by the hand (e.g. MAKE-UP and PEN).



PEN (flat closed 3)

Flat open 5 appears in signs referring to voluminous rectangular objects (e.g. WATERMELON SLICE, RADIATOR, and VIDEO TAPE).



VIDEOTAPE (flat open 5)

Curved open 5 [-S]: this handshape appears in signs referring to round objects (e.g. DRINKING-GLASS, BOTTLE, and TUBE).



DRINKING-GLASS (curved open 5 [-S])

Curved closed 5 appears in signs referring to small-diameter round objects (e.g. SPYGLASS and CIGAR).



SPYGLASS (curved closed 5)

1.1.4. Other active articulators

In the production of LIS signs, hands play a crucial role. However, there are a few signs in which the most prominent articulator is not the hand, but the arm. Two examples are shown below, the signs TRANSGRESS and MOVE-TO.

a. TRANSGRESS

[video example]

b. MOVE-TO

[video example]

According to our informants, in situations where signers do not want some people to see what they are signing, some signs may be produced by non-manual articulators, rather than manual ones. In this way, the linguistic message is less likely to be noticed. For

example, instead of producing a manual pointing with the index finger, the signer may direct his/her eye gaze and/or a head tilt toward the object or person of interest.

1.2. Location

Location is defined as the place where the sign is articulated. For ease of production and perception, the possible location distinctions are confined in a delimited area called 'signing space': this area extends from the waist line to just above the head in the vertical plane, from elbow to elbow in the horizontal plane, and from the signer's body to the area immediately in front of the upper body in the midsagittal plane (for more details see **PRAGMATICS Chapter 8**). The extension of the signing space might not be perfectly homogeneous among signers: for example, it has been observed that young signers tend to use a slightly smaller signing space than older signers. In some exceptional signs, the place of articulation is outside the signing space: they are usually signs referring to particular body parts or items of clothing. For instance, the sign LEG is articulated below the waist line.



LEG

The main areas in which signs in LIS are located are: head, body, non-dominant-hand, and neutral space. In signs articulated in body locations, it is not necessary that the articulator touches the relevant body part, but it is sufficient that it is close enough to it. If it is not close to any body location, then the articulation of the sign is in the neutral space (the area of space in front of the upper body).

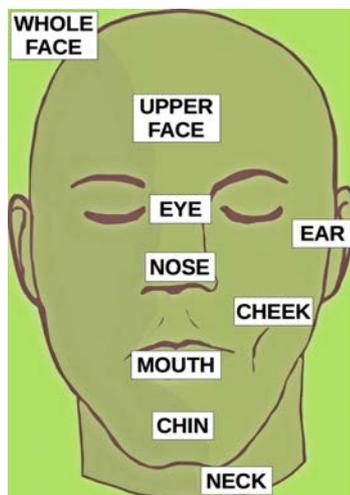
Considering the four major areas listed above, the relevant location distinctions are: i) head: whole face, upper face, ears, eyes, nose, cheeks, mouth, chin, neck; ii) body: shoulders and upper torso, chest, lower torso, arm, wrist; iii) non-dominant hand: palm, tips, radial, back; and iv) neutral space.

In some cases, location might be directly linked to the meaning of the sign. Location has an iconic motivation if it points toward the body part directly linked to the meaning of the sign (e.g. the noun NOSE signed on the nose, the adjective BLIND signed close to the eyes, the verb HEAR signed close to the ear) or if it is the area in which the referent is used (e.g. the sign CROWN in the upper part of the head). Location has a metaphoric motivation if it is linked to the meaning of the sign through an abstract or

conventional relation (e.g. rational actions like THINK and IMAGINE are signed in the upper face area, whereas emotional states like EXCITEMENT and FALL-IN-LOVE are signed in the chest area).

The location distinctions listed above are phonologically contrastive: indeed, different places of articulation can determine minimal contrasts. As evidence of their distinctive nature, the different locations are presented and exemplified through minimal pairs.

The area of the head includes the highest number of location distinctions. This is not surprising because the head is the area of highest visual acuity. During a conversation in sign language, visual attention generally focuses on the signer's face. The signs whose location is the whole face are not many. This is because signers tend to avoid hiding their facial expressions with their hands, as they play a very important role in the signing stream. The distinctive locations included in the area of the head are represented in the image below.



The minimal pair between a variant form of AFRICA and the sign SATISFACTION shows that whole face and chest are distinctive locations.



a. AFRICA (whole face)



b. SATISFACTION (chest)

In the case of those parts of the face having two distinct members (i.e. temple, ear, eye, and cheek), one-handed signs are produced near the ipsilateral member (the right temple, ear, eye, and cheek for a right-handed person).

The highest location in the head area involves the upper part of the head, the forehead, and the temples. The central part of the head can be the location of one-handed signs only, whereas in the lateral part of the forehead and the temples both one-handed and two-handed signs can be produced. Lots of signs in the upper face refer to objects worn on the head (e.g. HAT, CROWN), or to cognitive activities (e.g. THINK, REMEMBER). The contrastive nature of this location is shown by the minimal pair MEMORY - HUMAN (upper face vs. cheek).



a. MEMORY (upper face)



b. HUMAN (cheek)

Signs realized in the ear area are usually one-handed signs. Their meaning is typically connected to the ear in some way (e.g. HEARING, HEADPHONES, EARRING). This location is distinct from the upper head, as shown in the minimal pair HEAR - KNOW (ear vs. upper face).



a. HEAR (ear)



b. KNOW (upper face) - Ita. *sapere*

The area of the eye is typically the location of signs whose meaning is linked to the eye or the ability to see (e.g. LOOK, BLIND, GLASSES). This location is distinctive in the minimal pair including a variant form of BLIND and the sign CRAZY (eye vs. upper face).



a. BLIND (eye)



b. CRAZY (upper face)

Signs produced close to the nose are (almost) exclusively one-handed signs. They usually have a semantic connection to the nose and its function (e.g. COLD, FRAGRANCE). Some signs make metaphorical reference to the nose: for example, CURIOUS contains the same metaphor of the idiom "stick one's nose into something" (Ita. *ficcare il naso*). The distinctive nature of this location can be seen in the minimal pair SMELL - LET-S-SEE (nose vs. eye).



a. SMELL (nose)



b. LET-S-SEE (eye)

The area of the cheek is typically selected by signs whose meaning is connected to the cheek in some way. For example, the sign SLEEP makes reference to the fact that in a common sleeping position the cheek is pressed against the pillow. Other signs articulated in this location refer to people (e.g. WOMAN, MOTHER, MAN). The fact that the cheek can be phonologically distinctive is shown in the minimal pairs HUMAN - MEMORY (cheek vs. upper face, above) and MOTHER - SORRY (cheek vs. chin).



a. MOTHER (cheek)



b. SORRY (chin)

The signs articulated on the mouth are mostly one-handed signs. They typically refer to the mouth and actions performed by it (e.g. SPEAK, MUTE, DRINK). The contrastive nature of this location is shown by the minimal pair SPEAK - KNOW (mouth vs. upper face).



a. SPEAK (mouth)



b. KNOW (upper face) - Ita. *conoscere*

The chin is a location commonly selected by one-handed signs, too. The fact that this location can be phonologically distinctive is shown in the minimal pairs SORRY - MOTHER (chin vs. cheek, above) and VERB - LAWYER (chin vs. nose).



a. VERB (chin)



b. LAWYER (nose)

The last distinctive location in the head is the area of neck. It is selected by signs that usually have a direct connection to the neck (e.g. VOICE, BOW TIE) or a metaphorical connection to it (e.g. forced meaning "taken by the throat", Ita. *preso per il collo*). The contrastive nature of this location is shown by the minimal pair THIRST - HEADACHE (neck vs. upper face).

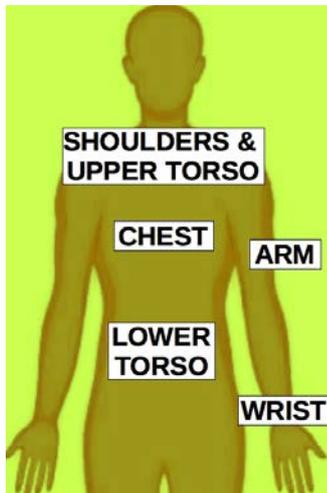


a. THIRST (neck)



b. HEADACHE (upper face)

The distinctive body locations in LIS are: shoulders and upper torso, chest, lower torso, arm, and wrist. These locations are illustrated in the image below.



The shoulders and upper torso represent the location of signs referring to objects carried on the shoulders (e.g. BAG, COAT), signs referring to time (e.g. YESTERDAY, BEFORE), and other signs. One-handed signs produced in this location may select the ipsilateral shoulder (e.g. SOLDIER) or the contralateral one (e.g. FAULT). The contrastive nature of this location is shown by the minimal pair SOLDIER - POSS₁ (upper torso vs. chest, with a slight difference in absolute orientation).



a. SOLDIER (upper torso)



b. POSS₁ (chest)

The area of the chest is intended as the central part of the torso. This location is selected by many signs referring to feelings and emotions (e.g. LOVE, SUFFER, JEALOUSY). The

chest area can be contrastive in minimal pairs, as shown in POSS1 - SOLDIER (chest vs. upper torso, above) and in BRA - UNDERWEAR (chest vs. lower torso).



a. BRA (chest)



b. UNDERWEAR (lower torso)

The signs produced in the lower part of the torso are not many because this is probably the area of lowest visual acuity. This location is contrastive in some minimal pairs, as shown in UNDERWEAR - BRA (lower torso vs. chest, above) and in HUNGER - DOG (lower torso vs. neck).



a. HUNGER (lower torso)



b. DOG (neck)

The area of the non-dominant arm is a large location including the upper arm, the elbow, and the forearm. All the signs selecting the area of the non-dominant arm are one-handed signs. Many of them make reference to special roles or qualifications (e.g. TEAM-CAPTAIN, ASSISTANT, UNION-OFFICIAL). The contrastive nature of the arm is shown by the minimal pair RUDE - PROPRIETY (arm vs. chest).



a. RUDE (arm)



b. PROPRIETY (chest)

The non-dominant wrist is selected mostly by signs that are directly or indirectly connected to the wrist. An instance of direct connection is the sign WATCH, whereas an instance of indirect connection is PATIENT (this sign makes reference to the fact that doctors usually check on patients' wrist pulse). The contrastive nature of the wrist is shown by the minimal pair SICK - HEADACHE (wrist vs. upper face).



a. SICK (wrist)



b. HEADACHE (upper face)

In some two-handed signs, the non-dominant hand is not an active articulator. Rather, it is a passive articulator and functions as a place of articulation. To illustrate, in the sign WORK the dominant hand moves in a circular way on the vertical plane and when it moves downwards it touches the location of the sign, namely the non-dominant hand. If this movement occurs in the neutral space rather than on the non-dominant hand the sign produced is SHEPHERD. The minimal pair WORK - SHEPHERD is shown below.



a. WORK (non-dominant hand)



b. SHEPHERD (neutral space)

The sides of the non-dominant hand that can be relevant to the articulation of this type of signs are: palm, back, radial, and tips.



Below we can see some signs showing the contrastive nature of these location distinctions: the pair SOAP - CHEESE (palm vs. back) and the triplet STOP! - HALF - LIMIT (palm vs. radial vs. ulnar).



a. SOAP (palm)



b. CHEESE (back)



c. STOP! (palm)



d. HALF (radial)



e. LIMIT (ulnar)

The fourth major area, the neutral space, is the largest area and constitutes the place of articulation of the majority of the LIS signs. Signs in neutral space can be articulated approximately in the middle (PEN), high (GOD), low (FOOT), or in a lateral position (TOILET).



a. PEN (middle)



b. GOD (high)



c. FOOT (low)



d. TOILET (lateral)

It is not entirely clear whether the neutral space is subdivided into contrastive subareas. According to some informants, differences in height are distinctive. For example, FLOOR and TABLE are very similar signs articulated in the neutral space with the only difference that the former is at waist level and the latter at chest level.



a. TABLE (neutral space, middle)



b. FLOOR (neutral space, low)

A few signs allows for two lexical variants produced in two different places of articulation. For example, the sign DOG is a one-handed sign in which the dominant hand can touch either the chin or the neck with a repeated movement.



a. DOG (chin)



b. DOG (neck)

In some signs, the active articulator(s) move from a location to another (**PHONOLOGY 1.3.1**).

1.3. Movement

The dynamic nature of signs is captured by the movement parameter. This can be described in terms of path (or primary) movements and secondary movements.

Path movements consist in changes in location. To illustrate, the sign STREET involves a path movement because it requires that the two hands move in the neutral space from a starting location close to the signer's body to a location farther away from it (in front of it).

STREET (path movement)

[video example]

Secondary movements consist in changes in handshape and/or orientation. Handshape change is here exemplified by the sign IGNORANT, in which the handshape changes from extended 5 [-S] to flat closed 5.

IGNORANT (handshape change)

[video example]

Orientation change is here exemplified by the sign BREAK, in which the articulatory orientation changes from prone to neutral.

BREAK (orientation change)

[video example]

The movement component may assume different timing properties. Specifically, signs can include non-repeated or repeated movements. These two possibilities can be phonologically contrastive and are found both with primary and secondary movements.

As for path movement (location change), the phonological contrast between a non-repeated and repeated pattern can be seen in the minimal pair LIFE - LIVE (single vs. repeated).

a. LIFE (non-repeated movement)

[video example]

b. LIVE (repeated movement)

[video example]

A minimal pair showing the contrast between single and repeated handshape change is composed by the sign GOOD and a variant form of BE-POSSIBLE (single vs. repeated).

a. GOOD (non-repeated movement)

[video example]

b. BE-POSSIBLE (repeated movement)

[video example]

The difference between single and repeated movement can be contrastive in orientation changes, too. This is exemplified by the minimal pair OPERATE - MOTOR (single vs. repeated).

a. OPERATE (non-repeated movement)

[video example]

b. MOTOR (repeated movement)

[video example]

Combinations of different movement types are allowed. The possible combinations are the following: i) location change + handshape change; ii) location change + orientation change; iii) handshape change + orientation change; and iv) location change + handshape change + orientation change.

One example for each combination is provided below. The possibility to combine location and handshape change is exemplified by the citation form of the sign COPY, which requires both path movement (from a location farther away from the signer's body to a location close to it) and secondary movement (handshape change from extended 5 [-S] to flat closed 5).

COPY (location change + handshape change)

[video example]

Location change can be combined with orientation change as well. This can be observed in the citation form of the sign FIRST-TIME, which requires both path movement (from the middle of the neutral space to a higher location) and secondary movement (orientation change determining wrist rotation, from prone to supine).

FIRST-TIME (location change + orientation change)

[video example]

The two different types of secondary movements can be combined in one single sign. This possibility is shown in the sign CASE, in which the handshape changes from F to 5 (opening movement) and the orientation changes from prone to supine (wrist rotation).

CASE (handshape change + orientation change)

[video example]

The last option combines all three kinds of movements (location, handshape, and orientation change). It is found in only a few signs and it is here exemplified by the sign HURL. As shown below, the movement of this sign undergoes three different changes: from near the signer's body to a high contralateral location far from it (location change), from handshape 5 to G (handshape change), and from prone to supine (orientation change).

HURL (location change + handshape change + orientation change)

[video example]

1.3.1. Path movement

Path movements are realized by moving the whole articulator(s) from one location to another on the body or in space. In this section, path movements are described in terms of two features: shape (how the hands move) and direction (where the hands move).

As for shape, there are three main possibilities: straight, arc, and circle. We exemplify these three shape types by the minimal triplet MEASURE, GENTLE, and PREPARE.

a. MEASURE (straight)

[video example]

b. GENTLE (arc)

[video example]

c. PREPARE (circle)

[video example]

These three signs share the same handshape (F), location (neutral space), and orientation (ulnar). They differ only in movement shape: MEASURE has a straight movement (the hands move uniformly contralaterally without bending), GENTLE has an arc movement (the hands move contralaterally with a curving trajectory without completing the circle), and PREPARE has a circle movement (the hands move all the way around, possibly more than once).

Another possible shape is represented by waving movements, in which the hands move with an undulating or zig-zagging motion. An example of this is shown in the sign LIGHTENING.

LIGHTENING (zigzag)

[video example]

Path movements in LIS can occur in six different directions: upward, downward, inward, outward, ipsilateralward, and contralateralward. These six directions are exemplified by the following signs: GOD (upward), THIN (downward), GRAVE (inward), STREET (outward), KING (ipsilateralward), and AUNT (contralateralward).

a. GOD (upward)

[video example]

b. THIN (downward)

[video example]

c. GRAVE (inward)

[video example]

d. STREET (outward)

[video example]

e. KING (ipsilateralward)

[video example]

f. AUNT (contralateralward)

[video example]

Diagonal movements can be described as combinations of two primary directions (e.g. ipsilateralward + downward).

Arc and circle movements can receive a further specification: clockwise and counterclockwise. It should be noted that this kind of direction is not intended in absolute terms since it is defined depending on the signer's dominant hand (a clockwise motion for a right-handed person corresponds to a counterclockwise motion for a left-handed person). To illustrate the difference between clockwise and counterclockwise direction, we consider the case of right-handed signers and present two pairs of similar signs, one showing arc motion and the other circle motion. As for arc motion, the clockwise direction is found in the sign CROWN, while the counterclockwise one is found in the sign WORLD.

a. CROWN (clockwise)

[video example]

b. WORLD (counterclockwise)

[video example]

Turning to circle motion, the clockwise direction is found in the sign WALK, while the counterclockwise one is found in the sign PREPARE.

a. WALK (clockwise)

[video example]

b. PREPARE (counterclockwise)

[video example]

Both arc and circle motions can occur in all three dimensional planes. For example, the arc motion in the sign EVERYBODY is articulated on the horizontal plane, in the sign RAINBOW on the vertical plane, and in the sign SON on the midsagittal plane.

a. EVERYBODY (horizontal)

[video example]

b. RAINBOW (vertical)

[video example]

c. SON (midsagittal)

[video example]

To illustrate the three possibilities with circle motion, we show the following examples: the sign SEA is articulated on the horizontal plane, the sign TOURISM on the vertical plane, and the sign RELATIVE on the midsagittal plane.

a. SEA (horizontal)

[video example]

b. TOURISM (vertical)

[video example]

c. RELATIVE (midsagittal)

[video example]

A few signs allow for two distinct lexical variants articulated with different path movements. This possibility is exemplified by the sign SEEM, whose circle movement can be realized either clockwise or counterclockwise, as shown below.

a. SEEM (clockwise)

[video example]

b. SEEM (counterclockwise)

[video example]

Crucially, in cases such this, the use of one or the other motion direction does not determine a change in meaning.

1.3.2. Secondary movement

Secondary movements are local or hand-internal movements. As said before, they can result in handshape and/or orientation changes.

The possible handshape changes can be categorized as follows: opening, closing, flattening, bending, wiggling, rubbing, and spreading movements.

In opening movements, the selected fingers change from a closed to an extended configuration. Various handshapes can be involved, for example F (MEDICINE), 8 (GOLD), and 3 (FLOWER).

a. MEDICINE (handshape F)

[video example]

b. GOLD (handshape 8)

[video example]

c. FLOWER (handshape 3)

[video example]

In closing movements, the selected fingers change from an extended to closed configuration. Various handshapes can be involved, for example L (BIRD), 3 (SPEAK), and 5 (UNDERSTAND).

a. BIRD (handshape L)

[video example]

b. SPEAK (handshape 3)

[video example]

c. UNDERSTAND (handshape 5)

[video example]

The selected fingers usually move together, but they can also move separately, one after the other. The former case is exemplified by the sign GRASP, in which the fingers close together. The latter case is exemplified by the sign STEAL, in which the fingers close one after the other. This can occur with opening movement, too, as shown in the sign NUMBER.

a. GRASP (fingers close together)

[video example]

b. STEAL (fingers close one after the other)

[video example]

c. NUMBER (fingers open one after the other)

[video example]

In some signs, the selected fingers flex at base joints. This hand-internal movement is called flattening and is found, for example, in the sign RABBIT.

RABBIT

[video example]

When the selected fingers flex at the base joint and extend repeatedly in an alternating way, a wiggling movement is produced. To illustrate, this type of secondary movement is found in the sign COMPUTER.

COMPUTER

[video example]

Another possible handshape change is bending. This secondary movement occurs when the selected fingers flex at non-base joints. For example, it is found in the sign PHOTO.

PHOTO

[video example]

Rubbing movements characterize signs in which the thumb applies friction to the other selected finger(s). A sign produced with rubbing movement is MONEY.

MONEY

[video example]

Spreading movements occur when the handshape changes from a spread to an unspread configuration. This type of secondary movement can be observed in the sign SCISSORS, in which index and middle fingers spread and unspread repeatedly.

SCISSORS

[video example]

Different types of handshape change can be phonologically contrastive. For example, the signs SWITCH-ON and SWITCH-OFF are very similar signs and differ only in internal movement (opening in SWITCH-ON and closing in SWITCH-OFF).

a. SWITCH-ON (opening)

[video example]

b. SWITCH-OFF (closing)

[video example]

As shown by the videos above, the sign SWITCH-ON involves an opening movement from closed to open 5, whereas the sign SWITCH-OFF involves a closing movement from open to closed 5.

The presence or absence of handshape change can create phonological contrasts. This can be seen in the minimal pair AUNT - GRATIS: the only difference between these two signs is that AUNT does not require any hand-internal movement, whereas GRATIS requires an opening movement from closed 5 to handshape G.

a. AUNT (without handshape change)

[video example]

b. GRATIS (with handshape change)

[video example]

The possible orientation changes can occur in three different ways: i) wrist rotation, ii) pivoting, and iii) nodding.

In wrist rotation, there is a change in palm orientation. This change can be from prone to supine (e.g. BETRAY), from supine to prone (e.g. FORBIDDEN), or repeated from one position to the other (e.g. MUSIC).

a. BETRAY (from prone to supine)

[video example]

b. FORBIDDEN (from supine to prone)

[video example]

c. MUSIC (supine/prone repeatedly)

[video example]

In pivoting, there is a change in finger orientation. This change can be from radial to ulnar (e.g. NOT-ABLE), from ulnar to radial (e.g. STUPID), or repeated from one position to the other (e.g. MOTOR).

a. NOT-ABLE (from radial to ulnar)

[video example]

b. STUPID (from ulnar to radial)

[video example]

c. MOTOR (radial/ulnar repeatedly)

[video example]

In nodding, there is a change in both palm and finger orientation. This change can be from palm to back (e.g. OPEN), from back to palm (e.g. CLOSED), or repeated from one position to the other (e.g. SPRING).

a. OPEN (from palm to back)

[video example]

b. CLOSED (from back to palm)

[video example]

c. SPRING (palm/back repeatedly)

[video example]

Different types of orientation change can be phonologically contrastive. For instance, the signs HAMMER and KEY are very similar with the difference that in the former the closed G handshape repeatedly changes from back to palm (nodding), whereas in the latter the closed G handshape changes from prone to supine (wrist rotation).

a. HAMMER (nodding)

[video example]

b. KEY (wrist rotation)

[video example]

The presence or absence of handshape change can create phonological contrasts. For example, the two grammatical signs IX-DEM ([LEXICON 3.6.1](#)) and PE ([LEXICON 3.6.1](#) and [SYNTAX 3.4.2.1](#)) are almost identical because they share the same handshape (G), relative orientation (tips), location (neutral space), and movement (toward a deictic or anaphoric locus in the neutral space). What distinguishes these two signs is that in IX-DEM no orientation change occurs, whereas in PE the G handshape changes from radial to ulnar (pivoting).

a. IX-DEM (without orientation change)

[video example]

b. PE (with orientation change)

[video example]

1.4. Two-handed signs

In LIS, some signs are articulated with one hand only (the dominant hand), while others require the use of both hands. The use of one or two hands can be phonologically distinctive and this is demonstrated by the existence of minimal pairs showing the opposition one-handed vs. two-handed. Two examples are the pairs WILLINGLY - CLOTHES and RENT - TEA.

a. WILLINGLY (one hand)

[video example]

b. CLOTHES (two hands)

[video example]

c. RENT (one hand)

[video example]

d. TEA (two hands)

[video example]

As shown above, CLOTHES and TEA are articulated with both hands, while WILLINGLY and RENT are made with the dominant hand only.

Despite being both two-handed signs, CLOTHES and TEA differ one from the other in the following respect: the former is symmetrical, while the latter is asymmetrical. In symmetrical two-handed signs, both hands are active articulators and move in an independent location specification. In the case of CLOTHES, both the dominant and non-dominant hand move downward on the chest. In asymmetrical two-handed signs, only the dominant hand moves, whereas the non-dominant hand is a passive articulator functioning as place of articulation. In the case of TEA, the dominant hand moves downward close to the non-dominant hand, which does not move.

Notice that, in some cases, two-handed signs may display articulatory reduction and be produced with the dominant hand only. This particular phenomenon is called weak hand drop (PHONOLOGY 3.1.4).

1.4.1. Symmetrical signs

As previously mentioned, symmetrical signs require that both hands are active articulators and move. The allowed patterns are: simultaneous movement and alternating movement.

In simultaneous movements, the hands move in tandem toward the same direction. For example, the sign DANGEROUS shows a case of simultaneous movement because the hands move in-phase. In alternating movements, the hands move together in

an out-of-phase fashion and always point toward different directions. An example of this can be observed in the sign VIOLENT.

- a. DANGEROUS (simultaneous)

[video example]

- b. VIOLENT (alternating)

[video example]

In symmetrical two-handed signs, the non-dominant hand must assume the same handshape of the dominant hand. Indeed, in the signs above both hands share the same handshape (unspread 5). An exception to this restriction is represented by the sign WEEK, in which the hands show the same movement but have different handshapes (5 for the non-dominant and L for the dominant hand).

WEEK

[video example]

1.4.2. Asymmetrical signs

In asymmetrical two-handed signs, the two hands have different functions: the dominant one acts as active articulator, whereas the non-dominant one functions as place of articulation.

In order to capture the correct articulation of this class of signs, it is important to identify the specific location of the non-dominant hand in which the sign is articulated and the handshape assumed by it. As previously discussed (1.2), the possible location specifications of the non-dominant hand are back, palm, radial, and tips. The existence of minimal pairs differing in these specifications show that they are phonologically distinctive. The handshape of the non-dominant hand can either be identical to the handshape of the dominant hand or different from it. For example, in the sign MINUTE both hands assume the F handshape, whereas in the sign POTATO the dominant and the non-dominant hand assume different handshapes, F and unspread 5, respectively.

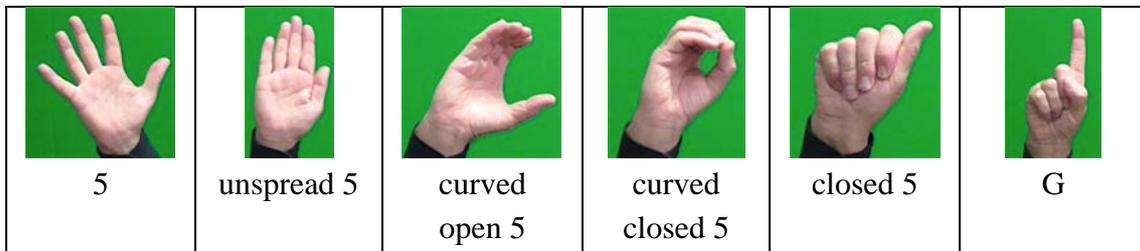


- a. MINUTE (same handshape)



b. POTATO (different handshape)

It should be noted that when the two hands share the same handshape, a large set of possible handshapes is available. On the contrary, when the two hands assume different shapes, the handshape of the non-dominant hand is restricted to a limited set of options, which are reported below.



In most asymmetrical two-handed signs, the non-dominant hand assumes either one of these two handshapes: unspread 5 or closed 5. For example, the non-dominant hand assumes the unspread 5 handshape in the signs CHEESE and HALF and the closed 5 handshape in the signs FAMILY and WORK.



a. CHEESE (unspread 5)



b. FAMILY (closed 5)

Although less common, other handshapes are also attested: spread 5 (e.g. MARRIAGE), curved closed 5 (e.g. HOLE), curved open 5 (e.g. TEA), and G (e.g. ANTENNA).



a. MARRIAGE (spread 5)



b. HOLE (curved closed 5)



c. TEA (curved open 5)



d. ANTENNA (G)

1.5. Non-manuals

The phonological description of lexical signs in LIS does not focus only on hand movements articulated with a certain handshape and orientation in a certain location. Another phonological parameter that needs to be considered is represented by non-manuals. This term includes facial expressions, head and body movements.

Focusing on mouth patterns, LIS signs make use mouth gestures and mouthings. Mouth gestures are intended as mouth movements that do not have any connection with Italian. Mouthings are mouth movements producing the visual representation of Italian words.

Mouth gestures and mouthings can be phonologically distinctive, as proved by the existence of minimal pairs. For example, FRESH and NOT-YET are both two-handed signs articulated with F handshape and a repeated lateral movement in the neutral space. They differ in non-manuals only: FRESH is accompanied by mouthing (the mouth voicelessly reproduces the equivalent spoken word, Ita. *fresco*), whereas NOT-YET is accompanied by mouth gesture [sss] (the mouth releases air as in sibilant /s/) and lateral head shakes.

[fresco]

a. FRESH (mouthing)

[video example]

____ [sss]

b. NOT-YET (mouth gesture)

[video example]

Mouth gestures and mouthings are described in detail in the next sections.

1.5.1. Mouth gestures

Mouth gestures are actions of the mouth that are not derived from spoken Italian. Although LIS signers use less mouth gestures than mouthings, the former appear more uniform than the latter.

The category of mouth patterns is not strictly associated with the mouth. In a broader sense, it involves different components: jaw aperture, position of the cheeks, tongue and lips, and use of air. To give an idea of the variety of mouth gestures attested in LIS, some examples are listed and shown below. Note that position of the lips and use of air often co-occur. Mouth gestures can involve: i) jaw aperture (e.g. lowered jaw and open mouth in the sign ASTONISHMENT), ii) position of the cheeks (e.g. puffed cheeks in the sign FAT), iii) position of the tongue (e.g. protruded tongue and/or contracted cheeks in the sign THIN), iv) position of the lips (e.g. compression of the lower lip performed by the upper teeth in the sign BE-SORRY), and v) use of air (e.g. occlusion followed by a sudden release of air in the sign TRANSGRESS).

[lowered-jaw]

a. ASTONISHMENT

[video example]

[puffed-cheeks]

b. FAT

[video example]

[protruded-tongue]

c. THIN

[video example]

[compressed-lower-lip]

d. BE-SORRY

[video example]

[air-release]

e. TRANSGRESS

[video example]

The relationship between mouth gesture and manual sign can reflect different degree of iconicity. It can be transparent, translucent, or opaque. In a transparent relationship, the mouth gesture iconically reflects the meaning of the sign. For example, in the articulation of the sign ICE-CREAM-EAT, the tip of the tongue is protruded as in the action of licking. A translucent relationship is clear to non-signers once it is explicitly explained. For example, in the articulation of the sign LIKE-NOT, the tip of the tongue is visibly protruded, as similarly happens when people belonging to the Italian culture don't like something and stick out their tongue. In an opaque relationship, the link

between mouth gesture and manual sign is purely conventional. For example, the sign IMPOSSIBLE-PA-PA and the associated mouth gesture 'pa-pa' are not semantically related.

[protruded-tongue]

a. ICE-CREAM-EAT

[video example]

[protruded-tongue]

b. LIKE-NOT

[video example]

_____ [pa-pa]

c. IMPOSSIBLE-PA-PA

[video example]

In some cases, the articulatory features of the mouth gesture are associated to the meaning through a metaphorical relation. For instance, protrusion of the tongue frequently suggests negative connotation, occlusion suggests immediacy and lengthening of the mouth gesture indicates temporal continuity.

Mouth gestures not only contribute to the formation of signs, but they can also be used to convey specific adverbial meanings (LEXICON 3.5).

1.5.2. Mouthings

LIS signs are frequently accompanied by mouthings, the voiceless reproduction of the corresponding Italian words. This fact is probably due to the strong oralist tradition in Italian deaf education. There is an ongoing debate about the status of mouthings. Indeed, it is not yet clear whether they constitute a phonological building block of signs or a case of code blending (i.e. simultaneous use of two languages). Assessing which of these two hypotheses is correct falls out of the scope of this grammar. The section dealing with the non-native lexicon (LEXICON 2.2.3) further discusses the role of mouthings in the lexicon.

It has been observed that, in spontaneous production, LIS signers tend to produce more mouthings than mouth gestures. The use of mouthings along with signing does not appear systematic since it varies from signer to signer and is influenced by various social variables, such as the extra-linguistic context, the interlocutor(s), the signer's educational background.

As for the linguistic functions, mouthing usually co-occurs more with nouns and adjectives and less frequently with verbs. It should be noted that functional elements of Italian such as plural morphemes and tense morphemes are not reproduced in the mouthings co-occurring with LIS signs. As default, those associated with nouns

reproduce the masculine singular form and those associated with verbs reproduce the infinitive or past participle form.

The semantic relationship between mouthing and sign can be of different types. First, the mouthing and the manual sign can be semantically equivalent. For example, the sign MAN (Ita. *uomo*) is accompanied by the mouthing /*uomo*.

[uomo]

MAN

[video example]

Second, the mouthing can complete the meaning conveyed by the manual sign so that the two components combine with each other and create a complex syntagmatic unit. For example, the sign GO accompanied by the mouthing /*casa* (Eng. "house") means "to go home".

[casa]

GO

[video example]

Third, the mouthing can add a more specific meaning to the manual sign (hyponymy). For example, the mouthing /*abete* (Eng. "fir") can be combined with the sign TREE to specify which kind of tree is intended.

[abete]

TREE

[video example]

Fourth, the mouthing can disambiguate manually homonymous forms. For example, there is a sign in LIS articulated with both hands with V handshape that can be used to refer to both vegetables and pasta. In this case, the mouthing specifies which of the two meanings is intended (/ *verdura*, Eng. "vegetable" or / *pasta*).

_____ [verdura]

a. VEGETABLE/PASTA

[video example]

_____ [pasta]

b. VEGETABLE/PASTA

[video example]

Fifth, the mouthing can explicitly define what a classifier sign refers to. For example, the classifier CL:round-small-object can be accompanied by the mouthing /*proiettile* (Eng. "bullet") to specify which referent is intended.

_____ [proiettile]
CL:round-small-object
[video example]

Sixth, the mouthing can explicitly indicate what an initialized sign (a sign whose handshape represents the first letter of the corresponding Italian word) refers to. For example, to refer to the Italian politician Bersani, signers can use the handshape corresponding to letter B and the full mouthing reproducing the name.

_____ [bersani]
B-INITIALISATION
[video example]

In spontaneous signing, if mouthing co-occurs with a manual sign, these two components tend to be isochronous, i.e. have the same duration. For this reason, sometimes mouthing undergoes alterations such as lengthening and truncation to match the timing of the manual sign (e.g. /*laaavo* co-occurring with the sign WASH).

1.5.3. Other non-manuals

Information on Data and Consultants

The descriptions in this chapter are based on the references below. The linguistic data illustrated as images and video clips have been checked through acceptability judgments and have been reproduced by Deaf native-signing consultants.

Authorship Information

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References

- Ajello, Roberto, Laura Mazzoni & Florida Nicolai. 1997. Gesti linguistici: la labializzazione in LIS. *Quaderni della sezione di glottologia e linguistica*, Università "G. D'Annunzio". 5-45. [1.5]
- Ajello, Roberto, Laura Mazzoni & Florida Nicolai. 2001. Linguistic gestures: Mouthing in Italian Sign Language. In Penny Boyes Braem & Rachel Sutton-Spence, (eds.), *The hands are the head of the mouth: The mouth as articulator in sign languages*, 231-246. Hamburg: Signum-Verlag. [1.5]
- Amorini, Giuseppe & Luigi Leroose. 2012. *Studi linguistici in Lingua dei Segni Italiana (LIS) Analisi fonologica e le funzioni deittiche ed avverbiali, e aspetti metaforici in parametri formazionali*. Klagenfurt: Alpen-Adria-Universität, doctoral dissertation. (38-111) [1.1-1.3], (122-128) [1.4]
- Aristodemo, Vita Maria Valentina. 2013. *The complexity of handshapes: perceptual and theoretical perspective*. Venezia: Università Ca' Foscari, MA dissertation. [1.1.1]
- Bertone, Carmela. 2011. *Fondamenti di Grammatica della Lingua dei Segni Italiana*. Milano: Franco Angeli. (19-34) [1.1-1.3] and [1.5]
- Bianchini, Claudia. 2006. *Analogie ed omologie nell'indicazione delle relazioni spazio-temporali in codici diversi*. Perugia: Università degli Studi di Perugia, MA thesis. (56-123) [1.1-1.3] and [1.5]
- Fontana, Sabina & Erika Raniolo. 2015. Interazioni tra oralità e unità segniche: uno studio sulle labializzazioni nella Lingua dei Segni Italiana (LIS). In Gina Maria Schneider, Maria Chiara Janner & Bénédicte Élie (eds.), *Vox & Silentium*, 241-258. Bern: Peter Lang. [1.5]
- Fontana, Sabina & Maria Roccaforte (2015), Lo strutturarsi e il destrutturarsi dei suoni nell'interazione con la Lingua dei Segni Italiana LIS. In: M. Vayra, C. Avesani, F. Tamburini (eds.), *Il farsi e il disfarsi del linguaggio Acquisizione, mutamento e destrutturazione della struttura sonora del linguaggio*, 371-381. Milano: Edizioni AISV. [1.5]
- Fontana Sabina & Fabbretti Daniela. 2000. Classificazione e Analisi delle forme labiali della LIS in storie elicitate. In Caterina Bagnara, Giampaolo Chiappini, Maria Pia, & Michela Ott (eds.), *Viaggio nella città invisibile*, 103–111. Pisa: Edizioni Del Cerro. [1.5]
- Leroose, Luigi. 2012. *Fonologia LIS*. Tricase: Libellula Edizioni. (4-69) [1.1-1.3] and [1.5], (70-76) [1.4]
- Radutzky, Elena (ed.). 1992. *Dizionario bilingue elementare della lingua italiana dei segni*. Roma: Edizioni Kappa. [1.1-1.5]
- Russo, Tommaso & Virginia Volterra. 2007. *Le lingue dei segni. Storia e semiotica*. Roma: Carocci. (59-70) [1.1-1.3]
- Volterra, Virginia (ed.). 2004. *La Lingua dei Segni Italiana. La comunicazione visivo-gestuale dei sordi*. Bologna: Il Mulino, 2nd edn. (23-158) [1.1-1.3] and (159-178) [1.5]

Chapter 2. Prosody

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2.1.2. Foot

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Lexicon

Chapter 1. The native lexicon

As for languages in general, the lexicon of LIS comprises both signs that have developed naturally among native signers, and forms deriving from processes of borrowing from other languages, which enter the system as a consequence of contact among different languages. Signs developed naturally, showing a regular phonological pattern and used by all the member of the community define the native lexicon, whereas signs deriving from the contact with other languages constitute the non-native lexicon, which will be explored in **LEXICON 2**.

The present chapter deals with LIS native lexicon, exploring the main properties defining the signs belonging to this category. In the previous chapters, we have seen that signs result from the combination of specific phonological parameters, which constitute their sublexical structure (see **PHONOLOGY 1**). As in all languages, within the native lexicon we find signs which constitute the established lexicon in that they are manifestation of lexemes, and signs resulting from visually-motivated constructions or processes of lexicalization. We refer to these two groups as core **LEXICON 1.1** and non-core lexicon **LEXICON 3.2** respectively. Often, these two groups overlap and undergo the same processes of lexicalisation and standardisation, but also of modification. The following sections will explore the signs belonging to the core and non-core lexicon of LIS.

1.1. Core lexicon

The core lexicon includes all the signs listed in the mental lexicon of signers.

In general, signs belonging to this category display a lesser degree of iconicity, namely their meaning can be largely unrelated to form, and they are fixed, in that they do not display modifications of their phonological parameters, which are discrete and categorical. The only phonological modification they display is allophonic variation, referring to the possibility of employing two slightly different handshapes for the same sign, with no change in meaning (for instance, employing the handshape closed 5 with crossed thumb instead of closed 5 with adducted thumb).



closed 5 with crossed thumb



closed 5 with adducted thumb

Signs belonging to the core lexicon are the result of formational processes starting from real-word observations, visual perception and linguistic knowledge, which combine the sign language-specific formational parameters and results in signs which can eventually become conventionalized, or being abandoned. Conventionalized signs are those found in their citational form within the language dictionary, and are used by all the members of the linguistic community. Therefore, to the core lexicon of LIS belong those signs whose sublexical structure is made up of the phonological parameters defining LIS phonology, which are: handshape, place of articulation, orientation and movement (see **PHONOLOGY 1**). Signs belonging to the core lexicon can be one- or two-handed signs, which are further divided between symmetrical (example (a)) and asymmetrical signs (example (b)) (see **PHONOLOGY 1.4**).



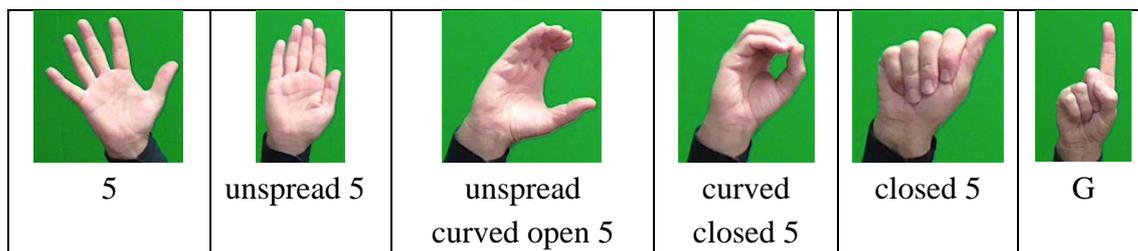
a. HOUSE



b. COLOUR

Symmetrical signs respect the Symmetry Condition, which states that if both hands move independently, they have to display the same handshape and location, the same or symmetrical orientation and the same or alternating movement. Asymmetrical signs, instead, are regulated by the Dominance Constraint, which states that if the hands have different handshapes, then one hand articulates the movement while the other is passive and display a handshape that belongs to a restricted set. The handshapes selected for the

non-dominant hand in asymmetrical signs in LIS are reported below (see [PHONOLOGY 1.4.2](#) for further details).



Core lexicon signs can also be classified considering their point of articulation: on the signer's body (example (a)) or in the neutral space (example (b)). The two classes of nouns, invariable and inflectional respectively, display different morphosyntactic properties (see [LEXICON 3.1](#) and [MORPHOLOGY 4](#)).



a. BIRD



b. SHOE

The use of space in signs belonging to the core lexicon is arbitrary, in that it does not represent the real space. In fact, movement and point of articulation are crucial for the realization of nominal ([MORPHOLOGY 4.1](#)) and verbal agreement ([MORPHOLOGY 3.1](#)) and minimal pairs. In minimal pairs, two signs share all the phonological parameters but one, resulting in two different signs with two different meanings. In the example below, the two signs differ only in their point of articulation: on the cheek for MOTHER, on the chin for SORRY.



a. MOTHER



b. SORRY

As far as meaning is concerned, in core lexicon signs it is not directly understandable from their form, in that meaning is non-compositional (i.e. the sublexical features forming the sign are discrete units and do not have a meaning on their own). Therefore, core lexicon signs are more arbitrary than non-core lexicon signs. In the majority of signs there is no clear correspondence between the sign and the shape of the real entity.

However, some LIS signs belonging to the core lexicon display a higher degree of iconicity, in that the selection of the handshape is visually motivated. Unspread 5 usually refers to flat closed surfaces. F handshape represents small round entities or the grabbing of a very light and thin object. Closed 5 indicates the grabbing of a bag or suitcase (see **MORPHOLOGY 5**). Another kind of iconicity is found in signs that display overt semantic relation with their point of articulation: signs articulated near the head generally denote objects that can be put on it (HAT, DEGREE) or refer to activities of the mind (THINK, UNDERSTAND, IDEA, REMEMBER), as we can see in the sign for IDEA.

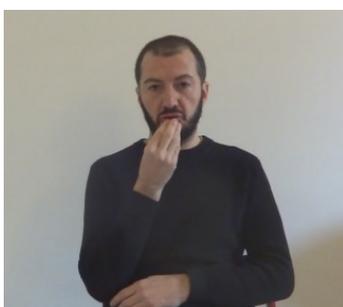


IDEA

Signs articulated near the eyes, ears, mouth and nose belong to the semantic spheres of sight, hearing, speaking or eating and smelling. For instance, in the example (a) below the sign for NOISE is articulated near the ear, whereas we see in (b) that the sign EAT is articulated near the mouth.



a. NOISE

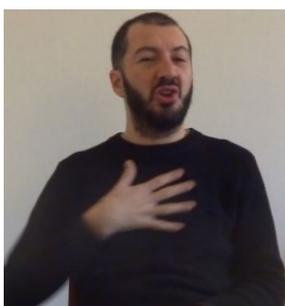


b. EAT

The same holds true for signs articulated near the signer's chest, which are usually connected with emotions and feelings.



a. LOVE



b. SATISFIED

Signs belonging to the core lexicon undergo specific processes of transformation for ease of articulation, fluidity or historical/cultural changes (for instance, the old sign for ‘telephone’ has been substituted with the one for ‘mobile phone’) which can lead to the creation of new signs and to abandoning others. Moreover, sociolinguistic studies analysing LIS lexicon have attested that it is characterised by a very rich variation, mainly due to geographical and age reasons. Specifically, older signers show a tendency to use more local variants than younger signers, who use the more standardised form of LIS, namely the one used in Rome. The standard variety is also more used by signers coming from central Italy rather than signers living in the north or south. The semantic domains of colour or month names are the ones showing lexical variation to a greater extent. Below we report some variants of the sign for JANUARY. Example (a) shows the most standard variety, (b) shows the variety used in Brescia, whereas (c) is the one used in Rome.

a. JANUARY₁

[video example]

b. JANUARY₂ (Brescia)

[video example]

c. JANUARY₃ (Rome)

[video example]

As for colours, we report here some variants of the sign YELLOW: example (a) shows the one used in Brescia, example (b) is the variety used in Rome and example (c) reports the variant which is common in Bologna.

a. YELLOW₁ (Brescia)

[video example]

b. YELLOW₂ (Rome)

[video example]

c. YELLOW₃ (Bologna)

[video example]

However, an ongoing process of standardisation seems to suggest that the variety of LIS used in Rome is considered the prestige variety, thus leading signers to conform to that and to consider it as the standard one (see [SOCIO-HISTORICAL BACKGROUND 4.4](#)). The process of standardisation mainly consists in phonological modifications in the articulation of signs, which will be explored in [\(LEXICON 1.3.2\)](#).

Manual signs belonging to the core lexicon can be completed with the articulation of mouth gestures displaying lexical, adverbial and syntactic functions (see **PHONOLOGY 1.5.1**) or mouthings (see **PHONOLOGY 1.5.2**), which are mainly employed to disambiguate homonyms and define neologism.

1.2. Non-core lexicon

To the non-core lexicon belong signs which can be defined as being visually-motivated, in that they exploit the spatial properties of the three-dimensional space for the realization of concepts. Therefore, they display a higher degree of iconicity despite being fully linguistic, and not gestural, elements. Considering that they usually convey many information simultaneously, they tend to be polymorphemic rather than monomorphemic constructions. Differently from core lexicon signs, which display a fixed form, non-core lexicon sign can be modified in their articulation in order to convey different meaning.

The signs typically defining the non-core lexicon are classifier constructions, pointing signs, buoys and other signs whose origin is the result of visual metaphors such as metonymy and synecdoche (poetic devices using words not in their literal meaning but to refer to some other abstract concepts (see **PRAGMATICS 9**). Being visually motivated, non-core lexicon signs exploit the signing space in an isomorphic and non-categorical manner in order to convey spatial descriptions.

Non-core lexicon in LIS is largely built on visual metaphors, in which iconic mapping focuses on semantic features that the source and the target domains share. Specifically, iconic features of signed language metaphors are the expressive manifestation of the blending process that occurs in the minds of the signer and the target. This kind of metaphors can occur both in formal and poetic registers, with a majority of occurrences in poetry. Being metaphors, in order to be understood interlocutors must have a comprehensive cultural knowledge of Deafness and Deaf culture. In LIS metaphors, vision plays a crucial role in that it is conceptualized as a complex tool for elaborating and transforming knowledge, and it is often found in metaphors related to mind and cognition. In general, LIS metaphors are grounded on visual and tactile experiences familiar to deaf people (see **PRAGMATICS 9** for details).

1.2.1. Classifier constructions

Classifier constructions, as extensively explored in **(MORPHOLOGY 5)**, are morphologically complex structures consisting in a handshape that can be associated to a movement. Classifiers denote both animate and inanimate entities and convey several properties: their external characteristics of size and shape, their semantic category, how they are handled or manipulated, or their location in space. Therefore, classifiers fulfil both grammatical and locative functions, in that they can function as pronouns for nouns

or function as predicates (i.e. predicate classifiers, **MORPHOLOGY 5.1**), but they can also serve as proforms defining the position of entities in space, and with respect to one another. Here, we will be concerned with this last category, since it is the one that mainly exploits space in an isomorphic way to convey information about location and movement of the entities to which they refer. Classifiers display the restricted set of handshapes belonging to the phonological inventory of LIS (see **PHONOLOGY 1.1**). They are considered complex constructions because they can convey: (i) the position of one entity in space (example (a)), or (ii) the position of two entities simultaneously (example (b)). Specifically, in (b) the non-dominant hand functions as point of reference and of location for the entity conveyed with the dominant hand (here, the left one). The locative function is fulfilled associating specific loci of the signing space, which correspond to loci in the real space, to the entities involved. Classifiers allows to refer back to entities within the discourse, thus realizing anaphoric reference.



a. WINDOW CL:entity-BE-LOCATED
 ‘The window is located there.’



b. dom: CUP CL:entity-CUP-BE-LOCATED
 n-dom: CL:entity-TABLE
 ‘The cup is on the table.’

1.2.2 Pointing

Pointing signs are widespread in the LIS lexicon and occur in several contexts, with different morphosyntactic functions: as pronouns (**LEXICON 3.7**), determiners (**LEXICON 3.6**), demonstratives (**SYNTAX 4.1.2**), locative adverbials (**SYNTAX 6.4.2.3**) and agreement markers (**LEXICON 3.3.4**). Even though they fulfil a wide range

of functions, they have two properties in common: (i) the handshape G, which can be oriented towards different directions, and (ii) the fact that they associate specific points of the signing space (called ‘loci’) to the referents of the discourse, whatever the function they have in that specific context. Therefore, the signing space, namely the space around the signer in which signs are articulated, is crucial for the articulation of pointing signs. The signing space comprise both the signer’s body and the space around her/him, in which signs are associated to loci more or less distant from the signer. The feature [+/- proximal] defines the signer ([+ proximal]), indicating a point on the signer’s body, and the addressee ([- proximal]), indicating a locus of the signing space, in general in front of the signer. The feature [+/- distal] indicates a locus far from both the signer and the addressee, which is usually associated to the third person. As we saw in the previous sections, the space can have both grammatical and topographic functions, depending on the way in which points of articulation are exploited: if they are associated to thematic roles or convey plurality, space has a grammatical function in that it allows the realization of verbal and nominal agreement (**MORPHOLOGY 3.1** and **MORPHOLOGY 4**); if loci are used to indicate the position of entities, space has a topographic function. The same holds for pointing signs: those functioning as pronouns, determiners and demonstrative associate grammatical features to the loci in space; those functioning as locative markers, exploit the topographic nature of space. Here we provide some examples.

(i) Determiner



TEACHER

IX

‘The teacher’

(ii) Personal pronoun



IX₁

‘Me’



IX₃
'Her/him'

(iii) Locative marker



dom: IX-LOC_K
n-dom: CORNER_K
'In the corner'

1.2.3. Buoys

LIS, as other sign languages, shows peculiar strategies to keep track of the referents during the discourse, thanks to its nature of visual-gestural language. Besides classifiers, LIS can also employ buoys (PRAGMATICS 2.2.3), constructions in which the non-dominant hand remains in a stationary configuration while the dominant hand continues to sign. Therefore, the two hands are used independently and articulate two different information simultaneously. In LIS, we find several kinds of buoy, which are explored in (PRAGMATICS 2.2.3): list buoys, pointer buoys, theme buoys and fragment buoys.

Here we provide an example of list buoy, which can be used to describe a small set of referents through a list. In the example below, the signer describes the components of his family providing the names of all the children: the non-dominant hand displays different configurations for numbers, while the dominant hand conveys the names. Specifically, the non-dominant hand keeps track of the list ensuring co-referential link to the discourse referents, which are introduced and described with the dominant hand. Within a discourse, the signer may refer back to one item of the list by pointing to the finger of the non-dominant hand which were previously associated to that.

FIRST_K IX_K NAME_K M-A-U-R-A SECOND_Y IX_Y NAME_Y L-I-S-A THIRD_J IX_J NAME_J L-A-U-R-A FOURTH_N IX_N IX_I M-A-T-T-I-A

[video example]

‘The first’s name is Maura, the second’s name is Lisa, the third’s name is Laura and the fourth, that’s me Mattia.’

1.3. Interaction between core and non-core lexicon

Even though it is important to distinguish between core and non-core lexicon, these two systems strongly interact in the LIS lexicon and within the discourse. Therefore, they also influence each other and we often see processes of lexicalisation or modification affecting both core and non-core lexicon signs.

1.3.1. Lexicalization processes

Lexicalisation processes include all those strategies leading to the creation of new signs starting from existing ones. The crucial point is that the semantic and formal properties of the final sign do not fully retrieve those of the constituent elements, because it has undergone a process of standardisation. These processes include compounding, conversion and derivational affixation, in which lexical markers are combined together to create new signs.

A very productive process affecting the LIS non-core lexicon is the process leading classifiers to become fully lexical signs. For instance, the sign for SUITCASE or BAG originates from the correspondent handling classifier displaying the closed 5 handshape, and now this very same handshape is the lexical sign for BAG or SUITCASE. In the example below, the sign is two-handed because it refers to two suitcases.



SUITCASE

‘Two suitcases’

The G handshape has become the lexical sign for some objects with a narrow shape like: KNIFE, TOOTHBRUSH.



TOOTHBRUSH

The same lexicalisation process can also affect pointing signs, which gain an independent meaning and become lexical signs. The most common process regards deictic pointing signs which are the lexical signs for NOSE, EYES, MOUTH.



a. NOSE



b. MOUTH



c. EYE
'Eyes'

The same happens for time adverbs TODAY, YESTERDAY, TOMORROW.



a. TODAY



b. YESTERDAY



c. YESTERDAY

The lexicalisation process affecting classifier constructions and pointing signs bring them to conform to the morpho-phonological requirements of the language, and the outcome is usually a monosyllabic sign, with an independent meaning.

In LIS, we also find some lexicalisation processes affecting core lexicon signs, consisting in phonological modifications for ease of articulation and standardisation, together with a general tendency of becoming less iconic over time. We provide here some examples of the most common morpho-phonological processes.

(i) Symmetry is the tendency leading asymmetric signs to become symmetric, for ease of articulation. In the example below, we see that the configuration of the non-dominant hand (example (a)) has changed over time, to match the one of the dominant hand (example (b)). We gloss the two signs as TRY₁ and TRY₂.

a. TRY₁

[video example]

b. TRY₂

[video example]

(ii) Centralisation consists in moving the articulation of signs which were previously articulated in the corners of the visual plane towards the centre of the signing space (in front of the signer's chest). The example in (a) shows the way in which the sign SHOES was articulated some time ago; example (b) shows the sign for SHOES as it is used today, displaying a different position for ease of articulation and perception.

a. SHOE₁

[video example]

b. SHOE₂

[video example]

(iii) Fluidity is a phonological process leading signs to be less complex in their articulation. For instance, signs involving a grab become signs just tapping or brushing the point of the body in which they are articulated. Signs resulting from the combination of two different signs tend to appear as a single unit over time. The example below shows the sign HARD-OF-HEARING, which is composed by the signs HEAR and DEAF. As we can see, the transition from one sign to the other is rapid and fluid, appearing as a single sign.

HARD-OF-HEARING

[video example]

(iv) Assimilation is a further process affecting the handshape and movement of compound signs, in that it makes the traits of the two signs closer and less distinguishable one from the other. There are three types of assimilation: anticipatory, in which the first sign incorporates features of the second; perseverative, in which some features of the first sign are maintained during the articulation of the second sign; and bidirectional, when the final sign maintains features of both the first and second sign (see MORPHOLOGY 1). Here we provide an example of anticipatory assimilation, in which we can see that the handshape of the first morpheme in the former variant of MOCK (example (a)) has changed incorporating the handshape of the second morpheme (example (b)).

a. MOCK₁

[video example]

b. MOCK₂

[video example]

(v) Refinement is the process leading to employ more marked and refined handshapes. In the examples below, we see the changing affecting the handshape of the sign UMBRELLA, from the simpler handshape ‘closed 5’ (example (a)) to the more marked ‘closed G’ used nowadays (example (b)).

a. UMBRELLA₁
[video example]

b. UMBRELLA₂
[video example]

(vi) Modifications affecting the movement, showing the tendency to change from macro- to micro-movements. Specifically, this process refers to modifications leading signs displaying changing in the position of elbows to become signs in which the elbows remain still. A further possibility is to move the articulation of the sign from the arm to the forearm or hand. We provide an example of this last process, in which the place of articulation of the sign SEPTEMBER has moved from the arm (example (a)) to the hand (example (b)).

a. SEPTEMBER₁
[video example]

b. SEPTEMBER₂
[video example]

1.3.2. Modification of core lexicon signs

1.3.3. Simultaneous constructions and use of the non-dominant hand

Information on Data and Consultants

The descriptions in this chapter are based on the references below. For information on data and consultants see the references. The video clips and images exemplifying the linguistic data have been produced by LIS native signers involved in the Sign-Hub Project.

Authorship Information

References

- Amorini, Giuseppe & Luigi Lerose. 2012. Studi linguistici in Lingua dei Segni Italiana (LIS). Analisi fonologica e le funzioni deittiche ed avverbiali, e aspetti metaforici in parametri formazionali. Alpen-Adria-Universität Klagenfurt PhD Dissertation. (300-323) [1.2.2] and [1.3.1]
- Battaglia, Katia. 2011. Variazione lessicale e fonologica nella LIS. In Cardinaletti, Anna, Carlo Cecchetto & Caterina Donati (eds.), *Grammatica, lessico e dimensioni di variazione nella LIS*, 189-203. Milano: Franco Angeli. [1.1]
- Battaglia, K., Cardinaletti, A., Cecchetto, C., Donati, C., Geraci, C., Mereghetti, E. 2012. La variazione nel lessico della lingua dei segni italiana. *Proceedings of the XLIV Congresso Internazionale della SLI, Lessico e Lessicologia*. Viterbo, 27-29 Sept. 2010. [1.1]
- Bertone, Carmela. 2005. Nascita ed evoluzione dei segni. *La voce silenziosa dell'Istituto dei Sordomuti di Torino*, 29, IX, 7-22. (7-22) [1.1] and [1.3.1]
- Bertone, Carmela. 2011. *Fondamenti di grammatica della lingua dei segni italiana*. Franco Angeli Editore. (59-82) [1.2.1], (116-132) [1.2.2] and [1.3.1]
- Bertone, Carmela & Anna Cardinaletti. 2011. Il sistema pronominale della lingua dei segni italiana. In Cardinaletti, Anna, Carlo Cecchetto & Caterina Donati (eds.) *Grammatica, Lessico e Dimensioni di Variazione nella Lingua dei Segni Italiana*, 145-160. Milano: Franco Angeli. (145-160) [1.2.2]
- Corazza, Serena. 1990. The Morphology of Classifier Handshapes in Italian Sign Language (LIS). In Ceil Lucas (ed.), *Sign Language Research: Theoretical Issues*, 71-82. Washington D.C.: Gallaudet University Press. [1.2.1]
- Girardi, Paolo. 2000. Come nasce il segno. In Caterina Bagnara, Giampaolo Chiappini, Maria Paola Conte & Michaela Ott (eds.), *Viaggio nella città invisibile. Atti del 2° Convegno nazionale sulla Lingua Italiana dei Segni*, 140-150. Pisa: Edizioni del Cerro. [1.1]
- Mazzoni, Laura. 2008. *Classificatori e impersonamento nella Lingua dei Segni Italiana*. Pisa: Edizioni Plus – Pisa University Press. (119-146) [1.2.1]
- Pietrandrea, Paola. 2002. Iconicity and Arbitrariness in Italian Sign Language. *Sign Language Studies*, 2(3), 296-321. [1.1]
- Pizzuto, Elena, Paolo Rossini, Tommaso Russo & Erin Wilkinson. 2005. Formazione di parole visivo-gestuali e classi grammaticali nella Lingua dei Segni Italiana (LIS): dati disponibili e questioni aperte. In M. Grossmann e A. Thornton (eds.), *La Formazione delle parole. XXXVII Congresso internazionale di studi della Società di Linguistica Italiana S.L.I*, 443-463. Roma: Bulzoni. [1.1]
- Radutzky, Elena. 2009. Il cambiamento fonologico storico della Lingua dei Segni Italiana. In Carmela Bertone & Anna Cardinaletti (eds.), *Alcuni capitoli della*

grammatica della LIS. Atti della Giornata di Studio, 16-17 maggio 2007, 17-42.
Venezia: Editrice Cafoscarina. [1.3.1]

Russo, Tommaso. 2005. A Crosslinguistics, Cross-cultural Analysis of Metaphors in Two
Italian Sign Language (LIS) Registers. *Sign Language Studies* 5(3), 333-359. [1.2]

Russo, Tommaso. 2005. Un lessico di frequenza della LIS. In Tullio De Mauro & Isabella
Chiari (eds.), *Parole e numeri*, 277-290. Roma: Aracne. [1.1]

Chapter 2. The non-native lexicon

2.1. Borrowings from other sign languages

2.2. Borrowings from (neighboring) spoken language

2.2.1. Calques

2.2.2. Lexicalization of fingerspelling

2.2.2.1. Initialization

2.2.2.2. Multiple-letter signs

2.2.3. Mouthing

2.2.3.1. Full forms

2.2.3.2. Reduced forms

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2.2.4. Other marginal types of borrowing

2.3. Borrowings from conventionalized gestures

2.3.1. Lexical functions

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Chapter 3. Parts of speech

3.1. Nouns

3.1.1. Common nouns

3.1.2. Proper nouns and name signs

3.2. Verbs

3.2.1. Plain verbs

3.2.2. Agreement verbs

3.2.3. Spatial verbs

3.3. Lexical expressions of inflectional categories

In LIS, morphosyntactic features of tense, aspect, modality and agreement can be conveyed through both manual and non-manual markers (see [MORPHOLOGY 3.2](#)) occurring with the lexical verb. The present section provides a description of the lexical manual markers available.

3.3.1. Tense markers

The present section provides a description of the lexical tense markers employed in LIS to convey temporal information. The other strategies, namely the use of temporal adverbials and inflection of the verb sign by means of suprasegmental (non-manual) features will be explored in [SYNTAX 6.4.2.1](#) and [MORPHOLOGY 3.2](#) respectively.

Lexical tense markers are manual signs employed to anchor an event in the past and in the future respectively, thus performing the grammatical function of tense markers. They always follow the main verb defining the event. In LIS, we find two lexical markers: DONE (example (a)) and MUST (example (b)).



a. DONE



b. MUST

The sign DONE expresses anteriority and indicates that the event happened before the time of utterance.

G-I-A-N-N-I IX₃ HOUSE BUY DONE

[video example]

‘Gianni bought a house.’ (Zucchi 2009: 101)

The sign DONE can also express anteriority with respect to a time specified by a temporal adverbial.

YESTERDAY TIME THREE AFTERNOON G-I-A-N-N-I EAT DONE

[video example]

‘Yesterday at 3, Gianni had already eaten.’ (Zucchi et al. 2010: 201)

The sign MUST indicates that the action or event will take place after the time of utterance.

G-I-A-N-N-I IX₃ HOUSE BUY MUST

[video example]

‘Gianni will buy a house.’ (Zucchi 2009: 101)

The lexical tense markers are not employed when temporal information is conveyed through time adverbials and the information can be gathered by the discourse context. In the example below, the first sentence specifies that the action of going to the movies occurred yesterday and the following sentence is understood as describing a past action as well, although lacking an overt marker specifying the tense. The temporal adverbial YESTERDAY introducing the first sentence marks the whole event as past.

YESTERDAY G-I-A-N-N-I MOVIE-THEATRE GO_K. MARIA MEET_K

[video example]

‘Yesterday Gianni went to the movie-theatre. Maria met him there.’

(Zucchi 2009: 102)

3.3.2. Aspectual markers

Aspectual markers are employed to indicate whether the event described by the predicate is complete (perfective aspect) or not (imperfective aspect).

Perfective aspect in LIS is conveyed through the articulation of the sign DONE, which can be both a temporal (see [LEXICON 3.3.1](#)) and aspectual marker. When conveying perfective aspectual information, the sign DONE is related to lexical verbs by following them. In the following example, the sign DONE indicates that the action described by the verb was completed before the time of utterance.

G-I-A-N-N-I HOUSE BUY DONE

[video example]

‘Gianni has bought a house.’ (Zucchi et al. 2010: 199)

Since DONE acts as a marker of perfectivity, it can only occur with predicates describing events that have an ending point, thus conveying the meaning that the action has been completed and it is not an open process. For this reason, DONE cannot occur with stative predicates (such as STINK) in that they describe a permanent state rather than an event that can be marked as completed.

Moreover, DONE cannot occur with the sign NOT nor with the negative quantifiers NOBODY, NOTHING and NEVER. To convey the meaning that the event described by the predicate has not been completed, LIS employs a simple sentential negation, the sign NOT in example (a), or a negative quantifier, the sign NOTHING in the example (b).

a. GIANNI HOUSE BUY NOT

[video example]

‘Gianni has not bought a house.’ (Zucchi et al. 2010: 214)

b. G-I-A-N-N-I HOMEWORK NOTHING

[video example]

‘Gianni has not done his homework.’ (Zucchi et al. 2010: 2012)

The negative counterpart of the completive aspectual marker DONE in LIS is the negative lexical sign NOT-YET (see SYNTAX 1.5). The sign NOT-YET includes the presupposition that the event is expected to occur in the future.



NOT-YET

In the example below, the sign NOT-YET indicates that Gianni has not done his homework yet, but he’s going to do so in the future.

G-I-A-N-N-I HOMEWORK NOT-YET

[video example]

‘Gianni has not done his homework yet.’ (Zucchi et al. 2010: 212)

In order to deliver the imperfective aspect, LIS employs lexical adverbials, which are described in SYNTAX 6.4.2.4, and non-manual modifications of the verb sign, whose articulation can be lengthened and repeated to convey that the event is an ongoing process of indefinite duration (see MORPHOLOGY 3.3). For ease of explanation, we report here one example for each strategy respectively.

a. EVERY-DAY CHILD CRY

[video example]

‘The child cries every day.’ (Bertone 2011: 222)

b. CHILD CRY++

[video example]

‘The child was always crying.’ (Bertone 2011: 222)

3.3.3. Modality markers

3.3.3.1. Deontic modality

3.3.3.2. Epistemic modality

3.3.4. Agreement markers

In LIS, plain verbs (see [LEXICON 3.2.1](#)), namely verbs articulated on the body, can realize agreement with their arguments through an agreement marker that can be considered an auxiliary. It is an indication sign moving from the subject to the object of the predicate, glossed AUX in the following example. The agreement marker AUX follows the verb.

G-I-A-N-N-I_J P-I-E-T-R-O_K KNOW_J AUX_K

[video example]

‘Gianni knows Pietro.’ (Bertone 2011: 159)

A further auxiliary marker is GIVE-AUX, which is a causative auxiliary marker employed in causative psychological predicates to show overt morphological agreement with the subject and the experiencer object (see [SYNTAX 2.1.1.3](#)).

EARTHQUAKE GIVE₁-AUX FEAR

[video example]

‘Earthquakes scare me.’

3.4. Adjectives

Adjectives are typically used to describe, qualify, or specify a nominal element. A functional distinction that it is important to keep in mind is that between attributive and predicative adjectives. On the one hand, attributive adjectives occur within the noun phrase and modify the noun. For a discussion of the syntactic distribution of adjectives within the nominal phrase see [SYNTAX 4.5](#). On the other hand, predicative adjectives function as verbs: they do not directly combine with the noun, but predicate something about it.

The distinction between attributive and predicative adjectives might not be straightforward in LIS since both types of adjectives usually follow the noun they refer to. So, for instance, in a sequence of manual signs like FURNITURE ANTIQUE, the adjective ANTIQUE can function both as attributive and predicative adjective ("the antique furniture" vs. "the furniture is antique"). So, word order cannot be used as diagnostic test. How the two functions can be distinguished is discussed in the next sections with concrete examples.

3.4.1. Attributive adjectives

Attributive adjectives combine with a noun within the noun phrase. We provide below a couple of adjectives that can be used attributively: BEAUTIFUL and BIG.



a. BEAUTIFUL



b. BIG

Looking at the articulation of these adjectives, we can see that BEAUTIFUL is body anchored (a), whereas BIG is produced in the neutral space (b). The distinction between body-anchored and non-body-anchored adjectives can be relevant for morphological agreement. Agreement between noun and adjective is usually reflected by the fact that these two signs are articulated in the same location in the neutral space. In most cases, overt noun-adjective agreement is not compulsory, hence both body-anchored and non-body-anchored adjectives can maintain their location. However, in marked cases and coordination between two nominal expressions, the two adjectival classes behave differently. On the one hand, non-body-anchored adjectives (like BIG) must shift from a default location to a specific point in the neutral space, the one in which the noun is localized. On the other hand, body-anchored adjectives (like BEAUTIFUL), which cannot modify their place of articulation, must be accompanied by a body lean or head tilt directed toward the location of the noun.

The fact that an attributive adjective and the related noun belong to the same noun phrase is signalled non-manually and prosodically. In the example below, the adjective ANTIQUE is an attribute of the noun FURNITURE. These two signs are marked by the same non-manuals, which generally consist in raised eyebrows ('re'), although variation across signers is documented in terms of intensity and kind of facial expression.

_____ re
FURNITURE_i ANTIQUE IX_i CHANGE NEED

[video example]

'The antique furniture must be replaced.' (adapted from Bertone 2007: 166)

The pointing sign (IX) occurring at the end of the noun phrase is optional. On the optionality of pointing signs, the reader is referred to the section on definite determiners (SYNTAX 3.6.1).

_____ re
FURNITURE ANTIQUE CHANGE NEED

[video example]

'The antique furniture must be replaced.' (adapted from Bertone 2007: 166)

The distinction between the noun phrase (containing noun and attributive adjective) FURNITURE ANTIQUE (IX) and the verb phrase CHANGE NEED is usually signalled by: i) the use of different non-manuals, ii) the presence of an (optional) pointing sign (IX), which generally is the last element of noun phrases, and iii) an in-between prosodic break, which is typically combined with a head nod.

Most adjectives in LIS are independent manual signs (like BIG above). However, some adjectival meanings can be conveyed through non-manuals simultaneously combined with the noun they modify. We provide below a couple of examples to clarify this possibility.



protruding-tongue

a. STREET

'Narrow street' (Petitta, Di Renzo & Chiari 2015:161)



fe+mouth-corners-down

b. YELLOW

‘Disgusting yellow’ (inspired by Fornasiero 2015: 89)



fe

c. RED

‘Dark red’ (Bertone 2011: 29)

In (a), half-protruding tongue simultaneously layered on the manual sign STREET expresses diminution (‘narrow street’). Furrowed eyebrows together with tensed mouth-corners down can be used to convey pejoration, as exemplified in (b). Furrowed brows co-occurring with a colour sign like RED indicates a dark tint, as in (c).

3.4.2. Predicative adjectives

As the label suggests, predicative adjectives function as predicates, hence are used to state something about the noun. Contrary to their attributive counterpart, predicative adjectives are not included in the noun phrase. An illustrative example is reported below.

re
FURNITURE_i IX_i ANTIQUE

[video example]

‘The furniture is antique.’ (adapted from Bertone 2011: 8)

The predicative nature of the adjective ANTIQUE can be recognized through the following cues: i) absence of the non-manuals characterizing noun phrases, ii) presence of a localizing pointing sign between noun and adjective, and iii) a prosodic break combined with a head nod signalling the boundary between noun phrase and verb phrase.

The pointing sign IX can be expressed by the dominant hand after the noun or, alternatively, it can be expressed by the non-dominant hand while the dominant hand articulates the noun FURNITURE. This is a case of simultaneous manual articulation and it is illustrated below (for more details, see SYNTAX 4.1.1.2 and the discussion on pointer buoys in PRAGMATICS 2.2.3).

dom:	_____	re	
	FURNITURE _i	ANTIQU	
n-dom.:		IX _i	

‘The furniture is antique.’ (Bertone 2011: 8)

Some predicative adjectives might allow for aspectual inflection. This is discussed in MORPHOLOGY 3.3. Syntactic characteristics of non-verbal predication are addressed in SYNTAX 2.1.4.

3.5. Adverbials

Adverbials, like adjectives, are modifying elements: they can modify sentences, verbs, adjectives or other adverbials. In some languages, adverbials are usually marked by derivational affixes. For instance, in English the suffix *-ly* identifies a kind of adverbial. The suffix *-mente* does the same in Italian, as in the example below.

La ragazza scendeva lentamente le scale.
 ‘The girl slowly descended the stairs.’

In the sign languages studied to date, LIS included, there seems to be no morphological systematic distinction between adjectives and the corresponding adverbials, as shown by the following examples:

a. BOY FAST
 [video example]
 ‘The boy is fast.’

b. BOY RUN FAST
 [video example]
 ‘The boy runs fast.’

- (ii) Locative adverbs: they indicate where an action takes place. They are usually expressed by a specific sign or by a deictic form and by using the signing space in a precise way. Here we can find an example:

DAVIDE EAT OUT

[video example]

‘Davide eats out.’ (Lerose 2012: 333)

- (iii) Temporal adverbs: they indicate the time in which an action takes place. They are usually expressed by a specific sign.

TODAY DAVIDE COME

[video example]

‘Today Davide is coming.’ (Lerose 2012: 336)

The unmarked position of temporal adverbs is at the beginning of the sentence, even if other positions are possible.

In some circumstances, it is not necessary to use a specific sign, but the adverb is expressed by the repetition of the verb, like in the case for the adverb ALWAYS, that can be expressed with a sign or by the reduplication of the movement of the verb:

a. SARA READ ALWAYS

[video example]

‘Sara always reads.’

b. SARA READ-ALWAYS

[video example]

‘Sara always reads.’

- (iv) Quantitative adverbs: they indicate an indefinite quantity that refers to the action performed by the verb. They are usually expressed by non-manuals, and by modifying the parameter of movement of the verb, as in the following example.

 nmm

DAVIDE STUDY-MUCH

[video example]

‘Davide studies a lot.’ (Lerose 2012: 341)

However, the same meaning can be conveyed by a specific sign, like in the following examples:

a. DAVIDE STUDY MANY

[video example]

‘Davide studies a lot.’

b. DAVIDE STUDY VERY-MUCH

[video example]

‘Davide studies a lot.’

In this last example, the status of VERY-MUCH is not very clear. Signers do not consider it a sign but a gesture, also used by hearing people in the Italian culture.

- (v) Speaker oriented adverbs: they express a judgment or an evaluation. In this case, the adverb is usually expressed by a specific sign and its corresponding non-manual marking.

CERTAINLY GIANNI COME

[video example]

‘Gianni is coming surely.’ (Lerose 2012: 344)

In this case, the position of the adverb in the sentence doesn’t change the meaning of the sentence itself.

GIANNI COME CERTAINLY

[video example]

‘Gianni is coming surely.’

GIANNI CERTAINLY COME

[video example]

‘Gianni is coming surely.’

It is also possible to convey the same adverbial meaning by uttering the verb with a specific non-manual marking, as in the examples below:

_____ nmm

a. DANIELE CERTAINLY-COME

[video example]

‘Daniele is coming surely.’

_____ nmm

b. DANIELE PROBABLY-COME

[video example]

‘Daniele is coming probably.’

In the example in (a), the verb is performed in a quick and sharp way and the non-manual markers express certainty. In (b) the same verb is executed in a less tense and slower way and the non-manual markers express doubt.

(vi) For adverbs of negation see [MORPHOLOGY 3.5](#) and [SYNTAX 1.5](#).

For more details on adverbs, see also [SYNTAX 2.3](#).

3.5.1. Verb-oriented adverbials

3.5.2. Sentence adverbials

3.6. Determiners

A determiner is an item that combines with the noun and specifies its referentiality, i.e. the relation between the noun and what the noun refers to ([PRAGMATICS 1](#)). Specifically, it indicates whether the noun refers to a definite or indefinite element of a class. For this reason, determiners are usually categorized into two classes: definite ([LEXICON 3.6.1](#)) and indefinite ([LEXICON 3.6.2](#)).

The term "determiners" is intended here to include both articles and demonstratives. The syntactic distribution of determiners in LIS is addressed in [SYNTAX 4.1](#).

3.6.1. Definite determiners

Generally speaking, definite determiners are used when the addressee can identify who or what is being talked about.

In LIS, they are realized through pointing signs directed toward a spatial location. They are usually articulated with a G handshape. Definite determiners can function either as articles or demonstratives. This functional distinction is reflected in differences in articulation and usage.

Definite articles are usually pointing signs with a relaxed position realized quickly and not directed toward a specific point. Their movement cannot undergo path variation (near vs. far).



Pointing sign functioning as article

The referent associated with the definite article must be clearly identifiable to the addressee. To illustrate this point, we provide below three concrete examples in which definite articles can be found. It is important to note that, in all three cases, the use of the definite article is not compulsory (see [SYNTAX 4.1.1.4](#)). This optionality is shown in the pairs of sentences below, which differ for the presence/absence of pointing sign (IX).

In the first example, a man is first introduced in the discourse and then he is mentioned again. At the second mentioning, the addressee is already familiar with the referent (MAN) and identifies it on the basis of the linguistic context.

- a. MAN UMBRELLA TAKE

[video example]

‘The man took the umbrella.’

- b. MAN IX_i UMBRELLA TAKE

[video example]

‘The man took the umbrella.’

In the second example, two friends are doing some handwork together and there are several tools on the table. One asks the other to pass him the hammer. The referent (HAMMER) is identified through the extra-linguistic context. Indeed, it is visible both to the signer and the addressee.

- a. HAMMER₂ GIVE₁

[video example]

‘Give me the hammer!’

- b. HAMMER_i IX_i GIVE₁

[video example]

‘Give me the hammer!’

In the third example, it is reported that the Pope was in Rome and visited the Italian Parliament. The addressee identifies the referent (POPE) because it is unique in its genre (similarly to the moon, the engine of a car, and the bride when talking about a wedding).

a. POPE PARLIAMENT GO

[video example]

‘The Pope went to the Parliament.’

b. POPE_i IX_i PARLIAMENT GO

[video example]

‘The Pope went to the Parliament.’

Definite articles are compatible with proper nouns as well. As illustrated in the example below, the sign name MARIA is followed by the article IX.

MARIA IX_i BRING WHAT?

[video example]

‘What did Maria bring?’

Demonstratives are intrinsically definite, so they do not have an indefinite counterpart. Like articles, demonstratives are realized as pointing signs. Unlike articles, they usually point toward a specific point in the signing space and are articulated with a tense movement.



Pointing sign functioning as demonstrative

To illustrate, we provide below a sentence including a pointing sign functioning as demonstrative (here glossed as IX-DEM).

BOOK_i IX-DEM_i IX₁ BUY WANT

[video example]

‘I want to buy this book.’ (adapted from Brunelli 2011: 56)

The plural form of demonstratives is usually realized moving the pointing sign through an arc-shaped path on the horizontal plane (IX-DEM_{arc}).

BOOK_i IX-DEM_{arc i} IX₁ BUY WANT

[video example]

‘I want to buy these books.’ (adapted from Brunelli 2011: 50)

Demonstratives in LIS can be marked for emphasis through movement reduplication (IX-DEM++).

BOOK_i IX-DEM++_i IX₁ BUY WANT

[video example]

‘I want to buy this very book.’ (adapted from Brunelli 2011: 50)

Unlike articles, demonstratives are obligatory in their contexts. They signal that the referent is directly accessible to the addressee. The relationship between demonstrative and referent can be of two types: deictic or anaphoric. Deictic demonstratives are used to refer to entities present in the extra-linguistic context. For example, John is looking for a chair in the classroom and Mary suggests that he should take the chair located close to her.

CHAIR_i IX-DEM_i TAKE

[video example]

‘Take this chair!’

Since deictic demonstratives rely on the surrounding extra-linguistic context, they might refer to entities more or less distant from the signer. The distance between signer and referent is signalled by the extension of the movement of the arm in the signing space. For example, if the chair is close to the signer's body, the movement of the demonstrative is short (proximal demonstrative). On the contrary, if the chair is in a distant location, the demonstrative reflects this distance with a longer movement (distal demonstrative). Proximal and distal demonstratives are exemplified below.

a. CHAIR_i IX-DEM-PROX_i SIT-DOWN NOT CL:BREAK

[video example]

‘Don't sit on this chair, it's broken.’

b. CHAIR_i IX-DEM-DIST_i SIT-DOWN NOT CL:BREAK

[video example]

‘Don't sit on that chair, it's broken.’

Unlike deictic demonstratives, anaphoric demonstratives are used to refer to entities that are not present in the extra-linguistic context, but have been previously mentioned in the discourse. In the example below, the signer tells a friend that he usually builds lots of different chairs in his lab and that the previous week he built a chair with fire-resistant materials. Later in the discourse, he anaphorically refers back to the fire-resistant chair to specify its value.

CHAIR_i PE_i IX₁ SELL THREE-HUNDRED EURO

[video example]

'I sell this chair for three hundred euro.'

When the demonstrative anaphorically refers to a previously mentioned referent, signers typically use the sign PE. This sign is realized with G handshape and wrist rotation, from supine to prone. PE is shown in isolation below.

PE

[video example]

Another difference that distinguishes demonstratives from articles is that they can also be produced in isolation, namely without the noun. The pronominal use of demonstratives is addressed in [LEXICON 3.7.1](#).

3.6.2. Indefinite determiners

Indefinite determiners are used when the addressee is not supposed to know who or what is being talked about. LIS has a singular indefinite article realized with a G or S handshape. The fingertip is oriented upward and the palm usually has a slightly contralateral orientation.



a. ONE-DET-G



b. ONE-DET-S

It is usually produced in a steady position in an unmarked spatial location. Alternatively, it can be accompanied with a slightly tremoring motion. This articulation correlates with the degree of identifiability of the nominal expression: the more unidentifiable the referent, the broader the tremoring motion. The indefinite article usually co-occurs with facial expression denoting uncertainty, which consists in pulling the corners of the mouth down and slightly raising the eyebrows.

In LIS, the indefinite article ONE-DET is used to introduce a new referent in the discourse. An example is provided below.

ONE-DET DEAF IX₁ MEET

[video example]

‘I met a deaf guy.’

Like the definite article, the indefinite article ONE-DET is not obligatory in its contexts. Indeed, the example below is also acceptable without ONE-DET.

DEAF IX₁ MEET

[video example]

‘I met a deaf guy.’

It has been observed that the indefinite article is more frequently produced by the middle-aged and older population of LIS signers. On the other hands, young signers tend to omit the manual sign and express indefiniteness by means of non-manuals (see **SOCIO-HISTORICAL BACKGROUND 4.4** and **SYNTAX 4.1.1.4**).

3.7. Pronouns

3.7.1. Locative and demonstrative pronouns

3.7.2. Personal pronouns

3.7.2.1. Person

3.7.2.2. Number

3.7.2.3. Clusivity

3.7.2.4. Case

3.7.2.5. Gender

3.7.2.6. Honorific pronouns

3.7.2.7. Logophoric pronouns

3.7.3. Possessive pronouns

3.7.4. Reflexive and reciprocal pronouns

3.7.5. Interrogative pronouns

3.7.6. Relative pronouns

3.7.7. Indefinite pronouns

3.8. Adpositions

3.8.1. Manual adpositions

3.8.2. Adpositions and spatial relations

3.9. Conjunctions

3.9.1. Coordinating conjunctions

3.9.2. Subordinating conjunctions

3.9.3. Correlative conjunctions

3.10. Numerals and quantifiers

Numerals and quantifiers are used to express the number or amount of the set denoted by the noun. While numerals indicate the precise number, quantifiers are non-numeric items that provide a relative or indefinite indication of quantity.

3.10.1. Numerals

Numerals can be classified into three categories: cardinal, ordinal, and distributive numerals. LIS exhibits all the three categories.

Cardinals are used to specify the number of entities referred to and answer the question "how many?". In the example below, the cardinal numeral THREE is used to specify the exact number of suitcases the signer noticed.

AIRPORT INSIDE SUITCASE THREE IX₁ SEE

[video example]

‘At the airport, I noticed three suitcases.’

Ordinals combine a numerical quantity with order. They are employed to rank entities according to a certain order and answer the question "which in order?". In the example below, the ordinal numeral THIRD is used to identify one particular suitcase in an ordered set.

SUITCASE THIRD IX₁ TAKE

[video example]

‘I grabbed the third suitcase.’

Distributives combine a numerical quantity with distribution. They indicate how a certain quantity is distributed over some entities and answer the question "how many each?". In the example below, the distributive numeral THREE_{distr} indicates how many suitcases each person is allowed to bring on the airplane.

SUITCASE THREE_{distr} MAXIMUM BRING CAN

[video example]

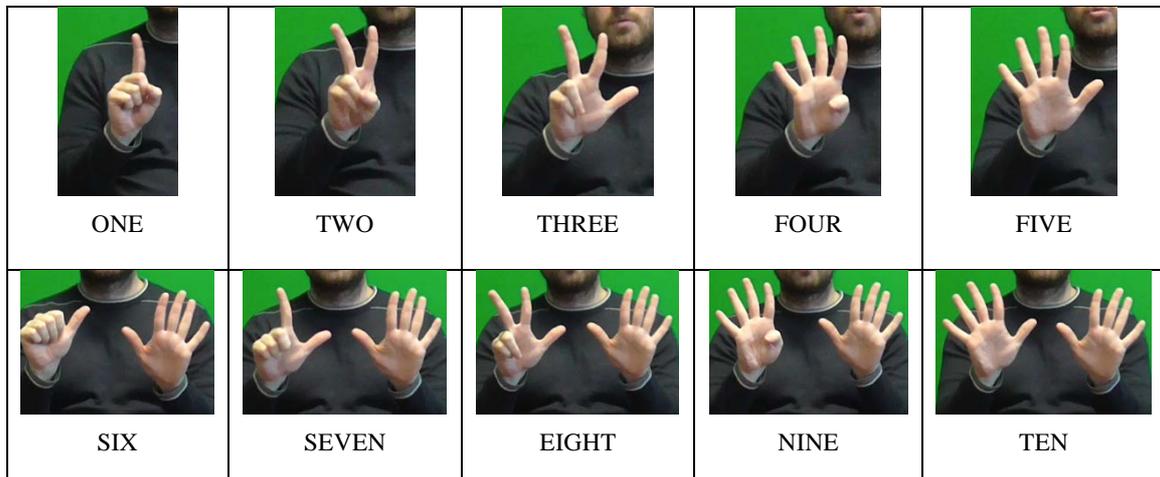
‘You can bring up to three suitcases each.’

For a discussion about the syntactic distribution of numerals within the nominal phrase see [SYNTAX 4.3](#).

3.10.1.1. Cardinal numerals

Cardinal numerals in LIS represent a two-handed system. This means that both manual articulators can be employed to express cardinals. The numerical base of this system is 10, therefore cardinals higher than 10 are built combining the handshapes of numerals from 1 to 10 with special movement patterns. In this section, we provide a general description of the cardinal system in LIS. It is worth pointing out that a certain degree of variation is attested. For the sake of simplicity, we report the most frequent patterns observed.

In cardinals from 1 to 10, LIS signers extend the corresponding number of fingers with outward palm, as shown below. Cardinals from 1 to 5 are articulated with the dominant hand, whereas cardinals from 6 to 10 require the use of both hands (the non-dominant hand always realizes the 5 handshape).



Variation is attested at some degree. For cardinals from 1 to 5, some signers prefer to use an inward palm orientation.



Some signers produce the cardinal ONE extending the thumb (handshape S), rather than the index finger (handshape G), and articulate the cardinal TWO extending thumb and index finger (handshape L), rather than index and middle finger (handshape V).

Cardinal 0 is usually realized with handshape F, as shown below, or alternatively with a similar handshape, curved closed 5.



ZERO

Cardinals from 11 to 19 display different realizations, which vary according to the geographical area. One of the most widespread patterns consists in the combination of the handshapes from 1 to 9 with a particular type of orientation change, pivoting (see [PHONOLOGY 1.3.2](#)). Specifically, finger orientation changes from radial to ulnar. Two examples are provided below.

- a. THIRTEEN (contralateral palm orientation)

[video example]

- b. SEVENTEEN (inward palm orientation)

[video example]

Notice that in cardinals from 11 to 15 the palm has contralateral orientation, as in (a), whereas in cardinals from 16 to 19 the palm is oriented toward the signer, as in (b).

Tens (20, 30, etc.) are obtained combining handshapes from 2 to 9 with finger bending. In some cases, two options are available: bending all fingers or bending the index finger only. Both are exemplified below.

- a. FORTY (all fingers bent)

[video example]

- b. FORTY (index finger bent)

[video example]

In tens from 60 onwards, finger bending involve the dominant hand only. Alternatively, the dominant hand can articulate the two digits sequentially (for example 6 and 0 in the sign SIXTY) with a change of palm orientation. Both options are illustrated below.

- a. SIXTY (finger bending)

[video example]

- b. SIXTY (digits)

[video example]

In cardinals from 21 to 99 (with the exclusion of tens), LIS signers articulate the individual digits in a sequential way, as they appear in writing. As we can see in the example below, in the cardinal TWENTY-FOUR signers produce TWO first, followed by FOUR with a very short transition. The transitional movement from one digit to the other may involve a slight ipsilateral shift in the signing space (especially when the two digits are identical, as in THIRTY-THREE).

a. TWENTY-FOUR

[video example]

b. THIRTY-THREE

[video example]

Notice that in cardinals from 61 to 65, from 71 to 75, from 81 to 85, and from 91 to 95, signers usually realize an orientation change between the two digits, namely wrist rotation from prone to supine (see [PHONOLOGY 1.3.2](#)). To illustrate, in cardinal SIXTY-TWO the dominant hand exhibits a prone orientation in SIX and a supine orientation in TWO.

SIXTY-TWO

[video example]

In hundreds (100, 200, etc.), the numeral handshape is combined with an ipsilateral shift in the signing space and simultaneous finger bending. In hundreds involving two hands (600, 700, 800, and 900), the ipsilateral shift affects both hands, whereas finger bending affects the dominant hand only. To illustrate, THREE-HUNDRED and EIGHT-HUNDRED are shown below.

a. THREE-HUNDRED

[video example]

b. EIGHT-HUNDRED

[video example]

In thousands (1000, 2000, etc.), the relevant handshape is combined with an orientation change, namely nodding from back to palm (see [PHONOLOGY 1.3.2](#)). This secondary movement can be either single or repeated. In thousands articulated with two hands (6000, 7000, 8000, and 9000), the orientation change applies to both hands. To illustrate, THREE-THOUSAND and EIGHT-THOUSAND are shown below.

a. THREE-THOUSAND

[video example]

b. EIGHT- THOUSAND

[video example]

Thousands higher than 10.000 usually require the articulation of a sign expressing the thousand amount in the end. The THOUSAND sign is realized with a bent 5 handshape moving downward. To illustrate, we show ONE-HUNDRED-THOUSAND below.

ONE-HUNDRED-THOUSAND

[video example]

To express millions, LIS employs the sign MILLION, which is an asymmetric two-hand sign. An example is provided below (ONE-MILLION).

ONE-MILLION

[video example]

In the end, we illustrate how billions are expressed in LIS. The sign BILLION is realized through the 5 handshape displaying downward palm orientation, and forward linear movement. The fingers can either lack secondary movement, as in (a), or display a wiggling movement, as in (b).

a. ONE-BILLION (no secondary movement)

[video example]

b. ONE-BILLION (wiggling movement)

[video example]

The position of numerals vis-à-vis the noun is described in (SYNTAX 4.3.1).

Like other sign languages, LIS allows for numeral incorporation. This means that a cardinal handshape (usually from 1 to 5, in some cases from 1 to 10) can be incorporated into a sign. This sign can belong to different categories: (i) pronouns, (ii) nouns referring to time, (iii) other nouns, and (iv) classifiers.

As for pronouns, numeral incorporation can apply to first-, second-, third-person plural pronominal forms.

a. IX_{1pl}-THREE

[video example]

'The three of us'

b. IX_{2pl}-THREE

[video example]

'The three of you'

c. IX_{3pl}-THREE

[video example]

'The three of them'

In the sign IX_{1pl}-THREE, the dominant hand moves in a circular fashion and the path movement is close to the signer's body: this indicates that the pronoun includes the signer and two addressees. In the sign IX_{2pl}-THREE, the hand moves in a location far from the signer's body and is aligned with the direction of the eye-gaze: this indicates that the pronoun includes three addressees and excludes the signer. In the IX_{3pl}-THREE, the dominant hand moves in a location far from both the signer's body and the trajectory of the eye-gaze: this indicates that the pronoun includes three individuals that are neither the signer nor the addressees. The upper limit of numeral incorporation with pronoun signs is 5.

As for nouns referring to time, numerals can be incorporated into the signs HOUR, DAY, MONTH, and YEAR. To illustrate, we show below the sign MONTH (a) and the sign MONTH-TWO (b), which incorporates the cardinal handshape for 2 into the sign MONTH.

a. MONTH

[video example]

b. MONTH-TWO

[video example]

In the case of the sign DAY, the upper limit of numeral incorporation is 5.

DAY-THREE

[video example]

HOUR, MONTH, and YEAR allow for numeral incorporation from 1 to 10.

a. HOUR-THREE

[video example]

b. HOUR-EIGHT

[video example]

c. MONTH-THREE

[video example]

d. MONTH-EIGHT

[video example]

e. YEAR-THREE

[video example]

f. YEAR-EIGHT

[video example]

There are a few other nouns that can incorporate a numeral handshape. One of these is STAR (rating level for hotels). This sign allows for numeral incorporation from 1 to 5.

STAR-THREE

[video example]

Another possibility is to incorporate the numeral handshape into a classifier. For example, THREE can be incorporated into a whole-entity classifier for upright person. In this case, the upper limit of numeral incorporation is 5.

CL:entity-PERSON-THREE COME

[video example]

‘Three people came to me.’

3.10.1.2. Ordinal numerals

Ordinal numerals in LIS employ the same handshapes selected by cardinal numerals. The two classes are distinguished by absence or presence of movement: cardinals from 1 to 10 do not display any particular movement, whereas ordinals from 1st to 10th require a wrist rotation from prone to supine (see the section on secondary movement [PHONOLOGY 1.3.2](#)). To illustrate, we show a one-hand ordinal, SECOND, and a two-hand ordinal, EIGHTH.

a. SECOND

[video example]

b. EIGHTH

[video example]

The phonological form (movement, location, and absolute orientation) of ordinals might slightly vary according to the kind of the ranked entity (e.g. sequences, winning positions, railway platforms, etc.). For example, if SECOND is used to refer to the second floor of a building, the palm is usually oriented outward and the movement is upward.

SECOND (floor)

[video example]

If SECOND is used to refer to the second row in a theatre, it is usually signed with upward palm orientation and inward repeated movement.

SECOND (theatre row)

[video example]

Differently from the previous cases, SECOND in competition ranking is usually articulated with inward palm orientation and with a downward repeated movement.

RANKING IX₁ SECOND

[video example]

‘In the ranking, I am in second place.’

Moreover, cardinals constitute a potentially unlimited class of items, whereas ordinals constitute a defective class since it is limited to ten items, from FIRST to TENTH. Ordinals higher than 10th are expressed in LIS with the equivalent cardinals together with the ranked entity. For example, in a competition, the eleventh position is expressed through the cardinal ELEVEN and the sign PLACE.

RANKING IX₁ ELEVEN PLACE

[video example]

‘In the ranking, I am in eleventh place.’

Another common strategy to keep track of ordinal numbering in signed discourse is represented by list buoys (see [LEXICON 1.2.3](#) and [PRAGMATICS 2.2.3](#)). For example, a signer is talking about his last summer trip and lists the cities he visited (in order, Paris, Madrid, and Barcelona). The ordinal numbering (first, second, third) can be indicated by the non-dominant hand, as shown below.



- a. dom: IX
n-dom: FIRST



- b. dom: IX
n-dom: SECOND



- c. dom: IX
n-dom: THIRD

List buoys usually range from first to fifth.

3.10.1.3. Distributive numerals

Like ordinals, distributive numerals in LIS make use of the same handshapes selected by cardinal numerals. These handshapes are associated with reduplicated movement in the signing space: the numeral is repeated in different locations and each instance corresponds to a set of entities. In the example below, TWO_{distr} associated with the noun SANDWICH indicates that there are multiple sets of two sandwiches. From an articulatory perspective, there are two semantically equivalent possibilities: each reduplication can either be marked by a slight forward movement, as in (a), or be unmarked for movement, as in (b). In both cases transition movements are produced between reduplications.

a. SANDWICH TWO_{distr} EXIST (with repeated forward movement)

[video example]

‘(They) have two sandwiches each.’

b. SANDWICH TWO_{distr} EXIST (without repeated forward movement)

[video example]

‘(They) have two sandwiches each.’

3.10.2. Quantifiers

Quantifiers are lexical signs expressing different types of non-numerical quantities. In this section, we describe some of the quantifiers attested in LIS. It is important to note, that they co-occur with a noun, but some of them can also be used pronominally. For example, the sign ALL can modify the plural noun PERSON₊₊₊, as in (a), or function as pronoun, as in (b).

a. PERSON₊₊₊ ALL ORIGIN SICILY

[video example]

‘All the people come from Sicily.’

b. ALL ORIGIN SICILY

[video example]

‘Everyone comes from Sicily.’

The universal quantifier selects all the entities referred to by the noun. In LIS, there are several signs that can be used with this function. For the sake of simplicity, we only show two of them: ALL-G and ALL-5. Both are one-handed signs articulated in the neutral space. In ALL-G, the G handshape produces a circular movement on the horizontal plane. A variant form of this sign is almost identical except for the handshape (curved open 5 rather than G). In ALL-5, the flat open 5 handshape closes while the hand moves on a linear path.



a. ALL-G



b. ALL-5

While the sign ALL-G is not usually spatialized, i.e. the movement component is quite fixed, the sign ALL-5 can modify the direction of the path movement according to the position and arrangement of the referents associated with the quantified noun (along vertical, horizontal, and deictic axes). While the handshape of ALL-5 cannot be modified, the quantifier ALL-G is compatible with numeral incorporation. This means that the G handshape can be replaced by a cardinal handshape (from 2 to 5). To illustrate, cardinal TWO incorporated into ALL-G is shown in (a). A very similar meaning is obtained with the sign BOTH, which is produced with the same handshape associated with a repeated linear movement on the horizontal plane.

a. ALL-TWO

[video example]

‘The two of them’

b. BOTH

[video example]

‘Both of them’

Like ALL-G and ALL-5, EACH applies to all the members of a set, and hence it is compatible with count nouns only. The peculiarity of EACH is its distributive reading: indeed, it selects the members of the set individually, rather than collectively. From an articulatory perspective, this sign is realized reduplicating cardinal ONE with extended thumb in several spatial locations on the horizontal plane (from left to right for a right-handed signer), which are associated to the different members of the set. Each reduplication is usually marked by a slight downward movement.



EACH

Large quantities are usually indicated by quantifiers MANY and NUMEROUS, which are usually compatible with count nouns. Both are two-handed signs, but occasionally they can be articulated with the dominant hand only. MANY involves repeated closing and opening of flat closed 5 handshape displayed on the horizontal plane. In NUMEROUS, the fingers open one after the other while the hands move outward on the horizontal plane.



a. MANY



b. NUMEROUS

The sign SOME selects an unspecified amount of entities and is compatible with count nouns. Two variant forms are quite widespread: (a) SOME-F, a one-handed sign realized with F handshape and repeated forward movements and (b) SOME-G, a two-handed sign realized with G handshape and alternating movement on the vertical plane.



a. SOME-F



b. SOME-G

Small quantities are indicated by the quantifier FEW. This is a one-handed sign making the tip of the thumb come into contact with the tip of the flexed index finger. It is compatible both with count and mass nouns.



FEW

Some quantifiers do not express absolute quantities, rather relative quantities, namely quantities in relation or in proportion to something else. We present here three quantifiers of this type: ENOUGH, TOO-MANY (or TOO-MUCH), and MOST. The sign ENOUGH is used when the referents are as many as needed, required, or expected. This is a one-handed sign articulated with unspread 5 repeatedly moving toward the signer's chin. The sign TOO-MANY is used when the referents are exceedingly more than needed, required, or expected. This is a two-handed sign: both hands have a curved open L handshape and move outward on the horizontal plane. Both ENOUGH and TOO-MANY are compatible with count and mass nouns. The sign MOST indicates the majority of a set of entities. It is a two-handed sign: both hands have a spread 5 handshape facing one another and the dominant hand moves away from the non-dominant one with an upward linear movement.



a. ENOUGH



b. TOO-MANY



c. MOST

A quantifier with a free choice meaning is ANY. This quantifier is used to express lack of restriction of amount. ANY is a two-handed sign realized with unspread 5 handshape. Both hands undergo repeated nodding (palm/back repeatedly) in mirror fashion.



ANY

In LIS, we also find negative quantifiers, such as ZERO, NOBODY, BARE, and EMPTY. The sign ZERO is derived from the corresponding cardinal numeral. It is articulated with a F handshape moving forward in the signing space. This particular handshape is iconically related to the digit 0. ZERO can be produced with either one or two hands. It is compatible with both count and mass nouns and with both animate and inanimate referents. The sign NOBODY accompanies only animate referents. It is a symmetric two-handed sign realized with G handshape and diverging linear path movement on the horizontal plane. NOBODY shows a particular distributional pattern, which is addressed in [SYNTAX 1.5.1.2.1](#) and [SYNTAX 4.4.2](#).



a. ZERO



b. NOBODY

The signs EMPTY and BARE usually indicate absence of something. EMPTY is produced in the neutral space with flat closed hand and wrist rotation. It can be produced with either one or both hands. The sign BARE, on the other hand, is articulated with 3/5 handshape and linear movement.



a. EMPTY



b. BARE

While in the sign EMPTY the movement component looks quite fixed, the sign BARE can modify the direction of the movement according to the location in space in which the referent is absent. For example, to convey that there are no books in a wardrobe, the direction of the sign BARE can specify whether this lack of books applies to a single shelf from left to right, as in (a), or to the whole wardrobe from top to bottom, as in (b).

- a. WARDROBE INSIDE BOOK BARE (horizontal movement)

[video example]

‘In the wardrobe (from left to right) there are no books.’

- b. WARDROBE INSIDE BOOK BARE (vertical movement)

[video example]

‘In the wardrobe (from top to bottom) there are no books.’

The quantity expressed by the quantifier can be modified through non-manuals (e.g. wide-open eyes, mouth-corners pulled downward, tensed lips, etc.), see [MORPHOLOGY 2.2](#). Quantification can also be expressed by means of a particular classifier category, namely size-and-shape specifiers (SASS). This strategy is especially used with mass nouns, such as FLOUR, HONEY, and SALT.

JAM CL:SASS

[video example]

‘A considerable amount of jam’

For more details on these classifiers see [MORPHOLOGY 5.2](#).

For a discussion of the syntactic distribution of quantifiers within the nominal phrase see [SYNTAX 4.4](#).

3.11. Particles

3.11.1. Negative particles

3.11.2. Question particles

3.11.3. Discourse particles

3.12. Interjections

Information on Data and Consultants

The descriptions in these sections are based on the references below. For information on data and consultants see the references. The video clips and images exemplifying the linguistic data have been produced by LIS native signers involved in the Sign-Hub Project.

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References

- Bertone, Carmela. 2007. *La Struttura del Sintagma Determinante nella LIS*. Venice: Università Ca' Foscari, doctoral dissertation. (63-74) [3.4], (143-163) [3.6]
- Bertone, Carmela. 2009. The Syntax of Noun Modification in LIS. Working Papers in Linguistics 19, 7-28. [3.4]

- Bertone, Carmela. 2011. *Fondamenti di grammatica della lingua dei segni italiana*. Franco Angeli Editore. (218-228) [3.3.1] and [3.3.2]; (159) [3.3.4], (116-126) [3.6], (133-148) [3.4]
- Brunelli, Michele. 2011. *Antisymmetry and Sign Languages: A Comparison between NGT and LIS*. Utrecht: LOT. (52-55) [3.10.2], (56-59) [3.6], (59-62) [3.4] and [3.10.1]
- Lerose, Luigi. 2009. I tipi di Avverbio in Lis. In Bertone, Carmela & Cardinaletti Anna (eds.) *Alcuni capitoli della Grammatica della LIS*, 43-59. Università Ca' Foscari, Venezia. [3.5]
- Lerose, Luigi. 2012. Studi linguistici in Lingua dei Segni Italiana (LIS) Analisi fonologica e le funzioni deittiche ed avverbiali, e aspetti metaforici in parametri formazionali. Alpen-Adria-Universität Klagenfurt PhD thesis. (326-346) [3.5]
- Mantovan Lara, Carlo Geraci & Anna Cardinaletti. 2014. Addressing the Cardinals Puzzle: New Insights from Non-Manual Markers in Italian Sign Language. In *Workshop proceedings, 6th Workshop on the Representation and Processing of Sign Languages: beyond the Manual Channel*, Reykjavik, 113-116. [3.10]
- Mantovan Lara, Carlo Geraci & Anna Cardinaletti. submitted. *On the cardinal system in Italian Sign Language (LIS)*, manuscript. [3.10]
- Mantovan, Lara & Carlo Geraci. 2015. The syntax of cardinal numerals in Italian Sign Language (LIS). In Thuy Bui & Deniz Özyıldız (eds.), *NELS 45: Proceedings of the Forty-fifth Annual Meeting of the North East Linguistic Society*, vol. 2, 155-164. Amherst, MA: GLSA. [3.10]
- Mantovan, Lara. 2017. *Nominal modification in Italian Sign Language (LIS)*. Berlin: De Gruyter Mouton. (154-184) [3.10]
- Mazzoni, Laura (2008), *Classificatori e impersonamento nella lingua dei segni italiana*. Pisa: Edizioni PLUS/Pisa University Press. (159-160) [3.10.1.1]
- Zucchi, Sandro, Carol Neidle, Carlo Geraci, Quinn Duffy & Carlo Cecchetto. 2010. Functional markers in sign languages. In Diane Brentari (eds.), *Sign Languages*. 197-224. [3.3.2]
- Zucchi, Sandro. 2009. Along the time line. Tense and time adverbs in Italian Sign Language. *Natural Language Semantics* 17. 99-139. Springer Science+Business Media B.V. [3.3.1]

Morphology

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Chapter 3. Verbal inflection

In [LEXICON 3.2](#), a preliminary description of the three categories of verbs (plain verbs, agreement verbs and spatial verbs) detected in LIS has been provided, focussing on their articulation and possibility to show overt morphological agreement with their arguments. The present chapter improves the description of the three verb classes considering the inflectional morphological processes involved to convey not only agreement (of person, location and number) (see [MORPHOLOGY 3.1](#)), but also tense (see [MORPHOLOGY 3.2](#)) and aspect (see [MORPHOLOGY 3.3](#)). Notice that these morphosyntactic features are mainly conveyed through (i) spatial relations among loci, which are specific points of the signing space associated to the argument(s) of the verb, (ii) reduplication of the verb sign and/or (iii) modification of the point(s) of articulation, path-movement (if any) and/or orientation of the verb sign.

3.1. Agreement

In LIS, we can distinguish three types of agreement: person, number and spatial agreement. Person and number agreement refer to the phonological modifications that verbs display to encode person and number features, whereas spatial agreement defines the locative source and/or locative goal of an event. As shown in (see [LEXICON 3.2](#)), only agreement and spatial verbs can convey agreement through modification of some of the phonological features of the verb root: point of articulation, direction of the path-movement, orientation of the palm. The following sections describe how each verb class marks agreement of person, number and location with its arguments. We will see that also dedicated non-manual markers play a crucial role in verbal inflection, in that they can occur with the verb sign to disambiguate arguments in space.

3.1.1. Person and locative markers

The present section describes how person agreement is phonologically marked on the three verb classes described in [LEXICON 3.2](#). Person agreement differ from locative agreement, explored in [MORPHOLOGY 3.1.1.3](#), in that it defines morphosyntactic relations between the predicate and its arguments. Locative agreement, instead, defines locative relations in spatial verbs.

To convey both person and locative agreement, it is common to associate arguments to specific loci of the signing space. Arguments and locations can also be marked through classifiers (see [MORPHOLOGY 5.1](#)), or role shift (see [SYNTAX 3.3.3](#)).

3.1.1.1. Subject markers

As in other sign languages, persons in LIS correspond to specific points of the signing space called loci. Specifically, (i) first person coincides with a point of articulation which is close to or on the signer's body, (ii) second person is marked by a locus in the direction of the interlocutor, whereas (iii) third person corresponds to a point of the signing space which is distant from both the signer and the interlocutor. Person markers can consist in manual signs such as pronouns, i.e. pointing signs towards dedicated loci (see [LEXICON 1.2.2](#)), or they can be conveyed through modifications of some phonological features of the verb sign, which can be articulated in the locus associated to the argument and/or modify its path movement to show overt agreement.

Verbs of the first class, i.e. plain verbs (see [LEXICON 3.2.1](#)) both transitive and intransitive, are articulated near or on the signer's body in their citational form, thus they cannot be inflected in space to show overt agreement with their argument(s). The subject must be obligatorily articulated, through a lexical or pointing sign towards the signer's body or a specific locus in space (for second and third person). In the example below, the third person singular subject is conveyed through a pronoun pointing to a specific locus of the signing space.



'He eats.'

The sign for the verb can be marked by a head tilt or a slight shift of the body towards the position dedicated to the subject, thus realising non-manual agreement. In the example below, we see that the signer non-manually marks the position dedicated to the subject 'Gianni' through a slight tilt towards the position of the signing space in which the subject 'Gianni' was previously articulated.



G-I-A-N-N-I_k
'Gianni knows Pietro.'

P-I-E-T-R-O

KNOW_k

Verbs of the second class, i.e. agreement verbs (see [LEXICON 3.2.2](#)) both transitive and intransitive, display two points of articulation within the signing space: a beginning and an ending one, connected through a path movement. The two points are associated to the arguments of the predicate. In such verbs, orientation and direction of the path movement of the verb sign define thematic roles: the agent is usually associated to the starting point of the movement, which can be on the signer's body to mark first person (example below) or dislocated in the signing space for second and third person.



₁DONATE₂

'I donate you this.'

Moreover, for second and third persons the subject position is non-manually marked by head-tilt and a slight shift of the body towards the starting point of the movement, corresponding to the subject position. Notice that eye gaze, instead, is directed towards the location of the object argument (see [SYNTAX 2.1.2.3.2](#)). Non-manual markers are produced simultaneously to the articulation of the verbal sign.

____ ht_i
____ eg_k

L-U-C-A_i P-A-O-L-O_k _iHATE_k

[video example]

'Luca hates Paolo.'

In LIS, some verbs can be considered a subclass of agreement verbs because they are articulated in the neutral space, but they display only one point of articulation encoding the subject, which can have the thematic role of agent (unergative verbs) or theme (unaccusative verbs) (see [SYNTAX 2.1.1.2](#)). Verbs belonging to this class are usually articulated in their citational form, namely in front of the signer, for first person; for second or third person, they can display overt morphological agreement with their only argument being articulated in the same locus of the signing space.

CHILD_i GROW-UP_i

[video example]

‘The child grows up.’

3.1.1.2. Object markers

Overt morphological agreement with the object is displayed only by agreement verbs (LEXICON 3.2.2). Specifically, the object is marked by the ending point of the path movement, and by dedicated non-manual markers consisting in the direction of the eye-gaze and shoulder of the signer towards the locus in space associated with the object.

Agreement verbs articulated on the body of the signer moving towards the neutral space show overt agreement with their object through the addition of a path movement connecting their point of articulation to the position in the signing space corresponding to the direct or indirect object. This position is non-manually marked by the direction of the eye-gaze and shoulders of the signer. Some of these verbs are: SAY, SEE, KISS, PHONE-CALL, LOVE.

a. IX₃ TELL IX₃

[video example]

‘He tells him.’ (Pizzuto 2004: 194)

b. G-I-A-N-N-I_K M-A-R-I-A_J _KSEE_J

[video example]

‘Gianni sees Maria.’

c. G-I-A-N-N-I_K M-A-R-I-A_J _KLOVE_J

[video example]

‘Gianni loves Maria.’

When a verb like WATCH selects for a first person singular subject, however, agreement is with both the subject and the object.

Sometimes the verb sign can be modified to incorporate the theme direct object using a classifier predicate (see MORPHOLOGY 5.1). In the example below, the verb ‘to lift’ modifies its articulation to incorporate the object, namely a very heavy box.



CL:handle-LIFT (BOX)

‘To lift a very heavy box.’

Classifier predicates also allow some plain verbs, which usually do not display overt morphological agreement with their arguments, to show overt morphological agreement with their object in transitive constructions. As we can see in the example below, when a plain verb is realized through a classifier predicate, the handshape defines the theme argument, thus it shows overt morphological agreement with the object.

L-U-C-A SANDWICH CL:handle-EAT

[video example]

‘Luca eats a sandwich.’

A subclass of agreement verbs includes the so called *backward verbs*, which are peculiar in that the starting point of their movement in the neutral space is associated with the source, whereas the ending point marks the goal, therefore agreement is between two internal arguments. Some verbs belonging to this class are: COPY, TAKE-ADVANTAGE-OF, INVITE, TAKE, RECEIVE, CHOOSE.

BLACKBOARD_K TEXT_K STUDENT_K COPY

[video example]

‘The student copies the text from the blackboard.’

3.1.1.3. Locative markers

Sometimes the starting and ending points of the verb correspond to locations, rather than arguments. We refer to these verbs as spatial verbs (see [LEXICON 3.2.3](#)). In these constructions, the path movement connecting the two points of articulation conveys the movement of the object (animate or inanimate) of the event. Verbs that can convey locative agreement are GO, BRING-SOMEONE, ARRIVE, COME, GET-UP, GET-DOWN, WALK, GO-IN, GO-OUT.

IX₃ HOUSE_J SCHOOL_{L-K} GO_K

[video example]

‘He goes from home to school.’

Therefore, the starting and end points of the path movement of the verb correspond to source and goal locative arguments respectively. Dedicated classifier constructions can be employed to define the positions of the referents between which the movement of the verb is articulated (see [MORPHOLOGY 5.1](#)).

In LIS we also find some spatial verbs that have no movement, thus they convey agreement simply localizing the sign for the verb in the position dedicated to the location argument, as in the example below.

S-A-R-A THREE-YEAR ROME_i STAY_i

[video example]

‘Sara stayed in Rome for three years.’

3.1.2. Number markers

When defining thematic roles through inflectional morphological processes, verbs can also display further modifications to convey number agreement. Specifically, the verb can be reduplicated or displaced to mark the number of arguments involved in the event. Notice that in LIS, the verb usually inflects to mark object number. To express subject number, LIS mostly employs quantifiers and numerals (see [LEXICON 3.10](#)). As for person and locative agreement, plain verbs do not inflect for number because they are articulated on the signer’s body.

3.1.2.1. Dual

Agreement verbs ([LEXICON 3.2.2](#)) mark duality through (i) addition of the non-dominant hand in one-handed signs or (ii) reduplication of the verb, whose starting and ending point of articulation can be changed in order to convey duality of the subject or object. Example (a) shows that the verb agrees with the dual object being articulated as a two-handed sign; (b) displays the same strategy employed to mark duality of the subject, whereas (c) is an example of reduplication of the verb to convey duality of the object.

a. dom: G-I-U-L-I-A_K M-A-R-I-A_J G-I-A-N-N-I_Z BOOK _ZGIVE_J
 n-dom: _ZGIVE_K

[video example]

‘Gianni gives one book to Giulia and Maria respectively.’

b. dom: G-I-U-L-I-A_K M-A-R-I-A_J _JCALL_I
 n-dom: _KCALL_I

[video example]

‘Giulia and Maria call me.’

c. IX_I G-I-U-L-I-A_K M-A-R-I-A_J _ICALL_K _ICALL_J

[video example]

‘I call Giulia and Maria at the phone.’

In the same vein, backward verbs can mark duality of the source/object which is being copied, chosen or welcomed. The example below shows the reduplication of the verb sign to convey duality of the source.

BOOK TWO CL:entity-BOOK_K CL:entity-BOOK_J STUDENT_KCOPY_JCOPY

[video example]

‘Students copy (a text) from two books.’

The same strategies are employed by that subclass of agreeing verbs displaying only one point of articulation within the signing space corresponding to their single argument. The example below shows that the one-handed verb GROW-UP becomes a two-handed symmetrical sign in order to convey duality of the subject.

dom: CHILD_K CHILD_J TWO GROW_J

n-dom: GROW_K

[video example]

‘The two children are growing up.’

3.1.2.2. Multiple

LIS agreement verbs mainly inflect to mark plurality of the object. In contrast, a plural subject is marked by numerals and quantifiers. To convey plurality of the object, agreeing and spatial verbs can display specific morphological modifications: (i) they can incorporate an arc movement from the contralateral to the ipsilateral side of the signing space to convey the meaning ‘all’, as exemplified in (a); (ii) one handed-signs can be articulated as two-handed signs, (example (b)); and (iii) they can be reduplicated, as exemplified in (c), which can also carry distributivity features. Reduplication applies to the articulation of the verb an indefinite number of times (usually three).

a. GIVE_{arc}

[video example]

‘Give to all.’

b. dom: GIVE_{arc}

n-dom: GIVE_{arc}

[video example]

‘Give to all.’

c. GIVE₊₊

[video example]

‘Give to each one.’

When the object is a sign articulated in the signing space, which can be reduplicated to convey plurality, the verb can show overt agreement being articulated in the same loci dedicated to the plural object, as in the example below.

MAN MANY HOUSE_k++ BURN_k++

[video example]

‘Many men burn many houses.’

3.1.2.3. Exhaustive

Exhaustivity refers to number information, but it also specifies the positions of members of a set within the signing space. Exhaustivity can be encoded in agreement and spatial verbs and are conveyed through a distributive morpheme, which is expressed by a repetition of the verbal root, and is always interpreted on the internal argument (the theme) in a transitive construction. In the example below, the repetition of the verb (EXAMINE++) marks numerosity and distribution of the object.

PROFESSOR IX₃ STUDENT EACH++ EXAMINE++ [distr]

[video example]

‘The professor examines each of the students.’ (Mazzoni 2012: 163)

Considering intransitive predicates, the distributed morpheme is admitted only with unaccusative verbs.

3.1.3. Reciprocal markers

Agreeing and spatial verbs can also inflect to convey reciprocity:

(i) One-handed signs, such as GIVE, can become two-handed signs in which the two hands move alternatively as independent signs, thus marking the two members of the reciprocity:

₁GIVE₂ [RECIPROC]

[video example]

(ii) Two-handed signs, such as DONATE, can be articulated as if the two hands functioned as independent articulators, thus they move alternatively between the positions of the two arguments of the predicate:

DONATE [RECIPROC]

[video example]

3.2. Tense

The previous sections have described how LIS verbs can inflect to mark agreement with their arguments. Here, we explore the morphological processes that LIS verbs can undergo in order to convey tense, besides employing lexical markers (see [LEXICON 3.3.1](#)) and temporal adverbials (see [SYNTAX 6.4.2.1](#)).

3.2.1. Time lines

Temporal information is expressed in LIS through a spatial metaphor which visualizes time as a line with respect to the signer's body. More specifically, the space in front of the signer represents the future, the space in which the signer is located, or the positions very close to the signer's body, represent the present, the space behind the signer represents the past. Therefore, points of the signing space can be considered abstract morphemes which combine with temporal adverbials or verbs in order to convey temporal information and are used as references to locate events in time. In general, in LIS this visual metaphor can be conveyed through non-manual markers occurring with the lexical sign for the verb (see [MORPHOLOGY 3.2.2](#)), or it can be encoded into temporal adverbials. Temporal adverbials referring to the past display a movement and orientation of the palm towards the space behind the signer; temporal adverbials referring to the present are produced in front of the signer in a position very close to his/her body; temporal adverbials referring to the future are directed towards an indefinite point of the space in front of the signer. Being articulated more or less close to the body of the signer, temporal adverbials can locate events in the far past, near past, present, near future, future and far future. The time adverbials reported below show the realization of the time line in LIS moving from the back to the front of the signer.



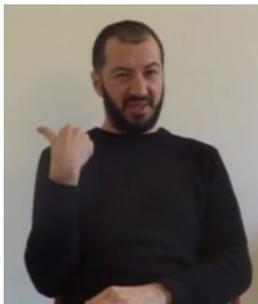
a. LONG-TIME-AGO



b. YESTERDAY



c. BEFORE



d. RECENTLY



e. TODAY



f. TOMORROW



g. IN-THE-FUTURE

3.2.2. Tense inflection

Tense inflection refers to the morphological processes able to modify the articulation of the verb sign in order to convey temporal information about the event.

LIS realizes tense inflection by changing the position of the shoulders during the articulation of the verb sign: when the shoulders are aligned with the rest of the body, the action is taking place at the time of utterance (example (a)); if the shoulders are tilted backwards, the action took place before the time of utterance, namely in the past (example (b)); if the shoulders are tilted forward, the predicate defines a future event which will take place after the time of utterance (example (c)). Therefore, tense inflection in LIS can be conveyed non-manually and, when it does, it displays the visual metaphor of the ‘time as a line’. It is important to notice that the possibility of inflecting the verb to carry temporal information is restricted to the variety of LIS used in the Napoli-Salerno area.

shoulders-straight

a. G-I-A-N-N-I HOUSE BUY

[video example]

‘Gianni is buying a house.’ (Zucchi 2009: 101)

shoulders-backward

b. G-I-A-N-N-I HOUSE BUY

[video example]

‘Gianni bought a house.’ (Zucchi 2009: 101)

shoulders-forward

c. G-I-A-N-N-I HOUSE BUY

[video example]

‘Gianni will buy a house.’ (Zucchi 2009: 101)

When the sentence contains past and future temporal adverbials as independent lexical signs, non-manual inflection on the verb is absent, because tense is conveyed through the temporal adverbial.

TIME-AGO G-I-A-N-N-I HOUSE BUY

[video example]

‘Some time ago Gianni bought a house.’ (Zucchi 2009: 103)

3.3. Aspect

Aspectual information in LIS can be conveyed through lexical markers (see LEXICON 3.3.2), adverbials (see SYNTAX 6) or through morphological modification of the articulation of the verb sign, specifying whether the action is completed (perfective aspect) or not completed (imperfective aspect). The following sections describe the morphological processes LIS employs to express aspectual information, mainly consisting in movement manipulations, repetition and lengthening of the verb sign.

3.3.1. Imperfective

Imperfective aspect refers to events or activities which are not completed or that are still going on at the time of utterance. It can also refer to events which are habitual or that are repeated, irrespective of the event time (past, present, future). LIS can convey imperfective aspect through morpho-phonological modifications of the verb sign.

3.3.1.1. Habitual

Habitual aspect relates to events which are usual and happen repeatedly. In LIS, habitual aspect is conveyed through adverbials (see SYNTAX 6.3) or rapid repetition and lengthening of the verb sign. Below, we provide an example for each strategy respectively.

a. EVERY-DAY CHILD CRY

[video example]

‘The child cries everyday.’ (Bertone 2011: 222)

b. CHILD CRY++

[video example]

‘The child was always crying.’ (Bertone 2011: 222)

3.3.1.2. Continuative/durative

In LIS, continuative aspect is conveyed through morphological modifications of the verb sign consisting in a longer duration of the articulation of the verb sign or in its repetition. The longer articulation indicates that an event lasts indefinitely in time, without precise information about when it starts/started and ends/ended (example (a)). Repetition, instead, indicates that the same event is repeated for an indefinite time. The verb is repeated at least three times (example (b)). Furthermore, the verb sign can be marked by specific non-manual markers consisting in inflated cheeks (b) or head-nod conveying the indefinite duration of the event (a).

 nmm

a. G-I-A-N-N-I WINDOW LOOK

[video example]

‘Gianni is looking out of the window.’

 nmm

b. STUDY

[video example]

‘(He/she) studies/studied for an indefinite period of time.’

3.3.1.3. Conative

3.3.2. Perfective

Perfective aspect refers to a closed and completed event. LIS can convey perfective aspect through morpho-phonological marking on the sign for the verb, or through lexical markers (see [LEXICON 3.3.2](#)).

3.3.2.1. Iterative

Iterative perfective aspect refers to those events that, despite being repeated many times, are single completed events. Besides employing adverbs (see [SYNTAX 6.3](#)), LIS conveys the iterative nature of an event, action or situation through morpho-phonological

modifications of the sign for the verb. When expressing iterative perfective aspect, the movement of the verb is lengthened, repeated and wider with respect to the movement of the verb in its citational form. Despite their similarity, iterative aspect differs from habitual aspect (MORPHOLOGY 3.3.1.1) in displaying a slower articulation of the verb sign, marking the repetition of the event. The typical non-manual markers conveying iterative perfective aspect are furrowed eyebrows and squinted eyes produced simultaneously to the verbal sign.

 nmm

MEET++

[video example]

‘(He/she) has met (him/her) several times.’

3.3.2.3. Completive

Completive aspect is marked in LIS through the lexical manual sign DONE (see LEXICON 3.3.2), which defines that the event is completed.

G-I-A-N-N-I IX₃ HOUSE BUY DONE

[video example]

‘Gianni has bought a house.’ (Zucchi et al. 2010: 199)

3.4. Modality

3.4.1. Deontic modality

3.4.2. Epistemic modality

3.5. Negation

Negation in LIS is mainly conveyed through negative markers and n-words, listed in LEXICON 3.11.1, whose syntactic features are analysed in SYNTAX 1.5. However, there are some instances of negation as inflectional category, which will be explored in the next sections. Negation as inflectional category refers to the morphological modifications that predicates or sentences can undergo in order to convey negation, besides employing lexical negative markers. Specifically, LIS verbs can incorporate

negative elements, be marked by specific non-manual markers or display a completely different form to convey their negative counterpart.

3.5.1. Regular negation

The present section concerns those processes modifying the morphology of verb signs in order to convey negation. These processes are considered instances of regular negation in that the negative features incorporated remain visible. We will see that these processes can be conveyed through both manual and non-manual markers.

3.5.1.1. Manual markers

Manual markers of negation refer to instances of incorporation of a negative element within the articulation of the verb sign, which however remains identifiable. Incorporation can be either a simultaneous or sequential process. In LIS, we find one instance of sequential incorporation, in which the negative morpheme NOT combine with the verb KNOW.

KNOW^NOT

[video example]

However, these processes are not productive in LIS. Therefore, they are also referred to as transparent irregular negatives (see [SYNTAX 1.5.1.1.2](#) for further details).

3.5.1.2. Non-manual markers

In general, in LIS negative non-manual markers alone cannot negate a predicate or a whole sentence, they must be articulated with a manual negative marker or n-words (see [LEXICON 3.11.1](#) and [SYNTAX 1.5](#)). However, in the LIS varieties of Rome, Salerno and Naples, we can find negation conveyed through the typical negative non-manual marker (headshaking) alone, occurring with the sign for the verb.

_____ neg

CAT_K DOG_J CHASE_K

[video example]

‘The dog does not chase the cat.’

3.5.2. Irregular negation

Irregular negation refers to those instances in which verbs display a completely different form for their negative counterpart. In such signs, the negative element cannot be identified and distinguished from the lexical verb. For these reasons, they are also referred to as opaque irregular negatives (SYNTAX 1.5.1.1.2). In LIS, we find several examples.

The negative counterpart of the positive existential glossed as EXIST (example (a)), (which in LIS also corresponds to the verb ‘have’) is a manual sign that is completely different from its positive counterpart, and that can be glossed as EXIST-NOT or NOT-HAVING (example b). Notice that EXIST-NOT is marked by the specific non-manual marker for negation, i.e. headshaking.

a. EXIST
[video example]

_____ neg
b. EXIST-NOT
[video example]

To realise the negative counterpart of WANT (example (a)), LIS employs the sign WANT-NOT, occurring with the non-manual marker for negation (example (b)). See how they differ in the example below.

a. WANT
[video example]

_____ neg
b. WANT-NOT
[video example]

A further example is provided by the verb LIKE, whose negative counterpart is the sign LIKE-NOT. Notice that LIS employs the same sign for the verb WANT and the verb LIKE, but LIKE displays a slower articulation.

a. LIKE
[video example]

_____ neg
b. LIKE-NOT
[video example]

To convey that an event has not taken place or it has not been completed, LIS employs a specific manual marker NOT-YET (example (b)), which is considered a negative

completive/perfective marker (see **LEXICON 3.3.2**), namely it is the negative counterpart of the aspectual marker DONE (which cannot co-occur with negation).

a. DONE

[video example]

b. NOT-YET

[video example]

As for modal verbs, only the modal CAN (see **SYNTAX 1.5.1.1.2** for details) allows incorporation of the negative element NOT. As we can see from the example, the sign for the modal CAN (example (a)) is a symmetrical two-handed sign articulated with both hands closed in the neutral space, displaying a short movement downward. To convey the negative meaning, a left-to-right rapid movement is added, together with the typical negative non-manual marker. The resulting sign is CANNOT (example (b)).

a. CAN

[video example]

_____ neg

b. CANNOT

[video example]

In LIS, two variants of the sign CANNOT are attested: IMPOSSIBLE-PA-PA (example (a)) and IMPOSSIBLE-NO-WAY (example (b)). These two signs are semantically slightly different: the former refers to a situation in which the desired result cannot be achieved despite several attempts, whereas IMPOSSIBLE-NO-WAY indicates that there is no possibility at all to carry out an action. They are both marked by headshaking.

_____ neg

a. IMPOSSIBLE-PA-PA

[video example]

_____ neg

b. IMPOSSIBLE-NO-WAY

[video example]

Information on Data and Consultants

The descriptions in this section are based on the references below. For information on data and consultants see the references. The video clips and images exemplifying the

linguistic data have been produced by LIS native signers involved in the Sign-Hub Project.

Authorship Information

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References

- Bertone, Carmela. 2011. *Fondamenti di grammatica della lingua dei segni italiana*. Franco Angeli Editore. (149-178) [3.1], (203-228) [3.2] and [3.3], (199-202; 235) [3.5.1.2]
- Corazza, Serena. 2000. Aspetti morfofonologici dei verbi in LIS. In Gran, L. e Bidoli, C.K. (ed.), *L'interpretazione nelle lingue dei segni: aspetti teorici e pratici della formazione*, 19-28. Trieste: Edizioni Università di Trieste. [3.1]
- Geraci, Carlo. 2006. Negation in LIS (Italian Sign Language). In Leah Bateman & Cherlon Ussery (eds.), *Proceedings of NELS 35*, 217–229. Amherst, MA: GLSA. [3.5]
- Mazzoni, Laura. 2012. *Classificatori e impersonamento nella Lingua dei Segni Italiana*. Pisa: Edizioni Plus – Pisa University Press. [3.1.2.3]
- Pizzuto, Elena. 2004. Aspetti morfo-sintattici. In Virginia Volterra (ed.), *La lingua dei segni italiana. La comunicazione visivo-gestuale dei sordi*, 179–209. Bologna: il Mulino. [3.1] and [3.3.2.1]
- Pizzuto, Elena, Enza Giuranna & Giuseppe Gambino. 1990. Manual and non-manual morphology in Italian sign language: grammatical constraints and discourse processes. In Ceil Lucas (ed.), *Theoretical Issues in Sign Language Research*, 83–102. Washington: Gallaudet University Press. [3.1]
- Zucchi, Sandro. 2009. Along the time line. Tense and time adverbs in Italian Sign Language. *Natural Language Semantics* 17. 99-139. Springer Science+Business Media B.V. [3.2] and [3.5.2]
- Zucchi, Sandro, Carol Neidle, Carlo Geraci, Quinn Duffy & Carlo Cecchetto. 2010. Functional markers in sign languages. In Diane Brentari (ed.) *Sign Languages*. 197-224. [3.3] and [3.5.2]

Chapter 4. Nominal inflection

The present chapter explores the morphological processes that LIS nouns can undergo to convey information of number and localization/distribution, without employing numerals, quantifiers or classifiers. These inflectional processes can be conveyed through both manual and non-manual markers affecting the morphology of nouns.

Nouns in LIS can be divided into two classes: nouns articulated in the signing space belong to the class of inflectional nouns; nouns articulated close or on the signer's body are comprised into the class of invariable nouns (see [LEXICON 3.1](#)). The possibility of displaying inflectional processes depends on both phonological and semantic constraints for both the classes of nouns. When inflectional processes are not allowed, LIS employs other strategies involving numerals (see [LEXICON 3.10.1](#)), quantifiers (see [LEXICON 3.10.2](#)) or classifiers (see [MORPHOLOGY 5](#)). We provide an example for each strategy here for ease of clarification.

a. BOOK TWELVE CL:entity-TAKE

[video example]

'I take twelve books.'

b. MAN MANY

[video example]

'Many men'

c. TABLE SAY BEFORE IX₁ ON BOOK CL:entity-BOOK-BE-LOCATED++

[video example]

'There are several books on the table I mentioned before.'

Notice that besides these strategies, plurality can be conveyed through inflection of the verb sign (see [MORPHOLOGY 3.1.2.2](#)).

4.1. Number

In these sections, we see the morphological modifications applying to LIS noun signs to convey nominal plural marking. In general, manual inflectional processes are displayed by nouns articulated in the signing space, whereas invariable nouns can convey plurality by means of numerals, quantifiers or classifiers, or through specific non-manual markers occurring simultaneously to their articulation. However, we will see that there are some exceptions affecting some nouns of both the inflectional and invariable class.

4.1.1. Manual marking

Manual marking refers to the morphological processes modifying the articulation of the signs for nouns in order to convey plurality. In general, morphological modifications are displayed by signs belonging to the class of inflectional nouns. In LIS we find three main processes: (i) reduplication and/or dislocation, in which the movement of the sign for the noun is repeated and possibly displaced within the signing space; (ii) sideward movement without reduplication; (iii) simultaneous reduplication by the non-dominant hand, leading one-handed signs to be articulated as two-handed signs in order to convey plurality. In the examples below, we see that the sign for HOUSE in is reduplicated and dislocated within the signing space in order to convey plurality (a); the sign for CHILD incorporates a sideward movement to convey the meaning CHILDREN (b), whereas the sign for PERSON conveys numerosity being articulated as a two-handed sign (c).

- | | |
|------------------------------|--|
| a. HOUSE
[video example] | HOUSE++
[video example]
'Houses' |
| b. CHILD
[video example] | CHILD
[video example]
'Children' |
| c. PERSON
[video example] | PERSON++
[video example]
'Persons' |

However, there are some signs that cannot show overt morphological marking to convey plurality despite being articulated in the neutral signs. These are: KEY, SCISSORS, PEN, PLUMBER, SALAMI, PAINT-BRUSH. These nouns cannot be reduplicated to convey information of numerosity because they are phonologically homophonous to the correspondent verb signs in all parameters but movement. Therefore, reduplication of this signs actually conveys a verbal meaning rather than plurality. We see a couple of examples below. In (a), reduplication of the sign SCISSORS results in the verb CUT-WITH-SCISSORS, whereas in (b) reduplication of the sign KEY conveys the meaning OPEN/CLOSE-MANY-DOORS.

- | | |
|--------------------------------|---|
| a. SCISSORS
[video example] | SCISSORS++
[video example]
'Cut with scissors.' |
| b. KEY
[video example] | KEY++
[video example] |

‘Open/close several doors.’

Therefore, these nouns employ numerals, quantifiers or classifiers to carry plurality features, as it happens for most of the nouns articulated on the signer’s body. See in the example (a) below the plural form of the sign KEY conveyed through the quantifier MANY, and in (b) the plural form of the sign SCISSORS conveyed through reduplication of the dedicated entity classifier.

a. KEY MANY

[video example]

‘Many keys’

b. SCISSORS CL:entity-MANY++

[video example]

‘Many scissors’

A peculiar modification is found in LIS to convey the plural of HOUR. Specifically, we see that there is no reduplication of the sign nor dislocation, but rather a modification of the movement feature of the sign, which is repeated an indefinite number of time.

HOUR

[video example]

HOUR

[video example]

‘Hours’

4.1.2. Non-manual marking

Nouns articulated close or on the signer’s body generally do not allow overt inflectional processes due to phonological constraints. However, some nouns can be marked by a specific non-manual marking in order to convey plurality: the signer repeats the articulation of the sign for the noun for at least three times, and mark each articulation through a head-nod, and a non-manual displacement moving the head from left to right. The example below shows the occurrence of this morphological process affecting the signs WOMAN and CAT in order to convey the meanings ‘women’ and ‘cats’.

a. WOMAN

[video example]

nm

WOMAN++

[video example]

‘Women’ (Pizzuto & Corazza 1996: 182)

b. CAT

nm

CAT++

[video example]

[video example]

‘Cats’

This strategy is detected only for some nouns: WOMAN, MAN, CAT, DOG, MOTHER and FATHER. However, it is not obligatory and it is usually employed to convey an additional emphatic meaning.

4.2. Localization and distribution

Besides employing classifiers (see **MORPHOLOGY 5**), information of localization and spatial distribution can be conveyed through overt morphological modifications of the articulation of the noun sign, which can be (i) dislocated within the signing space, thus being articulated in a point of the signing space which is different from the point of articulation of the sign in its citational form, and/or (ii) reduplicated. Reduplication simultaneously conveys information of both number and position, without the articulation of other elements (such as quantifiers or classifiers). In such cases, the loci of the signing space do not have grammatical functions of marking the arguments of the predicates, but they define the position of referents, thus space has an isomorphic function. In the example below, the signer specifies both number and position of the three boxes, without recurring to numerals or quantifiers.

BOX_K BOX_J BOX_N

[video example]

‘Three boxes’

When nouns cannot be displaced within the signing space due to phonological constraints (point of articulation or complex movement), to convey localization and distribution they occur with pointing signs (see **LEXICON 3.7**) or classifiers, positioning them within the signing space (see **MORPHOLOGY 5**) thus functioning as proforms. For instance, the sign MOTORCYCLE (a) is a two-handed asymmetrical sign that needs an entity classifier to display both features of number and localization, through the incorporation of a sideward movement. The sign for PEN, instead, is one of those signs whose reduplication carry verbal meaning (see **MORPHOLOGY 4.1.1**), therefore it needs a classifier to be reduplicated and located in the signing space, as in (b).

a. MOTORCYCLE CL:entity-BE-PLACED

[video example]

‘The motorcycles are (parked) there.’

b. PEN CL:entity-BE-LOCATED++

[video example]

‘There are many pens on the table.’

Information on Data and Consultants

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Authorship Information

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References

- Bertone, Carmela. 2011. *Fondamenti di grammatica della lingua dei segni italiana*. Franco Angeli Editore. (83-132) [4.1] and [4.2]
- Pizzuto, Elena. 2004. Aspetti morfo-sintattici. In Virginia Volterra (ed.), *La lingua dei segni italiana. La comunicazione visivo-gestuale dei sordi*, 179–209. Bologna: il Mulino. [4.1]
- Pizzuto, Elena & Serena Corazza. 1996. Noun morphology in Italian sign language (LIS). *Lingua* 98, 169–196. [4.1] and [4.2]
- Pizzuto, Elena, Enza Giuranna & Giuseppe Gambino. 1990. Manual and non-manual morphology in Italian sign language: grammatical constraints and discourse processes. In Ceil Lucas (ed.), *Theoretical Issues in Sign Language Research*, 83–102. Washington: Gallaudet University Press. [4.1]

Chapter 5. Classifiers

Sign language classifiers are morphologically complex handshapes which denote both animate and inanimate entities by depicting one or more salient properties: their visual-geometric characteristics, the abstract semantic category, their handling or manipulation. Classifiers belong to the non-core lexicon of sign languages in that their form is visually-motivated considering the external properties of referents, and they can display modifications in configuration which correspond to changes in meaning (see [LEXICON 1.2.1](#)). Despite being iconic, they are semantically underspecified since the very same handshape can refer to different entities which are, however, sharing some properties. They are considered bound morphemes in that they cannot occur alone, rather they must be preceded by their referent to which they are bound, functioning as proforms. However, the overt realization of the lexical sign for the referent seems to be optional in spontaneous sign discourse in LIS. Being pronominal items, they can be used as morphological devices with all types of nouns, allowing (i) to trace back to the referent within the discourse (see [PRAGMATICS 2.2.2](#)); (ii) to locate invariable nouns (see [LEXICON 3.1](#)) within the signing space in order to realize agreement. As introduced in ([MORPHOLOGY 4.1](#)), nouns articulated on the signer's body or displaying complex movement cannot be modified to carry numerosity inflection or to convey agreement, therefore they are followed by a classifier which can be displaced in space to realize agreement or be inflected for numerosity. In the example (a) below, we see that the reduplication of the classifier for BOOK conveys both information of number and location being reduplicated within the signing space; in (b), instead, the entity classifier functions as a pronoun for the sign SHOE and it is employed to realize agreement with the modifiers, which are articulated in the same locus dedicated to the classifier.

a. TABLE SAY BEFORE IX₁ ON BOOK CL:entity-BOOK-BE-LOCATED++

[video example]

'There are several books on the table I mentioned before.'

b. dom. SHOE CL:entity-SHOE_k

n-dom. CL:shape_k ALL_k COLOUR PINK_k

[video example]

'A pink shoe.'

In LIS, as in other sign languages, we detect different semantic categories of classifiers, depending on which property of the referent they convey. Specifically, we distinguish entity classifiers ([MORPHOLOGY 5.1.1](#)), bodypart classifiers ([MORPHOLOGY 5.1.2](#)), handle classifiers ([MORPHOLOGY 5.1.3](#)) and Size-and-Shape Specifiers (SASSs) ([MORPHOLOGY 5.2](#)). This last category is slightly different in that it includes classifiers

occurring in nominal domains functioning as adjectives, since they convey information about the external properties of the referent, such as its size and shape.

LIS classifiers can combine with verbal roots of motion or location, thus resulting in constructions called ‘predicate classifiers’, which indicate how the referent moves through space, how and where it is located, and/or how it is handled. We explore these constructions and the handshapes detected in LIS for each semantic category of classifiers in the following sections.

5.1. Predicate classifiers

Predicate classifiers are morphologically complex constructions resulting from the combination of a classifier handshape with a movement reproducing the path-movement or position of the entity. Specifically, the handshape that identifies the entity by denoting salient characteristics constitutes the lexical root, whereas the movement feature associated to the classifier to convey the location, movement or handling of the entity constitutes the verbal root. Movement can be towards several directions of the signing space and following different paths, thus reflecting the movement of the entity in the real world. In LIS, we identify four kinds of root:

- (i) Action/movement root: the movement of the handshape corresponds to the movement of the referent.
- (ii) Manner root: the movement associated to the classifier describes how the entity moves.
- (iii) Contact root: the movement defines the position and the spatial relation of the entity with respect to other referents.
- (iv) Stative/descriptive root: the movement of the hand(s) is necessary to convey the shape and place of the referent.

The nature of the resulting predicate depends on the classifier selected: entity classifiers realise unaccusative predicates (see SYNTAX 2.1.1.2); bodypart classifiers form unergative predicates (see SYNTAX 2.1.1.2); handling classifiers results in transitive constructions (see SYNTAX 2.1.1.1). Among the categories of classifiers, only SASSs do not form predicates: the movement they display is necessary to describe the size and shape of the referent.

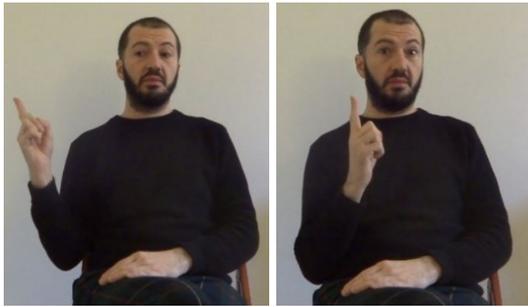
The following sections provide the inventory of the handshapes belonging to the different categories of classifiers attested in LIS. Notice that all the handshapes can modify their degree of openness or being articulated as two-handed signs or with more or less fingers selected in order to best convey the size and number features of the entity to which they refer. Moreover, the handshapes involved all belong to the phonological inventory of LIS (see PHONOLOGY 1.1).

5.1.1. Entity classifiers

Entity classifiers are handshapes denoting animate or inanimate referents as a whole, considering their shape or the semantic category to which they belong. They occur with verbs expressing the motion of the referent or its localization in space, incorporating the motion feature of the verb. Movement for localization consists in a short movement towards the plane in which the classifier is positioned in order to convey the position of the entity in space. The plane can be horizontal (for instance, a table) or vertical (for instance, a wall). On the other hand, when the predicate conveys the movement of the entity, this movement associated to the handshape can be of different kinds (straight, circle, zigzag), on different planes and towards different directions. The LIS handshapes belonging to this category are listed in the following table and described below.

 G	 4	 5	 unspread 5	 unspread V
 flat closed 5	 F	 curved closed 5	 spread curved open 5	 unspread curved open 5
 curved open L	 flat closed L	 flat open 3	 L	 Y
 curved open V	 3	 flat open L	 V	

Handshape G denotes long and narrow entities: humans, animals (snakes) or objects (pens, pencils, poles, knives, toothbrushes, branches, trees). It can convey how the entity moves in space, thus encoding a movement feature, or its position in space or with respect to other elements. It is possible to add fingers to the configuration (up to five) or to articulate it as a two-handed sign to convey both plurality and location of the entity, resulting in handshape 4 which will be described below.



CL:entity-GO

‘Person going/walking/coming in’

Handshape 4 is used to indicate that four persons are walking, or it can be used to convey plurality and location of long and narrow entities in general. To convey plurality, it can be articulated as a two-handed sign. As we see in (a) it conveys that many people are waiting in line, whereas in (b) it conveys the position of pillars forming a colonnade. Notice that the classifier predicate conveying information of location of the referent is preceded by the lexical sign for the referent, here PERSON in (a) and PILLAR in (b).



a. PERSON++
‘People waiting in line.’

CL:entity-WAITING-IN-LINE



b. PILLAR
‘The pillars form a colonnade.’

CL:entity-BE-LOCATED

Handshape 5 can be employed to refer to a crowd or to many people moving all together like in a parade. As we can see in the example below, it configures as a two-handed sign and the distance between the two hands define the size of the crowd.



CL:entity (crowd)-WALK

‘A crowd walking.’

Unspread 5 classifies flat and wide entities: vehicles (4-wheels vehicles, trains), objects (books, tables, paintings, beds, mirrors), and surfaces. It can convey both the movement (example (a)) or the location (example (b)) of an entity.



a. CAR

CL:entity-GO

‘The car is moving.’



b. SOFA

CL:entity-BE-LOCATED

‘The sofa is there.’

Unspread V can be used for flat entities, smaller than the ones denoted by the handshape above (for instance, stickers). It is mainly used to convey the position of the entity with respect to something else. In the example below, the signer conveys the position of the sticker on the cover of the book, through two different classifiers: unspread 5 indicates the book, unspread V refers to the sticker.



dom: NOUN CL:entity-BE-LOCATED
 n-dom: CL:entity-BOOK
 ‘The noun (sticker) on the book.’

Flat closed 5 is a generic classifier for positioning both persons or objects of huge dimensions (statues, trees, columns) (example (a)) or having a roundish shape (for instance the classifier for LIGHTBULB in example (b)) within the signing space or with respect to other referents.



a. STATUE CL:entity-BE-LOCATED
 ‘The statue is located there.’



b. dom: CL:entity-LAMP
 n-dom: CL:entity- BE-LOCATED
 ‘The lightbulb is inside the lamp.’

Handshape F (or curved closed 5) are employed for thin and roundish objects (poles, table-legs), or small spherical objects (little stones, buttons, wrist-clocks, money). It is also used to convey the position of the referent with respect to something else (for instance, the buttons on a jacket, the clock on the wrist). In example (a), we see that the signer is referring to the table with the left hand (the non-dominant hand) employing the

entity classifier for flat squared objects, and uses it as point of reference for the position of the table-leg, realized with the right dominant hand, moving downwards for four times, conveying the number of the table legs. In (b), the clock is positioned on the wrist through the classifier referring to the rounded shape of the clock-face.



a. dom: CL:entity++
 n-dom: CL:entity-TABLE
 ‘The four legs of the table.’



b. dom: CL:entity-CLOCK CL:entity-BE-LOCATED
 n-dom: WRIST
 ‘The clock is on the wrist.’

Spread curved open 5 is used for 3D rounded or spherical entities, fruits and vegetables, big animals (elephants), or vehicles (balloon). As other handshapes, it is used to locate objects in space being preceded by the articulation of the lexical sign for the referent. We provide an example here.



HOUSE CL:entity-BE-LOCATED
 ‘The house is located there.’

Unspread curved open 5 refers to cylindrical and curved entities (tubes, rolled-up carpets, binoculars), small containers (glasses, cups, bottles). It can be articulated as a two-handed sign to convey, for instance, a high or long entity. In the example (a) below, we can see how the two hands are denoting two different objects conveying their reciprocal positions through classifiers. In (b), instead, the classifier is articulated with both hands to convey not only shape, but also height (further marked by non-manual markers) of the pillar. Moreover, it is displaced in space to convey plurality.

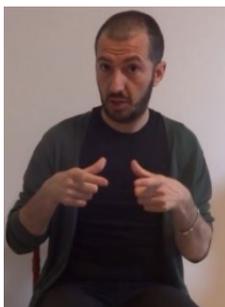


a. dom: PLATE CUP CL:entity-PLATE
 n-dom: CL:entity-PLATE CL:entity-CUP
 ‘The big cup is on a small plate.’



b. PILLAR CL:entity-BE LOCATED++
 ‘Very high pillars are located there.’

Curved open L is employed for roundish bi-dimensional objects (plates, small cups, frames, stripes). The addition of one or more fingers, thus resulting in the handshapes flat closed L, flat open 3 or unspread curved open 5 depends on the size and depth of the referent. In the example (a) below we see the classifier referring to a small plate (notice that this is an example of lexicalization of the classifier, see [LEXICON 1.3.1](#)), whereas in (b) the two hands correspond to two classifiers defining the position of the two entities to which they refer, with respect to one another.

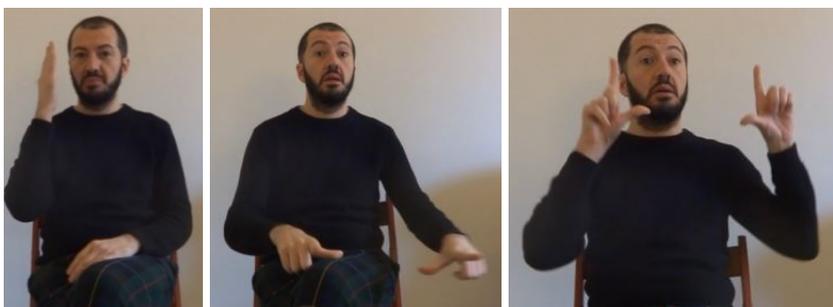


a. CL:entity-PLATE



b. dom: CL:entity-STRIPES-BE-LOCATED
n-dom: CL:entity-CARPET
'The stripes on the carpet.'

Handshape L is a classifier for squared objects (paintings, mirrors). It can be employed to convey their position in space, or in predicates as in the example below.



MIRROR

CL:entity-PICK-UP

'Pick-up the mirror.'

Handshape Y is the classifier for airplanes in general. Associated to a path-movement, it conveys the journey and the path of the airplane.

Curved open V is the classifier used to convey the position of a chair. If reduplicated or articulated with both hands, it conveys plurality.



CHAIR

CL:entity-CHAIR-BE-LOCATED

‘The chair is positioned there.’

Handshape 3 denotes two-wheels vehicles (bikes, motor-cycles). It can convey their position being displaced within the signing space through a sideward movement (example (a)), or their path-movement (example (b)).



a. MOTORCYCLE

CL:entity-BE-PARKED

‘The motorcycles are parked there.’



b. MOTORCYCLE

CL:entity-GO

‘The motorcycle is going.’

Flat closed L, flat open L, curved open L, or unspread curved open 5 can be employed to convey information about changes in length, height or volume of some entities. The handshape selected expresses a decrease or an increase, being more or less open, or display more or less fingers. For instance, they can denote a cigarette becoming shorter, a liquid that diminishes in a glass, a pile of book or papers which is reducing.

SMOKE CL:entity-CIGARETTE-REDUCE

[video example]

‘The cigarette becomes shorter while smoking.’

To this class also belong some handshapes referring to the shape of the object or instrument which is being used to realize the action. We detect some handshapes belonging to this category in LIS.

Handshape V can be an instrument classifier when denotes the object through which an action is realized (chopstick, scissors). For instance, chopsticks for Oriental food reported in the example. Notice that the verb EAT has incorporated the instrument through which the action of eating is realized, thus displaying a different configuration with respect to the citational form.



dom: CHOPSTICKS CL:entity-EAT-WITH-CHOPSTICKS

n-dom: CL:entity-BOX

‘Eating Chinese food with chopsticks.’

Handshape G denotes a toothbrush. In the example, we see that the verb BRUSH has incorporated the proper handshape for a toothbrush, thus resulting in the verb BRUSHING-TEETH.

CL:entity-BRUSH-TEETH

[video example]

‘Brushing teeth.’

Unspread 5 can be used to refer to paint-brushes used as instruments.

5.1.2. Bodypart classifiers

In LIS, some entities can be denoted considering only one feature, for instance a part of the body. As entity classifiers, bodypart classifiers appear in predicate construction to define both the location or movement of the entity they denote. The present section provides a list of handshapes functioning as bodypart classifiers in LIS, which are collected in the table below.

 unspread 5	 closed 5	 F	 unspread curved open 5	 V
 G	 curved open V	 3	 flat closed 5	

Unspread 5 denotes human's feet.

ROPE CL:bodypart-WALK

[video example]

'Walking on a rope.'

Closed 5 is employed to denote the head of human referents.

KEY FALL IX₁ TABLE IX₁ PICK-UP IX CL:bodypart-SLAM_k CL:entity-TABLE_k

[video example]

'I slammed the head into the table while picking up the keys which were fallen.'

F usually denotes eyes of human referents.

NOISE CL:bodypart-LOOK-AT

[video example]

'I heard a noise, I looked in that direction.'

Unspread curved open 5 can be employed as classifier for the mouth to convey, for instance, surprise or astonishment, as in the example below.



CL:bodypart-ASTONISHED

'Astonished'

Handshape V, oriented downward, is usually employed to denote humans walking, thus the two fingers move alternatively as legs do. It can incorporate a peculiar movement (zig-zag, straight, circle) to convey the way and the direction of the walking (example (a)). It can be also employed to denote a person lying in bed, as in example (b).



a. CHILD CL:bodypart-WALK
 ‘The child is walking.’



b. dom: CL:bodypart-LYING-IN-BED
 n-dom: C:entity-BED
 ‘A person lying in bed.’

Handshape G can be employed to denote the legs of a person while walking. It can be used when the signer wants to emphasize the way in which the person walks. It is articulated with both hands, oriented downward and the movement reflects the steps while walking.



CHILD CL:bodypart-WALK
 ‘The child is walking.’

Curved open V can denote a sitting person. It can be reduplicated and articulated with two hands to convey plurality. In the example below, the two hands denote two different referents who are sitting at a table: the right hand denotes a child, and it is further marked by peculiar non-manual markers consisting of squinted eyes and tongue protrusion, whereas the left hand denotes a man sitting at the opposite side of the table.



dom: MAN CHILD CL:bodypart-(man)-SIT
 n-dom: CL:bodypart-(child)-SIT
 ‘The man and the child were sitting (at the table).’

Handshape 3 is usually employed to denote chickens and ducks, referring to their paws. It is articulated with both hands moving alternatively and oriented downward.

CHICKEN CL:bodypart-WALK

[video example]

‘A chicken is walking.’

Closed 5 denotes animals of big dimensions (elephants, rhinoceros) referring to their paws. It is articulated with both hands moving alternatively and oriented downward.

ELEPHANT CL:bodypart-WALK

[video example]

‘An elephant is walking.’

Flat closed 5 is usually employed to convey the walking of animals of small dimensions (dogs, cats, foxes) referring to their paws. It is articulated with both hands moving alternatively and oriented downward.

DOG CL:bodypart-WALK

[video example]

‘A dog is walking.’

5.1.3. Handle classifiers

Handle (also called handling classifiers) classifiers combine with verbs referring to the holding or manipulation of referents. They form transitive predicates in which they represent the part of the object which is being handled, and the event of handling. The present table provides a list of handshapes functioning as handle classifiers in LIS, which will be described below.

 curved open G	 curved open V	 F	 curved closed 5	 flat open 5
 unspread curved open 5	 closed 5	 closed G		

Curved open G and curved open V are used to indicate that an object is hung somewhere. The example refers to a painting hanging to a nail on the wall.



PAINTING

CL:handle-HANG

‘The painting is hanging on the wall.’

Handshape F denotes the handling of thin and light entities (pens, pencils, flowers, papers, cups by the handle). In the example below, we see that the cup is located on the table through a classifier denoting its handle.



dom: CUP

CL:handle-BE-LOCATED

n-dom: CL:entity-TABLE
'The cup is on the table.'

The above handshape is also found with all the fingers slightly closed or completely closed (curved closed 5). As we can see in the example, the left dominant hand of the signer conveys the handling of a sheet.



SHEET

CL:handle-HOLD

'(The child) is walking holding the sheet.'

Flat open 5, more or less open, and the unspread curved open 5 are used when thick objects are being handled (big books, bricks).



BOOK

CL:handle-TAKE

'Picking a book (from the bookshelf).'

Closed 5 mainly denotes the handling of bags and suitcases (this is also an example of lexicalized classifier defining the lexical sign for SUITCASE or BAG, see [LEXICON 1.3.1](#)).



CL:handle-PICK-UP

'Picking up a (heavy) suitcase.'

Closed G can be used to refer to little and light objects like keys, but also for bigger entities like doors being opened (example (a)) or paintings being hung up (example (b)).



a. DOOR

CL:handle-OPEN

‘Opening a door.’



b. PAINTING

CL:handle-HANG

‘Hanging up a painting.’

5.2. Size-and-Shape Specifiers (SASS)

Information on Data and Consultants

The descriptions in this section are based on the references below. For information on data and consultants see the references. The video clips and images exemplifying the linguistic data have been produced by LIS native signers involved in the Sign-Hub Project.

Authorship Information

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References

- Bertone, Carmela. 2011. *Fondamenti di grammatica della lingua dei segni italiana*. Franco Angeli Editore. (59-82) [5.1]
- Corazza, Serena. 1990. The Morphology of Classifier Handshapes in Italian Sign Language (LIS). In Ceil Lucas (ed.), *Sign Language Research: Theoretical Issues*, 71-82. Washington D.C.: Gallaudet University Press. [5.1]
- Geraci, Carlo. 2009b. Real World and Copying Epenthesis: The Case of Classifier Predicates in Italian Sign Language. In Anisa Schardl, Martin Walkow & Muhammad Abdurrahman (eds.), *Proceedings of NELS 36*, 237–250. Amherst, MA: GLSA. [5.1]
- Mazzoni, Laura. 2012. *Classificatori e impersonamento nella Lingua dei Segni Italiana*. Pisa: Edizioni Plus – Pisa University Press. (119-146) [5.1]
- Pietrandrea, Paola. 2002. Iconicity and Arbitrariness in Italian Sign Language. *Sign Language Studies*, 2(3), 296-321.

Syntax

Chapter 1. Sentence types

A sentence is a unit in which words are grammatically linked to make a statement or to describe something (typically via a declarative sentence), to express a command (typically via an imperative sentence), to elicit information from an addressee (typically via an interrogative sentence), or to convey surprise (typically via an exclamative sentence). Sentences can be classified according to two main dimensions: their type (declaratives, imperatives, interrogatives, and exclamatives) and their internal complexity. A sentence is simple when it consists of a single independent clause ('Gianni arrived on time'), while it is complex when it consists of a main and a subordinate clause ('I think that Gianni arrived on time') or of two (or more) coordinate clauses ('Gianni arrived on time but Maria arrived late'). In principle, the number of subordinated clauses is unlimited ('Gianni said that I think that Maria claimed that Piero is convinced that you arrived on time') although in practice there are limitations of the sentence length due to cognitive limitations (for example, working memory).

The most prominent categorization of sentences is according to their function: declarative, interrogative, imperative, and exclamative.

1.1. Declaratives

Declarative sentences are used to express statements, to make something known, to explain, or to describe. The typical declarative sentence contains at least a predicative nucleus consisting of a subject and of a predicate.

GIANNI SMART

[video example]

'Gianni is smart.'

MARIA CHOCOLATE BUY

[video example]

'Maria bought chocolate.'

In these sentences the property of being smart is predicated of Gianni, and the property of buying chocolate is predicated of Maria.

However, there can be elliptical sentences with a minimal structure. In the following question-answer pair, the single word utterance GIANNI can be considered a sentence as long as it is interpreted as the elliptical version of 'Gianni arrived late.'

A: ARRIVE LATE WHO

B: GIANNI

[video example]

'Who arrived late? Gianni.'

Declaratives can be simple sentences as above or more complex constructions. For example, two declaratives can be coordinated.

MARIA CAT LIKE BUT DOG HATE

'Maria likes cats but hates dogs.'

A declarative sentence can be embedded under another declarative sentence.

GIANNI THINK MARIA CHOCOLATE BUY

'John thinks Maria bought chocolate.'

Declaratives can be affirmatives and negatives. An affirmative or positive sentence is used to express the validity or truth of a basic assertion while a negative sentence expresses its falsity. This quality of meaning is often referred to as negative and positive polarity. Negative sentences are illustrated below.

a. MARIA CAT SEE NOT

'Maria does not like cats.'

b. WINE BUY NOBODY

'Nobody bought wine.'

Declaratives are the unmarked or most neutral type of sentence in comparison to the other three types. As such, they are the compass for examining various grammatical structures. Our description of interrogative, imperative and exclamative sentences will explain how they differ from declaratives.

1.2. Interrogatives

The term interrogative refers to a grammatical form that is specialized for the following main uses:

(i) to ask whether a certain state of affairs holds:

_____ y/n
A: GIANNI ARRIVE

B: YES

[video example]

'Did Gianni arrive? Yes.'

(ii) to elicit information from the addressee:

wh

A: GIANNI BUY WHAT
B: WATER

[video example]

‘What did John buy? Water.’

(iii) to report a doubt:

wh

a. IX₁ WONDER-THINK GIANNI BUY WHAT

[video example]

‘I wonder what John bought.’

b. IX₁ WONDER-THINK GIANNI WINE BUY

[video example]

‘I wonder whether Gianni bought wine.’

It is possible to distinguish between:

(i) polar interrogatives are sometimes called yes/no interrogatives because they ask whether a certain state of affairs holds or not, so they are naturally answered by ‘yes’ or ‘no’. A direct polar interrogative in LIS is the following:

y/n

SICK IX₂

[video example]

‘Are you sick?’

while an indirect polar interrogative is the following:

y/n

IX₁ WONDER-THINK GIANNI SICK

[video example]

‘I wonder whether Gianni is sick.’

(ii) alternative interrogatives, which present two or more options for the reply. The following are different realisations of alternative interrogatives:

a. WANT COFFEE OR TEA

[video example]

‘Do you prefer coffee or tea?’

b. COFFEE TEA WANT WHICH

[video example]

‘Do you prefer coffee or tea?’

c. buoy ICE-CREAM WATER WANT WHICH

[video example]

‘Do you prefer ice-cream or water?’

while an indirect alternative interrogative is:

GIANNI₃ IX₁ ASKED₃ WANT WHICH COFFEE OR TEA

[video example]

‘I asked Gianni whether he prefers coffee or tea.’

(iii) content interrogatives, which elicit a more elaborate answer than ‘yes’ or ‘no’ because they are used to ask the addressee to fill in some specific missing information.

In LIS, as in many languages, they contain a specialized set of interrogative words or phrases. Since in English most of these interrogatives contain the morpheme *wh*-, content interrogatives are sometimes called *wh*-interrogatives.

A direct content interrogative in LIS is:

_____ wh

A: IX₂ BUY WHAT

B: ICE CREAM

[video example]

‘What did you buy? Ice cream.’

while an indirect content interrogative is:

_____ wh

IX₃ ASKED IX₁ BUY WHAT

[video example]

‘He asked me what I bought.’

1.2.1. Polar interrogatives

Polar interrogatives may differ from declaratives only for the presence of certain non-manual markers. For example, the two sentences below are distinguished only by the presence of the yes/no non-manual marking (raised eyebrows).

IX₃ CINEMA GO

[video example]

‘He will go to the cinema.’

_____ y/n

IX₃ CINEMA GO IX₃

[video example]

‘Will he go to the cinema?’

However, polar interrogatives may be distinguished from declaratives also by the presence of the sign YES/NO in sentence final position.

_____ y/n

IX₂ PIZZA WANT YES/NO

[video example]

‘Do you want pizza?’

In polar interrogatives, the subject pronoun naturally occurs at the end of the sentence:

_____ y/n

PIZZA WANT IX₂

[video example]

‘Do you want pizza?’

The subject pronoun can be doubled, namely it can occur both at the beginning and at the end of the sentence. This happens in the following question, in which a modification of non-manual marking denotes surprise for the fact that the interlocutor is eating pizza (but doubling does not seem to be restricted to these cases).

_____ y/n

IX₂ PIZZA WANT IX₂

[video example]

‘Do you want pizza?’

1.2.1.1. Non-manual markers in polar interrogatives

Polar interrogatives occur with specialized non-manual markers, which include facial expressions such as eye contact with the addressee and eyebrow raise. A change in head and body orientation, head nod, and head shake can also occur.

1.2.1.2. Word order changes between declaratives and polar interrogatives

Although word order in polar interrogatives has not been systematically investigated, polar interrogatives are not distinguished from declarative by word order change but mainly by non-manual marking.

1.2.1.3. Interrogative particles

An interrogative particle is a sign whose unique function is to indicate that an utterance is an interrogative. Clear cases of interrogative particles in polar interrogatives have not been reported for LIS, although the sign YES/NO that may occur in sentence final position is a possible candidate, whose status deserves further examination.

1.2.2. Alternative interrogatives

1.2.3. Content interrogatives

1.2.3.1. Non-manual markers in content interrogatives

The main non-manual marker used in content interrogatives is furrowed eyebrow. Interrogative signs always occur with this non-manual marker but it can extend over a bigger portion of the interrogative sentence, so the following sentences are all attested.

_____ wh
a. IX₂ WORK WHERE
[video example]
'Where do you work?'

_____ wh
b. IX₂ WORK WHERE
[video example]
'Where do you work?'

1.2.3.2. List of *wh*-signs

LIS contains a full paradigm of interrogative signs. These include:

a. wh
WHAT
[video example]

b. wh
WHICH
[video example]

c. wh
WHO
[video example]

d. wh
WHY
[video example]

e. wh
WHEN (first variant)
[video example]

f. wh
WHEN (second variant)
[video example]

g. wh
WHERE
[video example]

h. wh
HOW (first variant)
[video example]

i. wh
HOW (second variant)
[video example]

j. wh
HOW-MANY
[video example]

Another sign commonly found in LIS interrogatives is the one glossed Q_{ARTICHOKE}.



The sign $Q_{ARTICHOKE}$

The meaning of $Q_{ARTICHOKE}$ can be recovered by looking at its role in the sentence. For example, $Q_{ARTICHOKE}$ corresponds to the animate subject in the following sentence, so it naturally translated by ‘who’.

_____ wh
A: ARRIVE $Q_{ARTICHOKE}$
B: GIANNI
[video example]
‘Who arrived? Gianni.’

$Q_{ARTICHOKE}$ corresponds to the inanimate subject in the following sentence, so it naturally translated by ‘what’.

_____ wh
A: HAPPEN $Q_{ARTICHOKE}$
B: GIANNI FALL
[video example]
‘What happened? Gianni fell down.’

$Q_{ARTICHOKE}$ can play other grammatical roles, as in the following sentence:

_____ wh
POSS₂ CAR BROKEN $Q_{ARTICHOKE}$
‘Where did your car break?’

Another way to single out the specific meaning of $Q_{ARTICHOKE}$ is to look at the mouthing it is associated to. $Q_{ARTICHOKE}$ may be co-articulated with some vowels or consonants present in the corresponding Italian *wh*-word. For example, in the following sentence the mouthing reproducing the consonant [p] present in the corresponding Italian *wh*-phrase *perché* (‘why’) is produced simultaneously with $Q_{ARTICHOKE}$.

wh
IX₂ LEAVE Q_{ARTICHOKE}
'Why are you leaving?'

In the following sentence, the mouthing producing the sound [ku] present in the corresponding Italian *wh*-phrase *quando* ('when') is produced simultaneously with Q_{ARTICHOKE}.

wh
IX₂ LEAVE Q_{ARTICHOKE}
'When are you leaving?'

1.2.3.3. Content interrogatives without *wh*-signs

Content interrogatives without *wh*-signs are possible in LIS. In the following sentence, the utterance is marked as interrogative by the presence of interrogative non-manual marking.

wh
A: TIME
B: SEVEN
[video example]
'What time is it? Seven.'

Wh-signs are usually left out when the specific interrogative meaning can be recovered from the context.

1.2.3.4. Non-interrogative uses of *wh*-signs

1.2.3.5. Position of *wh*-signs

The *wh*-phrase (possibly formed only by the *wh*-sign) plays a grammatical function in the interrogative sentence, e.g. subject, direct object, indirect object, or adverbial modifier. No matter what grammatical function the *wh*-phrase plays, the dedicated position for *wh*-phrases is sentence-final. Therefore, even if the neutral order in a declarative sentence is Locative - Subject - Object - Verb as in (a), this order changes if a *wh*-sign is present, since the latter moves in sentence final position, no matter if it is the subject as in (b), the direct object as in (c), or the locative as in (d). In all these sentences, the verb is followed by an aspectual marker, *DONE*, which indicates that the event is concluded.

a. MILAN GIANNI HOUSE BUY DONE

[video example]

‘Gianni bought a house in Milan.’

_____ wh

b. MILAN HOUSE BUY DONE WHO

[video example]

‘Who bought a house in Milan?’

_____ wh

c. MILAN GIANNI BUY DONE WHAT

[video example]

‘What did Gianni buy in Milan?’

_____ wh

d. GIANNI HOUSE BUY DONE WHERE

[video example]

‘Where did Gianni buy a house?’

Also in *wh*-interrogatives it is possible to repeat the subject pronoun. When this happens, the subject pronoun follows the *wh*-sign, so the latter is not strictu sensu sentence final.

_____ wh

IX₂ LIVE WHERE IX₂

[video example]

‘Where do you live?’

The dedicated position for the *wh*-phrase is sentence-final in embedded interrogatives as well.

_____ wh

IX₁ WANT-TO-KNOW HOUSE BUILD WHO

[video example]

‘I want to know who built the house.’

1.2.3.6. Split between the *wh*-sign and its restriction

A *wh*-sign and its restriction (namely, the noun or the noun phrase that the *wh*-sign modifies) may split. When splitting takes place, the *wh*-sign sits in sentence-final

position while its restriction stays in the position which corresponds to its grammatical function (the subject position in the following sentence).

_____ wh

BOY BOOK THREE STEAL WHICH
'Which boy stole three books?' (adapted from Cecchetto et al. 2009: 285)

1.2.3.7. Doubling of the *wh*-sign

In LIS, it is possible to find cases where a content interrogative contains two copies of the same *wh*-sign, as in the following example. The non-manual component can either occur with the *wh*-signs only, or optionally spread over the whole clause.

_____ wh _____ wh

WHAT YESTERDAY IX₂ STEAL WHAT
'What did you steal yesterday?'

When doubling takes place, one *wh*-sign sits in sentence-initial position while the other one sits in the canonical sentence-final position. Sentences with doubling can be naturally used in certain contexts only if the question presupposes that there is someone or something that is the answer to this question. For example, the sentence above is natural if the signer is playing the role of a police officer who has arrested a suspect. During the interrogation, the suspect admits to have stolen something. In that context, the police officer can happily utter that sentence because it is given for granted that there is some object that has been stolen.

Another attested case of doubling takes place when Q_{ARTICHOKE} combines with another *wh*-sign. As the following examples show, the *wh*-sign and the Q_{ARTICHOKE} preferably occur in sentence-final position with the order 'wh-sign – Q_{ARTICHOKE}'.

_____ wh

a. ARRIVE WHO Q_{ARTICHOKE}
'Who arrives/has arrived?'

_____ wh

b. IX₂ DO WHAT Q_{ARTICHOKE}
'What are you doing/did you do?'

1.2.3.8. Multiple *wh*-signs in interrogatives

There are languages in which more wh-signs occur in a single interrogative when the addressee is asked to provide multiple pieces of information. One example from English is ‘Where did you buy what?’ whose answer would be a statement such as ‘I bought the vegetables at the grocery store and the meat at the butcher.’ The presence of this type of interrogatives has not been reported for LIS.

1.2.3.9. Interrogative particles

An interrogative particle is a sign whose *unique* function is to indicate that an utterance is an interrogative. As wh-signs in LIS have a specific meaning (What? When? Where?, etc.) they do not qualify as interrogative particles. An exception might be Q_{ARTICHOKE}. As its meaning is underspecified in absence of a disambiguating mouthing, it might be analysed as an interrogative particle, especially if mouthing is analysed as external to the core meaning of this sign.

1.3. Imperatives

An imperative is a grammatical form that is specialized to elicit a behavior from the addressee, so imperatives and commands are often taken to be synonymous. However, this identification is not fully correct, because sometimes non-imperative sentences can be used to express a command and, conversely, an imperative can be used for functions other than commands. Still, LIS has grammaticalised forms that are *typically* associated with commands and these forms are the topic of the present section.

1.3.1. Subtypes of imperatives

As previously mentioned, the imperative is not used only for commands. In LIS, the same form that is used to give orders is also used for other functions, which may not be obviously related. Typical uses of imperatives include at least:

- (i) invitations
- (ii) suggestions/advice
- (iii) permission
- (iv) instructions
- (v) recommendations

1.3.1.1 Orders

The most obvious subtype of imperatives includes positive and negative orders. Orders express the will of the speaker for someone to do or not do something. An example of a sentence expressing an order in LIS is offered below.

_____ fe
 EAT PALM-UP
 [video example]
 ‘Eat!’

In this sentence, the verb EAT is immediately followed by a specific sign, glossed PALM-UP, illustrated in the following image.



The sign PALM-UP

PALM-UP, which can be considered as a manual marker of the imperative is optionally present in LIS positive imperative sentences and is produced with the palm facing upwards and spatially agrees with the locus associated with the person the command is given to. When used to convey a command, PALM-UP is produced with a short straight tensed movement.

When the address is plural, PALM-UP is produced with an arc-movement. The following video illustrates the contrast between singular and plural PALM-UP.

_____ re _____ re
 EAT PALM-UP_{sing} EAT PALM-UP_{plur}
 [video example]
 ‘You guy eat! You guys eat!’

A different sign (glossed MOVIMP) surfaces in LIS imperative sentences when the addressee must move to a different position to obey the command.

The MOVIMP sign, which is illustrated in the following picture, displays an arc movement towards a locus associated to the signer’s left or right area in signing space (but for some signers MOVIMP displays a B handshake if the addressee is plural).



The sign MOVIMP

The following is an imperative sentence with MOVIMP.

_____ fe
SLEEP MOVIMP
[video example]
'Go to sleep!'

As suggested by the translation, the addressee must move to a different position in order to obey the command.

MOVIMP occupies a postverbal position, just like PALM-UP. However, MOVIMP and PALM-UP can never co-occur in the same sentence. This suggests they realize the same function in LIS imperative sentences, although MOVIMP is more specialized, since it implies that the addressee must make a movement to obey the command.

The manual signs glossed as MOVIMP and PALM-UP are not the only elements marking the imperative in LIS. A crucial syntactic component of LIS imperative sentences is the presence of specific non-manuals, although what non-manual is produced in imperatives is subject to individual variation. In fact, non-manual marking is sufficient to indicate a command in absence of imperative manual signs, as in the following sentence, where the relevant non-manual marking is furrowed eyebrows.

_____ fe
KNEEL-DOWN
[video example]
'Kneel down!'

1.3.1.2. Invitations

Imperatives may also take the form of an invitation when someone is warmly encouraged to do something. As opposed to orders, invitations are expressions of politeness. An example of a LIS sentence expressing an invitation is provided below.

_____sq
_____fe
2TAKE3 PALM-UP
[video example]
'Take it.'

In this sentence, the signer is inviting his guest to have a piece of cake. When used to express an invitation, PALM-UP displays a longer arched relaxed movement. As for non-manual markers, invitations are accompanied by furrowed brows and squinted eyes (plus a head nod).

1.3.1.3. Suggestions/advice

Suggestions and advice also fall into the wider category of imperatives whose main goal is to advise the addressee on what is best for him/her to do in order to get a better result or to improve his/her situation. A suggestion/advice is illustrated below. In the video the signer is inviting the addressee to buy powdered milk. The video contains an imperative sentence ("buy it") followed by a declarative sentence ("the powder one is convenient").

_____fe
BUY PALM-UP (pause) POWDER CONVENIENT
[video example]
'Buy it. The powder one is convenient.'

In this sentence, PALM-UP agrees with the object. As for non-manual markers, suggestions are produced with furrowed brows (plus a head nod).

1.3.1.4. Permissions

This subvariety of imperatives expresses an authorization, and may be a reply to a request, as in 'May I take your pen?'. 'Yes, take it!'. An example of a LIS sentence expressing permission is provided below. The video contains an imperative sentence ("take it") followed by a noun phrase uttered in isolation ("the pen").

_____protruding-lips
_____fe
2TAKE3 PALM-UP (pause). PEN
[video example]
'Take it! The pen.'

Also in this sentence, PALM-UP agrees with the object and the addressee. As for non-manual markers, permissions are marked by furrowed brows and protruding lips.

1.3.1.5. Instructions

Another subtype of imperative sentences is produced when the speaker gives instructions guiding his/her interlocutor on how to carry out a specific action such as building, cooking, reaching a destination, or any other performance. This is illustrated by the sentence below. The video contains an imperative sentence (“buy it”) followed by a declarative sentence (“the powder one is convenient”).

_____sq
BOX TAPE CL-CUT (pause) CL:OPEN
[video example]
‘Cut the box’s tape and open it.’

In this sentence, imperative is indicated only by the non-manual markers, squinted eyes.

1.3.1.6. Recommendations

The imperative form may also be employed to express a recommendation to do or not to do something, for example if the speaker has a concern that a future event can damage the interlocutor, as in the following sentence.

_____fe
CL:DRIVE-MOTORBIKE-FAST NOT CL:DRIVE-MOTORBIKE RIGHT KNOW CL RIGHT
[video example]
‘Don’t go fast with your motorbike, drive at the right speed!’

In this sentence as well, the only marker of imperative is the non-manual marking, namely furrowed eyebrows.

1.3.2. Imperative markers

In this section, we summarise what we already said about manual markers in the different types of imperatives.

1.3.2.1. Manual signs

As shown in the examples provided in the previous section, and as confirmed by the use of PALM-UP in the Imperative-and-Declarative (IaD) construction described in SYNTAX 1.3.9, PALM-UP can occur with many different uses of the imperative. In this sense, it is not a pragmatic marker of command, but a grammatical marker of the imperative verb.

PALM-UP seems to have a more restricted distribution because it is when which is used when the addressee must move to a different position to obey a given command. Neither MOVIMP nor PALM-UP is obligatory in interrogative sentences, as non-manuals are sufficient to signal the interrogative force. For example, the following video contains two imperative sentences. The first one (“wake up!”) contains no manual marker of imperative force while the second one (“go to eat!”) contains MOVIMP.

fe

IX₂ WAKE-UP (pause). EAT MOVIMP
[video example]
‘Wake up! Go to eat!’

1.3.2.2. Non-manual markers

We indicated specific non-manual markers for the various types of imperatives in section 1.3.1. The spreading domain of non-manual markers refers to their extension over the manual signs they co-occur with. The non-manual markers for the imperative are not limited to the signs PALM-UP or MOVIMP (when it is present), but extend over the verb and its arguments. Although, non-manual markers are subject to individual variations (possibly being influenced by emotive facial expressions that commonly occur with imperative sentences) some marked facial expression is always found in the imperative.

1.3.3. Imperatives and verb classes

1.3.4. Word order in imperatives

The main fact to be noticed about word order in imperatives is the position of PALM-UP or MOVIMP, which must immediately follow the verb. The non-marked SOV word order (SYNTAX 2.3) is preserved in LIS imperative sentences.

1.3.5. Attention callers

Since imperatives are means for eliciting a specific behaviour from the addressee, imperative clauses are frequently preceded or accompanied by the attention getters, as the one below.



An attention-caller sign

The use of this sign is not limited to imperative constructions. Indeed, it is used anytime a signer needs to call for attention (e.g. before making an important announcement to a group of signers).

1.3.6. Negation in imperatives

When a negative order is expressed in LIS, there are some interesting differences with respect to positive imperatives. Both declarative and imperative clauses employ a manual sign for negation (glossed NOT in the examples) displaying the same handshape but differing in its movement realization. In negated declaratives, the manual sign produced with an extended index finger displays a short right-to-left repeated movement, as in (a), while in negative imperatives it is produced with a single tensed and wide movement, as in (b).

- $\frac{\text{hs}}{\text{fe}}$
- a. IX₃ EAT NOT
 [video example]
 'He doesn't eat'

- $\frac{\text{hs}}{\text{fe}}$
- b. EAT NOT!
 [video example]
 'Don't eat!'

1.3.6.1. Manual negation

Manual signs conveying the imperative, such as PALM-UP sign or the MOVIMP sign are incompatible with negation. The imperative force is thus deduced from the marked form of manual and non-manual negation

1.3.6.2. Non-manual negation

Marked facial expression are obligatory in negative imperatives.

1.3.7. Subjects in imperatives

The section is dedicated to the subject in the imperative sentence.

1.3.7.1. Null and/or overt subjects

Null subjects seem to be the preferred option in LIS imperative sentences.

WAKE-UP EAT MOVIMP

[video example]

‘Come on. Go eat!’

1.3.7.2. The person of the subject

Overt subjects can occur but, as opposed to declaratives, LIS imperative sentences only allow the overt production of 2nd person subjects or of subjects including the addressee.

IX₂ WAKE-UP EAT MOVIMP

[video example]

‘Come on. Go eat!’

1.3.7.3. Anaphoric properties

1.3.8. Embedding imperatives

The examples of imperatives described up to now are cases where the imperative sentence is a root clause. No case of embedded imperative has been described yet. However, this is an area which is under-investigated.

1.3.9. Special constructions: Imperative-and-Declarative (IaD)

Imperative-and-Declarative (IaD) is a very peculiar construction where an imperative is used in conjunction with a declarative clause, but this does not imply any order or even permission. This construction is illustrated by a sentence like “Go on like this and you will fail”. In this example, the imperative does not convey any order or suggestion but, rather, is very similar to a conditional clause (‘If you go on like this, you will fail.’). Since this use of the imperative is systematic across languages, the Imperative-and-Declarative construction has even been claimed to be a proper test for imperatives. LIS has the Imperative-and-Declarative construction, as shown in the example below which contains the imperative sign PALM-UP.

 te
LAUGH PALM-UP GO OUT
[video example]
‘Keep laughing and you go out!’

The sentence-initial clause of the sentence above is marked by specific non-manual marking roughly composed of tensed eyes (‘te’) and cheeks and repeated head nodding. The non-manuals marking in this sentence, together with the sign PALM-UP, are responsible for the peculiar interpretation of the sentence, which is minimally different in meaning from the conditional sentence below, which, however, lacks the sign PALM-UP and is marked by the typical non-manuals of conditional clauses in LIS ([SYNTAX 3.5.1](#)).

 cond
LAUGH GO OUT
[video example]
‘If you laugh, you will go out.’

1.3.10. Exhortative constructions

1.4. Exclamatives

1.4.1. Total exclamatives

1.4.1.1. Non-manual marking

1.4.1.2. Manual signs

1.4.2. Partial exclamatives

1.4.2.1. Non-manual marking

1.4.2.2. *Wh*-signs

1.4.2.3. Other structures

1.4.3. Negation in exclamatives

1.5. Negatives

Every natural language has a way to express negation by using a multitude of markers, such as particles, negative words and affixes. There is an extensive variety in the number and in the use of negative markers, in their syntactic status and in their position in the clauses. Moreover, negation varies in the way it interacts with different types of sentences.

We can make a distinction on the basis of scope, that is the actual parts of the sentence which are affected by negation. So, we can distinguish between sentential/clausal negation and constituent/local negation. We have a sentential/clausal negation when the negative marker takes scope over the whole clause (as in ‘John didn’t finish his paper’), whereas we have a constituent/local negation when the scope is confined to a particular constituent of the clause (as in ‘John finished his paper not long ago’).

Sentential negation in LIS use manual markers and non-manual markers.

1.5.1. Manual marking of negation

In LIS, negative particles, n-words and irregular negatives are used to express negation. An example of negative particles is the following:

DANIELE EAT NOT
'Daniele does not eat.'

Here we can find an example of a n-word:

DANIELE EAT NOTHING
'Daniele does not eat anything.'

Finally, here it is an example of an irregular negative:

DANIELE SPORT LIKE-NOT
'Daniele does not like sports.'

1.5.1.1. Manual negative elements

For manual negative elements see also [MORPHOLOGY 3.5.1.1](#) and [LEXICON 3.11.1](#).

1.5.1.1.1. Negative particles

LIS has several signs to express negation manually. The most common one is a sign glossed as NOT, realized by the index finger handshape (G handshape), the palm facing outward and a slight side-to-side movement of the hand. It appears as in the video below:

NOT
[\[video example\]](#)
'not'

Another way to express negation is the sign glossed as NEG. It is a symmetrical sign formed by the two hands with the same configuration (F configuration): the movement is similar to the one in NOT, rapid and left to right, as showed below.

NEG
[\[video example\]](#)
'not yet'

The two signs are different phonologically but also from a semantic point of view: the marker NEG is a presuppositional negative marker, namely it is used when there is an expectation that action that is negated should take place (the meaning is similar to ‘not yet’).

They both can be used as answer to yes/no question, as in the examples below:

- a. GIANNI CALL DONE
‘Did Gianni phone?’ (Geraci 2006: 3)

- b. GIANNI CALL NOT
‘Gianni has not called.’ (Geraci 2006: 3)

- c. GIANNI CALL NEG
‘Gianni has not called yet.’ (Geraci 2006: 4)

As to their distribution, they occupy the post-verbal position as shown in the two following examples:

- a. GIANNI ARRIVE NOT
‘Gianni has not arrived.’ (Geraci 2006: 4)

- b. GIANNI ARRIVE NEG
‘Gianni has not arrived yet.’ (Geraci 2006: 4)

They also appear after the modal verbs, as in the example below:

GIANNI EXIT MUST NOT
‘Gianni must not exit.’

Only one negative marker at a time can appear in a sentence.

The sign NEG has two different variants that can be glossed with NEG_VAR1 and NEG_VAR2. So, when we use the gloss NEG, we refer to both the variants without specification. NEG_VAR1 is the variant seen above, while NEG_VAR2 is a variant mainly used in northern Italy, that can be seen in the video below.

NEG_VAR2
[video example]
‘not yet’

The two variants do not differ semantically and their position in the sentence is the same.

Other two solutions used to express negation are the signs that we will gloss as OOO and SSS, for the oral articulations that accompany their manual realization.

The sign OOO is a symmetrical sign formed by the two hands with F handshape. The two hands perform one rapid and strong movement, from the center to the outside, as in the video below:

OOO

[video example]

This negation has a more radical and incisive meaning than that of the sign NOT: it refers to something that should have happened but that did not happen, as in the example below.

LAST-WEEK IX₁ MUST COME IX₁ OOO WHY SICK

[video example]

‘Last week I should have come, but I did not because I was sick.’

The other negation, glossed as SSS, has the same configuration of the sign OOO, but the movement is less tense and slower and it differs for the oral articulation, as it can be seen from the following video.

SSS

[video example]

This sign refers to an action that a person could not do at all, like in the example below.

IX₁ BABY WATCH IX₁ WORK SSS

[video example]

‘I watched the baby so I did not work for nothing.’

There is one more negation with the meaning of a prohibition. It is realized by signing the two letters of the fingerspelling N and O and by the oral articulation of the word ‘no’. The sign N-O can be seen below.

N-O

[video example]

Below we can see an example of its use:

IX₁ REPEAT+++ IX₁ SAY N-O, ENOUGH

[video example]

‘I repeated many times, I say no and that’s it.’

1.5.1.1.2. Irregular negatives

Irregular negatives are a group of predicates that incorporate negation in a transparent way or opaquely. Transparent irregular negatives are signs where a negative morpheme has been added, either by simultaneous or sequential morphology (see **MORPHOLOGY 3.5.1.1.**)

An example of transparent irregular negative is the verb KNOW^NOT, where the sign KNOW incorporates the morpheme NOT by a sequential movement, as in the video:

KNOW^NOT

[video example]

STREET GO WHERE KNOW^NOT

[video example]

‘I don’t know where the street leads.’

Opaque irregular negatives (see **MORPHOLOGY 3.5.2.**), on the other hand, correspond to existing non-negated signs that have no obvious morphological relation to their counterparts.

The following are examples of opaque irregular negatives.

a. WANT-NOT

[video example]

b. LIKE-NOT

[video example]

c. CANNOT

[video example]

We show below sentences containing these opaque irregular negatives.

a. PERSON IX₁ COMMUNICATE IX₁ WANT-NOT

[video example]

‘I don’t want to communicate with that person.’

b. MUSIC RAP IX₁ LIKE-NOT

[video example]

‘I don’t like rap music.’

c. IX₁ WORK GO CANNOT

[video example]

‘I cannot go to work.’

This last case deserves a deepening. In LIS, there are two verbs whose meaning is very similar. The first is a verb that we will gloss as POSSIBLE, whose meaning is: ‘be able to’, ‘have the possibility of’ and express the personal abilities and possibilities, in addition of a general state of possibility. In its negative form, it can indicate that an action cannot be done because there are rules that cannot be ignored. It can be negated by adding the sign NOT after the verb. In the following video, we can see the verb and its negative form.

POSSIBLE, POSSIBLE NOT

[video example]

The following video shows an example of POSSIBLE NOT.

ROOM INSIDE SMOKE POSSIBLE NOT

[video example]

‘You cannot smoke in the room.’

The second is a verb that we will gloss as CAN. As seen above, this one has a negative irregular form, where the sign NOT is incorporated into the sign CAN. In the video below, we can see the sign CAN and its negative form, which we will gloss as CANNOT.

CAN, CANNOT

[video example]

Differently from the sign POSSIBLE NOT, the sign CANNOT refers to a factual impossibility, an external impediment, as it can be seen by the example below.

COMPUTER IX₁ TURN-ON CANNOT

[video example]

‘It is impossible to turn on the computer.’

There are other two irregular verbs to express the impossibility. One is the sign that can be glossed as IMPOSSIBLE-PAPA, for the oral articulation that takes place when the sign is performed. The video illustrates the sign:

IMPOSSIBLE-PAPA

[video example]

It refers to a situation when, after several attempts, the desired result cannot be achieved, like in the following example:

OUTSIDE WIND STRONG IX₁ CIGARETTE LIGHT IMPOSSIBLE-PAPA

[video example]

‘Outside there is a strong wind, so I try in vain to light a cigarette.’

Another sign has a similar meaning but even stronger and it can be glossed as IMPOSSIBLE-NO-WAY.

IMPOSSIBLE-NO-WAY

[video example]

It indicates that there is no possibility at all to carry out an action or that a situation has no way out, as it can be seen in the example below.

TODAY WORK FINISH BY-TODAY IX₁ IMPOSSIBLE-NO-WAY

[video example]

‘There is no chance that I will finish the job by today.’

There is one more irregular negative predicate, that is the negative form of the verb indicating existence. The verb (glossed with EXIST) can be seen in the video below.

EXIST

[video example]

It is also used to indicate possession, like in the following sentence:

DAVIDE DOG EXIST

‘Davide has a dog.’

In the negative form, the meaning of ‘not’ is incorporated in the verb, as in the video:

EXIST-NOT

[video example]

It is used to indicate the non-existence or the non-possession of something, like in the example:

DAVIDE DOG EXIST-NOT

‘Davide does not have a dog.’

1.5.1.1.3. Negative determiners and adverbials

In LIS, it is possible to express negation also with n-words, also called negative quantifiers. There are two n-words: NOBODY and NOTHING: their meaning is very similar to the one of the two corresponding English words. NOBODY is a two-handed sign, with the same handshape and orientation of the sign NOT, but is performed with a single movement from the centre of the neutral space to the outside.

NOBODY

[video example]

NOTHING is very similar to the sign NEG; it has the same configuration and orientation, but a different movement: small circles are created with the two hands.

NOTHING

[video example]

Examples are shown here:

a. CONTRACT SIGN NOBODY

[video example]

‘Nobody signed the contract.’ (Geraci 2006: 5)

b. GIANNI SIGN NOTHING

[video example]

‘Gianni signed nothing.’ (Geraci 2006: 5)

The presence of a n-word is sufficient to give a negative meaning to the sentence. Even if they are arguments of the verb, they do not occur in the canonical position of the arguments, since their canonical position is postverbal (like negative particles). For example, the n-word NOBODY is the subject in the sentence CONTRACT SIGN NOBODY reported above but it does not appear in the canonical position for subject (preverbal). Same for NOTHING in the sentence GIANNI SIGN NOTHING reported above. A direct object naturally appears before the verb but in this case it must be post-verbal being an n-word.

The only case in which it is possible to find a n-word in a preverbal position is when the negative non-manual markers distribute to the right, also covering the other elements of the sentence, like in the example:

_____hs
NOBODY CONTRACT SIGN

‘Nobody signed the contract.’ (Geraci 2006: 5)

NOBODY can be used as a determiner as well, as we can see in the example:

IX₁ CHILDREN SEE NOBODY

[video example]

‘I don’t see any children.’

In LIS, there is a very common negative adverb, that is NEVER. It is a two-handed sign, that share with the sign NOBODY the same movement and orientation, but the handshape is I instead of G.

NEVER

[video example]

The sign NEVER alone is able to give a negative meaning to the sentence and its position is postverbal, as in the example below.

GIANNI CONTRACT SIGN NEVER

[video example]

‘Gianni never signed the contract.’

1.5.1.2. Syntax of negative clauses

Negative clauses have a specific structure that can be seen in the following paragraphs.

1.5.1.2.1. Position of negative elements

In negative clauses, negation follows the verb. Manual negation is often accompanied by a non-manual negation: the head moves by turning to the right and to the left.

An aspect that should be deepened is the interaction between the aspectual marker DONE (see SYNTAX 2.3.1.2) and the negative markers. The aspectual marker DONE is in a postverbal position. No negative element can co-occur with DONE. So, DONE is not acceptable in negative sentences.

As to sentences with modals, the negative elements are after the modals, as in the example:

GIANNI CONTRACT SIGN POSSIBLE NOT

[video example]

‘Gianni can not sign the contract.’ (Geraci 2006b: 102)

In LIS, the right periphery of the sentence (the area after the verb), can be very crowded: it can host negative elements, wh-signs, modals, and DONE. We saw that DONE is not compatible with negation and we described the interaction of negative elements and modals.

Wh-signs follow the verb, the aspectual markers and the modals (see SYNTAX 2.3.2.1). If negative elements are present they follow the verb but precede wh-signs, as can be seen in the following example:

a. GIANNI SIGN NEG WHAT

[video example]

‘What did Gianni not yet sign?’

b. SIGN NOTHING WHO-OF-THEM

[video example]

‘Who of them has not signed anything?’

1.5.1.2.2. Doubling

In LIS, negation can never be doubled, like in standard English and unlike in Italian. Differently from negative concord that we will see in the following paragraph, in doubling, the same negative element is repeated/reduplicated within the negative clause: the two instances of negation are cancelled, giving rise to a positive reading. In LIS, it is not possible to have two negative markers or two n-words in the same sentence and negative markers, quantifiers and adverbs are able, by themselves, to give negative force to the sentence.

1.5.1.2.3. Negative concord

Negative concord is a phenomenon where two negations that occur in a sentence are interpreted as a single negation. There are two types of negative concord possible in sign language:

- (i) negative concord between a non-manual and a manual component;
- (ii) negative concord between two manual components.

In LIS only the first type of negative concord is possible, while it is not possible to find two negative manual elements.

As explained in the preceding paragraph, if two manual signs of negation are present in the same sentence they cancel each other and if anything the sentence is interpreted as a positive affirmation.

Negative non-manuals obligatory co-occur with negative manual components, like in the following example:

neg

GIANNI CONTRACT SIGN NOT

[video example]

‘Gianni did not sign the contract.’ (Geraci 2006b: 109)

1.5.2. Non-manual marking of negation

LIS shows different non-manual marking of negation, like head movements, facial expressions and body posture.

1.5.2.1. Head movements

In LIS, the head tilt (reported as head nod) is used to mark affirmative responses to questions or for emphasis.

On the contrary, the movement of the head that rotates from right to left repeatedly characterized negative clauses.

Specific head movements (headshake) co-occur with all the negative markers and n-words described above. Differently from other sign languages, in the variety of LIS considered here, the use of negative non-manual markers as the only signal for sentential negation is ungrammatical, but data collected for some studies show that the situation could be different in other parts of Italy.

Headshake only co-occurs with negative signs: it starts with the negative sign and can continue after the sign has been articulated. It generally does not spread over other sign of the sentence, as in the examples:

hs

a. PAOLO CONTRACT SIGN NOT

‘Paolo did not sign the contract.’ (Geraci, 2006: 5)

hs

b. GIANNI CONTRACT SIGN CAN NOT

‘Gianni cannot sign the contract.’ (Geraci, 2006: 5)

hs

c. CONTRACT SIGN NOBODY

‘Nobody signed the contract.’ (Geraci, 2006: 5)

The only cases of wide spreading of negative non-manual markings are the ones in which n-words occur in preverbal position, like in the example:

hs

NOBODY CONTRACT SIGN

‘Nobody signed the contract.’ (Geraci, 2006: 5)

So, spreading of negative non-manual markers is very rare and occurs when some manual elements are in a marked position.

This peculiar spreading of negative non-manual marking can be seen also in the use of another n-word: the sign that can be glossed with DICK.

DICK

[video example]

It corresponds to the Italian word ‘*cazzo*’, that is a vulgar word that indicates the male genital organ, but it is also used to say ‘nothing at all’ in the low register of Italian. Like in Italian, in LIS the sign DICK can be used with the meaning of ‘nothing’ in negative clauses.

neg

a. GIANNI SEE DICK

[video example]

‘Gianni didn’t see a shit.’

b. GIANNI DICK SEE

[video example]

‘Gianni saw a penis.’ (Geraci 2006b: 126)

The only lexical difference between the sign used to refer to the male genital organ and the one used to negate the clause, is the presence of the negative non-manual marking. This use of DICK as a negative marker may be an influence of Italian but it is interesting to notice that it obeys the LIS rule concerning the position of negative elements; when DICK is an n-word, it must occur post-verbally as other negative quantifiers do.

1.5.2.2. Facial expressions

The head movement is often carried out with particular facial expressions. Facial expressions related to negation include frowning, eyebrows lowered, and mouth corners down.

1.5.2.3. Body posture

1.5.2.4. Spreading domain

The possible spreading options in LIS, as seen previously, are:

- (i) head movement spreads over the manual negative sign only;
- (ii) head movement spreads over the whole sentence, only in marked cases where the n-word is in a preverbal position.

Information on Data and Consultants

The descriptions in these sections are based on the references below. The linguistic data illustrated as images and video clips have been checked through acceptability judgments and have been reproduced by Deaf native-signing consultants.

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References

- Bertone, Carmela. 2011. *Fondamenti di grammatica della lingua dei segni italiana*. Milano: Franco Angeli. [1.1], [1.2], and [1.3], (197-202; 235-243) [1.5]
- Branchini, Chiara, Anna Cardinaletti, Carlo Cecchetto, Caterina Donati & Carlo Geraci. 2013. Wh-duplication in Italian sign language (LIS). *Sign Language & Linguistics* 16(2), 157–188. [1.1] and [1.2]
- Cecchetto, Carlo, Carlo Geraci & Sandro Zucchi. 2009. Another way to mark syntactic dependencies: the case for right-peripheral specifiers in sign languages. *Language* 85(2), 278–320. [1.1] and [1.2]
- Donati, Caterina, Gemma Barberà, Chiara Branchini, Carlo Cecchetto, Carlo Geraci & Josep Quer (2017). Searching for mandatory in European sign languages. In Van Olmen, D. & S. Heinold (eds.). *Imperatives and Other Directive Strategies*, 111-155. Amsterdam: John Benjamins. [1.3]
- Geraci, Carlo, Robert Bayley, Anna Cardinaletti, Carlo Cecchetto & Caterina Donati. 2015. Variation in Italian Sign Language (LIS): The Case of Wh-signs. *Linguistics*, 53(1), 125-151. [1.1] and [1.2]
- Geraci, Carlo. 2006. Negation in LIS. In: Bateman, Leah & Ussery, Cherlon (eds.), *Proceedings of the North East Linguistic Society (NELS 35)*, 217-230. Amherst, MA: GLSA. [1.5]

Geraci, Carlo. 2006b. *LIS (lingua dei segni italiana) tra ricerca e divulgazione*.
Università degli Studi di Milano-Bicocca: Ph.D. Dissertation. (93-240) [1.5]

Chapter 2. Clause structure

In this chapter, the reader will be introduced to the architecture of clause structure. We will describe how predicates select arguments and how this determines the final form of the clause.

2.1. The syntactic realization of argument structure

The argument structure of a predicate in LIS is strictly connected to the number and type of *arguments* required by its syntax to represent an event.

Arguments are typically distinguished by their role (also called thematic role) in the event or state the sentence talks about. For example, an argument can receive the (thematic) role of agent (the argument which starts an action, as ‘Gianni’ in ‘Gianni broke the window’), theme (the argument which is affected by the action, as ‘the window’ in ‘Gianni broke the window’) goal (the argument which is the final point of a transfer as ‘Gianni’ in ‘Maria gave Gianni a letter’) or experiencer (the argument to which a certain psychological state is attributed, as ‘Gianni’ in ‘Gianni is happy’).

Commonly, arguments of a predicate are associated with the subject, the direct object and the indirect object. In this respect, arguments are different from *adjuncts*, represented, for example, by time, locative, and manner adverbials, since they contribute to the knowledge of the event with additional, non-required information (SYNTAX 2.2.2).

In this section, we describe how arguments are mapped onto the syntactic structure of LIS predicates. This is a domain where syntax and morphology interact, so overlapping between sections of the lexicon, morphology and syntax within the grammar are expected.

LIS displays transitive, ditransitive and intransitive verbs and the type of verb determines the number and the type of arguments. The syntactic and thematic role of arguments is equally important in the argument structure of LIS predicates: while the syntactic role (subject, direct object, and indirect object) determines the position of the argument in the sentence (SYNTAX 2.3.1.1), the thematic role (agent versus theme, for example) can influence the hand configuration of a class of predicates, namely classifier predicates.

We will see that arguments may be expressed through noun phrases, pronouns, full clauses, or they can be incorporated in classifier predicates.

The type of argument produced may affect the word order of elements in the sentence (SYNTAX 2.3) and, vice versa, the type of predicate employed may have an impact on the overt realization of arguments. We will illustrate how LIS displays pairs of predicates with the same verbal root, but with an intrinsically different argument

structure. We will observe transitive/intransitive and unaccusative/unergative alternation of the predicate pair, determining a different selection of arguments.

2.1.1 Types of predicates

LIS predicates can be transitive, ditransitive and intransitive. This classification reflects the number of arguments required by the predicate to adequately represent the event. Transitive verbs in LIS select for two arguments, the subject and the object; ditransitive verbs select for three arguments, the subject, the direct object and the indirect object; while intransitive verbs select for only one argument, the subject.

In this section, the three types of predicates are described with a direct reference to the LIS predicates representing each type. Psychological and meteorological predicates are also illustrated, as well as the presence of predicates whose argument structure varies according to the thematic role of the arguments selected.

2.1.1.1. Transitive and ditransitive predicates

LIS transitive predicates select for two arguments. The prototypical thematic roles for the two arguments of transitive predicates are agent and theme, syntactically realized as subject and direct object, respectively. As for the thematic roles of the two arguments required by LIS transitive predicates, however, some variation is attested. The subject of a transitive predicate like FORGET, for example, has the thematic role of experiencer, while the object of a verb of movement like GO, when used transitively, has the thematic role of goal.

LIS transitive predicates belong to all verbal classes: plain verbs, agreement verbs, and spatial verbs (**LEXICON 3.2.**).

Transitive predicates in LIS can be plain verbs like EAT, DRINK, PHOTOGRAPH, WANT, FORGET articulated on the body of the signer. In the following example, the verb FORGET is a plain verb selecting an experiencer, LUCA, and a theme, KEY.

L-U-C-A KEY FORGET
'Luca forgot the keys.'

Transitive predicates in LIS can also be agreement verbs with two points of articulation in the neutral space, like KILL (a); agreement verbs with one point of articulation in the neutral space, like BREAK (b); and agreement verbs articulated on the body of the signer and moving towards the neutral space, like WATCH (c).

a. M-A-R-I-O THIEF KILL
'Mario kills the thief.'

b. CHILD COMPUTER BREAK
'The child breaks the computer.'

c. L-U-C-A TELEVISION WATCH
'Luca watches the television.'

Transitive verbs are also a subclass of LIS agreement verbs, called *backward verbs*, whose peculiarity is that they start in the location of the neutral space associated with the theme, object of the verb, and move towards the agent, subject of the verb. LIS backward verbs like TAKE, COPY, INVITE, RECEIVE, and CHOOSE belong to this class.

L-U-C-A KEY TAKE
[video example]
'Luca takes the keys.'

Transitive predicates can finally be spatial verbs, like MOVE, taking two arguments (the agent and the theme) and optionally two locative adjuncts, represented in the following example by the locations in space corresponding to the beginning and end of verb movement.

IX₁ BOOK_aCL:MOVE_b
[video example]
'I move the book (from here to there).'

On the other hand, the syntactic structure of verbs of movement, like GO, RUN, and ARRIVE, is difficult to determine, as they select for the subject argument and for an implicit argument, the goal or locative argument, SCHOOL in the following example. In these verbs, the goal argument is semantically obligatory, that is, it must be shared by the interlocutor, but syntactically optional, as verbs of movement can also be used intransitively. In order to be omitted, the goal argument must be contextually given.

CHILD SCHOOL ARRIVE
'The child arrived at school.'

LIS ditransitive predicates select for three arguments. The prototypical semantic roles for the three arguments of ditransitive predicates are agent, theme and goal. They are syntactically realized as subject, direct object and indirect object respectively and often express some notion of transfer.

LIS ditransitive predicates can be agreement and spatial verbs.

Ditransitive predicates in LIS are agreement verbs with two points of articulation in the neutral space, like DONATE (a), agreement verbs with one point of articulation in

the neutral space, like LEND (b), and agreement verbs articulated on the body of the signer and moving towards the neutral space, like SAY (c).

- a. WOMAN CHILD BOOK DONATE
'The woman donates a book to the child.'
- b. WOMAN CHILD BOOK LEND
'The woman lends a book to the child.'
- c. L-U-C-A P-A-O-L-O LIE SAY
'Luca tells a lie to Paolo.'

Likewise, classifier predicates, often employed with ditransitive agreement verbs like GIVE, and LEND, select for three arguments: the agentive subject, the theme direct object, and the goal indirect object, as shown below.

- a. L-U-C-A G-I-A-N-N-I GLASS CL:GIVE
'Luca gives a/the glass to Gianni.'
- b. L-U-C-A G-I-A-N-N-I CAR CL:LEND
'Luca lends the car to Gianni.'

Ditransitive spatial verbs, like PUT, select for a subject, direct object, and locative argument.

- TEACHER BOOK SHELF CL:PUT
'The teacher puts the book on the shelf.'

2.1.1.2. Intransitive predicates: unergatives and unaccusatives

LIS intransitive predicates select for one argument, the subject. On the basis of the thematic role of the subject argument, they can be distinguished into unergative and unaccusative verbs.

The subject of LIS intransitive unergative predicates has the thematic role of agent. Activity verbs like DANCE, TALK, RUN, LAUGH belong to this class. Intransitive unergative predicates in LIS can be plain verbs and agreement verbs. Intransitive unergative plain verbs like SLEEP, LAUGH, CRY, and COUGH are produced on the body of the signer (a), while intransitive unergative agreement verbs are produced in the neutral space without movement displacement, like the verbs WORK, RUN, and PLAY (b).

- a. M-A-R-I-A LAUGH

‘Maria laughs.’

b. CHILD PLAY

‘The child plays.’

The subject of LIS intransitive unaccusative predicates has the thematic role of theme and is typically non-agentive. In LIS, intransitive unaccusative predicates can be plain verbs like BE-BORN produced on the body of the signer (a), agreement verbs with two points of articulation in the neutral space, like ARRIVE (b), and agreement verbs with one point of articulation in the signing space like DIE, FALL-DOWN, BRAKE, MELT, RISE, COLLAPSE, LEAVE, and GROW-UP (c). In some sentences, the distinction between unaccusative and unergative predicates based on the semantic role of the subject is not very intuitive, as in a sentence like ‘Gianni arrived’. However, the fact that the subject of ‘arrive’ can be inanimate (‘The letter arrived’, as in (d)) indicates that the subject is not an agent, so the verb ‘arrive’ is usually classified as unaccusative.

a. YESTERDAY BABY BE-BORN

‘Yesterday the baby was born.’

b. TEACHER ARRIVE

‘The teacher arrived.’

c. P-A-O-L-O GROW-UP

‘Paolo has grown up.’

d. LETTER ARRIVE DONE

‘The letter arrived.’

When the object of otherwise transitive predicates like EAT, DRINK, GO, and RUN is contextually understood, they can be used intransitively. In this case, they only select for the subject argument.

L-U-C-A EAT DONE

‘Luca ate.’

2.1.1.3. Psychological predicates

Psychological predicates express a mental state. LIS distinguishes between stative psychological predicates, like HATE, BE-ANGRY, LIKE, and FEAR and causative psychological predicates, like SCARE, indicating that an agent induces the psychological state of the experiencer. In the following example, we illustrate a stative psychological

predicate represented by a transitive plain verb selecting a subject with the thematic role of experiencer, IX₁, and an object with the thematic role of theme, WAR.

IX₁ WAR FEAR

[video example]

‘I fear wars.’

Psychological stative predicates can also be transitive agreement verbs selecting a subject with the thematic role of experiencer and a direct object with the thematic role of theme, as in the following example where the verb HATE is produced in the neutral space with two points of articulation.

L-U-C-A P-A-O-L-O HATE

[video example]

‘Luca hates Paolo.’

As for causative psychological predicates, LIS employs a causative auxiliary, GIVE-AUX and a sign expressing the psychological state, like FEAR.

EARTHQUAKE GIVE₁-AUX FEAR

[video example]

‘Earthquakes scare me.’

2.1.1.4. Meteorological predicates

In LIS, meteorological predicates like RAIN and SNOW do not select for any overt argument, as shown in the examples below.

a. TODAY RAIN

[video example]

‘Today it rains.’

b. TOMORROW SNOW

‘Tomorrow it will snow.’

2.1.1.5. Argument structure alternations

In LIS, the same verbal root may appear in a transitive or intransitive event. This alternation is found both in lexical and classifier predicates.

In lexical predicates, the same verbal root can be found in transitive constructions selecting an agentive subject and an object with the thematic role of theme (a), and in intransitive unaccusative predicates selecting a subject with the thematic role of theme (b), as illustrated in the following examples.

- a. CHILD COMPUTER BREAK
'The child breaks the computer.'

- b. COMPUTER BREAK
'The computer breaks down.'

In LIS classifier predicates, the transitive/intransitive and unergative/unaccusative alternations are encoded through a different hand configuration. More specifically, handling classifiers (**MORPHOLOGY 5.1.3**) are used in transitive predicates encoding an agentive subject and a theme object, as in (a) below, while entity classifiers (**MORPHOLOGY 5.1.1**) are used with intransitive unaccusative predicates encoding a theme subject, as in (b). The examples below illustrate the transitive /intransitive unaccusative alternation.

- a. M-A-R-I-A BOOK CL:handling-MOVE
[video example]
'Maria took the (standing) book.'

- b. BOOK CL:entity-MOVE
[video example]
'The (standing) book fell down.'

Furthermore, bodypart classifiers (**MORPHOLOGY 5.1.2**) are used in intransitive unergative predicates encoding an agentive subject, as in (a) below, while entity classifiers are used in intransitive unaccusative predicates encoding a theme subject, as in (b). The unergative /unaccusative alternation is illustrated in the examples below.

- a. WOMAN CL:bodypart-MOVE
[video example]
'The woman bows.'

- b. WOMAN CL:entity-MOVE
[video example]
'The woman falls down.'

2.1.2. Argument realization

In LIS, verbal arguments can be realized as noun phrases, pronouns, they may be incorporated in classifier predicates by being encoded in their hand configuration, or they can be full clauses. This section illustrates these possibilities.

2.1.2.1. Overt noun phrases

It is very common for LIS to realize arguments as noun phrases, both as common nouns and proper names. When this happens, they occupy their argument position in an unmarked word order (SYNTAX 2.3), as shown in the example below.

L-U-C-A ELEPHANT LIKE
'Luca likes elephants.'

However, overt noun phrases may also appear in non-argument positions as an effect of syntactic modification induced by discourse factors, such as topic or focus (PRAGMATICS 4). When this happens, noun phrases are always produced with a specific non-manual marking signalling their production in a different position. The following sentence shows an object noun phrase produced at the beginning of the sentence, as an effect of topicalisation.

_____ top
ELEPHANT L-U-C-A LIKE
[video example]
'As for elephants, Luca likes them.'

The same argument, when composed of more than one sign, may occur as a discontinuous constituent, that is, part of it appears in its argument position, while another part occurs in a non-adjacent position in the sentence. In the example below, the signs VEGETABLE ALL form one constituent but, due to topicalisation of the noun phrase VEGETABLE, the quantifier ALL is separated from it and it is produced in object position (SYNTAX 4.4.2).

_____ top
VEGETABLE L-U-C-A ALL LIKE
[video example]
'As for vegetables, Luca likes them all.'

In the following example, the signs FRIEND NO-ONE form one constituent, however only the noun phrase FRIEND appears in argument position, while the negative quantifier NO-

ONE occupies the position in the sentence devoted to negative elements (**SYNTAX 1.5.1.2.1**).

neg
L-U-C-A FRIEND INVITE NO-ONE
'Luca didn't invite any friend.'

Similarly, in the following example, the signs BOOK WHICH form a single constituent, but only the noun phrase BOOK occupies its argument position, while the sign WHICH occupies the common position in the sentence devoted to wh-phrases (**SYNTAX 1.2.3.5**).

wh
STUDENT BOOK BUY WHICH
'Which book did the student buy?'

2.1.2.2. Pronouns

In LIS, arguments may also be produced as pronouns. Within this category, we can find personal pronouns (**LEXICON 3.7.2**), demonstrative pronouns (**LEXICON 3.7.1**), possessive pronouns (**LEXICON 3.7.3**), and reflexive pronouns (**LEXICON 3.7.4**). The examples below illustrate a personal pronoun (a) and a demonstrative pronoun (b) argument.

a. IX₁ EARTHQUAKE FEAR
'I fear earthquakes.'

b. IX₁ LIKE IX₃
'I like this one.'

2.1.2.3. Verb agreement

Verb agreement helps identifying the argument structure of predicates, as it is produced only with arguments, both animate and locative. We shall look at how verb agreement is realized in LIS, both manually and non-manually.

2.1.2.3.1. Manual verb agreement

In LIS, morphological manual agreement of the verb with its arguments takes place only with agreement verbs and spatial verbs. As previously illustrated (**SYNTAX**

2.1.1.), these verb classes surface in transitive, ditransitive and intransitive constructions.

In transitive constructions displaying an agreement verb, subject agreement encodes the agent argument and object agreement encodes the theme argument. Depending on the physical articulation of agreement verbs, morphological manual agreement is subject to variation.

Agreement verbs with two points of articulation in the neutral space show overt morphological agreement with both the subject and object, as in the following example.

TODAY IX_{3i} HORSE_i IX_{3k} CL:SMALL HORSE_k IX_{3i} iGIVE-BIRTH_k

[video example]

‘Today the horse gave birth to the pony.’

Agreement verbs with one point of articulation in the neutral space, like BREAK, and agreement verbs articulated on the body of the signer moving towards the neutral space, like WATCH, overtly agree only with the theme argument, as shown in (a) and (b) respectively.

a. CHILD COMPUTER_i BREAK_i

[video example]

‘The child breaks the computer.’

b. L-U-C-A TELEVISION_i WATCH_i

[video example]

‘Luca watches television.’

When a verb like WATCH selects for a first person singular subject, however, agreement is with both the subject and the object, as the movement path starts from the signer’s body.

In ditransitive constructions displaying an agreement verb with two points of articulation in the neutral space, morphological manual agreement is with the subject argument, encoding the agent/source, and the indirect object, encoding the goal/recipient argument. The theme argument is not expressed through agreement morphology on the verb.

P-A-O-L-O_i G-I-A-N-N-I_k CAR_i DONATE_k

[video example]

‘Paolo donates the car to Gianni.’

An exception to morphological agreement in ditransitives is represented by classifier predicates encoding the features of the theme through hand configuration, thus showing overt manual agreement with the three arguments (SYNTAX 2.1.2.4.).

a. L-U-C-A_i G-I-A-N-NI_k GLASS_iCL:GIVE_k

[video example]

‘Luca gives the glass to Gianni.’

b. L-U-C-A_i G-I-A-N-N-I_k CAR_iCL:LEND_k

[video example]

‘Luca lends the car to Gianni.’

As shown in the examples above, morphological agreement of classifier predicates with the direct object through hand configuration does not imply omission of the object argument.

In ditransitive constructions displaying an agreement verb articulated on the body of the signer moving towards the neutral space, overt morphological manual agreement is only with the indirect object, as shown in the following example.

L-U-C-A P-A-O-L-O_i LIE SAY_i

[video example]

‘Luca tells a lie to Paolo.’

In intransitive unergative constructions displaying an agreement verb produced in the neutral space without movement displacement, the verb may (a) or may not (b) show overt morphological agreement with the agentive subject.

a. CHILD_i PLAY_i

[video example]

‘The child is playing.’

b. CHILD PLAY

[video example]

‘The child is playing.’

On the other hand, in intransitive unaccusative predicates, agreement verbs obligatorily show overt agreement with the theme argument encoding the subject.

ELEVATOR_i BREAK_i

[video example]

‘The elevator broke down.’

Spatial verbs are the other class of verbs showing manual agreement by means of path movement (with motion verbs) or localization at a point (with locative verbs). With

motion verbs, the initial and final points of the path agree with the locations of the source and goal arguments that define the path, as in the following examples.

a. L-U-C-A_i BANK_k iRUN_k

[video example]

‘Luca runs to the bank.’

b. BOLOGNA_i ROME_k iMOVE_k

[video example]

‘(He) moved from Bologna to Rome.’

As previously seen for the agreement verb GIVE, the spatial verb PUT is often produced through a classifier predicate encoding the features of the theme through hand configuration, thus showing overt manual agreement with the agent, theme, and locative argument, as shown in the example below.

L-U-C-A_k BOOK SHELF_i kCL:handling-MOVE_i

[video example]

‘Luca puts the book on the shelf.’

Non-movement spatial verbs that have a location argument simply agree by localizing the sign in the relevant location, as shown by the verb STAY in the following example.

S-A-R-A THREE-YEAR ROME_i STAY_i

[video example]

‘Sara stayed in Rome for three years.’

Intransitive non-movement spatial verbs with a location argument may also be produced through a classifier predicate whose hand configuration encodes agreement with the subject, as shown below.

CHILD_i CL:entity-BE-AT_i

[video example]

‘The child stands.’

In general, agreement and spatial transitive predicates must show overt morphological agreement with the direct object. Agreement and spatial ditransitive predicates must show overt morphological agreement with the indirect object. For both types of predicates, agreement with the subject is optional. Intransitive unergative predicates optionally show morphological agreement with the subject, while intransitive unaccusative predicates obligatorily show agreement with the subject.

Lack of overt morphological agreement in LIS is allowed for quantified arguments, such as negative quantifiers (NOTHING, NOBODY), or non-specific and generic quantifiers (SOMETHING, SOMEONE). The following example shows a negative quantifier and the lack of verb agreement.

L-U-C-A BUY NOTHING
'Luca didn't buy anything.'

With causative psychological predicates, the causative auxiliary GIVE-AUX shows overt morphological agreement with the subject and the experiencer object, as in the following example where the experiencer is a first person.

EARTHQUAKE_i GIVE_i-AUX FEAR
'Earthquakes scare me.'

In predicates displaying argument structure alternation, the verb only shows overt morphological agreement with the theme argument, the object in (a), the subject in (b).

a. CHILD COMPUTER_i BREAK_i
[video example]
'The child breaks the computer.'

b. COMPUTER_i BREAK_i
[video example]
'The computer breaks down.'

Finally, it is important to point out that covert arguments are possible in LIS, if contextually understood. An illustration of the possibility to have covert arguments is provided by the following examples exemplifying a transitive (a) and a ditransitive predicate (b).

a. _iSCOLD_k
[video example]
'(S)he scolds him/her.'

b. BOOK _iCL:GIVE_k
[video example]
'(S)he gives the book to him/her.'

Plain verbs do not display overt morphological agreement with their arguments in LIS. However, an exception to this generalization is represented by plain verbs produced

through a classifier predicate in transitive constructions whereby the hand configuration is determined by the theme argument, thus showing overt agreement with the object. An example is provided below.

L-U-C-A SANDWICH CL:EAT

[video example]

‘Luca eats a sandwich.’

2.1.2.3.2. Non-manual verb agreement

Another way to mark agreement in LIS is through non-manual markers. Non-manual agreement in LIS is optional and may be realized with all verb classes.

The two non-manual articulators involved are head tilt and eye gaze. Commonly, the head tilts toward the location of the subject argument and eye gaze is directed towards the location of the object argument simultaneously to the production of the verbal sign. The two non-manual markers may be produced singularly, as in (a), or together, as in (b). With intransitive predicates, either one of the two non-manual articulators can mark subject agreement (c).

_____ ht_i

a. L-U-C-A_i P-A-O-L-O_k iHATE_k

[video example]

‘Luca hates Paolo.’

_____ ht_i
_____ eg_k

b. L-U-C-A_i P-A-O-L-O_k iHATE_k

[video example]

‘Luca hates Paolo.’

_____ eg

c. BOOK CL:MOVE

[video example]

‘The book falls down.’

2.1.2.4. Classifier handshape

The relevance of classifier handshape for clause structure in LIS is twofold:

- (i) it can encode agreement with the direct object of a transitive and ditransitive predicate or with the subject of an intransitive predicate by representing

some visually salient property of the argument, as shown in (SYNTAX 2.1.2.3.1.);

- (ii) it is able to determine the argument structure of a predicate according to the following specification (SYNTAX 2.1.1.5.):
- a. classifiers with a handling hand configuration select for transitive predicates;
 - b. classifiers with an entity hand configuration select for intransitive unaccusative predicates;
 - c. classifiers with a bodypart hand configuration select for intransitive unergative predicates.

In this respect, by morphologically marking the thematic role of arguments, LIS seems to behave as ergative languages.

2.1.2.5. Argument clauses

Arguments in LIS may also be expressed through full clauses encoding the syntactic role of subject (SYNTAX 3.3.1.) and object (SYNTAX 3.3.2.).

The following sentence is an example of a subject dependent clause.

IMPORTANT IX₂ SAY₁

[video example]

‘It is important that you tell me.’

The following is an example of a LIS sentence where a subordinate clause serves as an object.

P-I-E-R-O CONTRACT SIGN DONE G-I-A-N-N-I KNOW DONE

[video example]

‘Gianni knows that Piero signed the contract.’

2.1.3. Argument structure changes

2.1.3.1. Extension of argument structures

2.1.3.2. Passive

2.1.3.3. Reflexivity

2.1.3.4. Reciprocity

2.1.4. Non-verbal predication

2.1.4.1. Copular constructions

2.1.4.2. Secondary predication

2.1.5. Existentials and possessives

2.1.5.1. Possessives

2.1.5.2. Existentials

2.2. Grammatical functions

2.2.1. Subject and object identification

2.2.1.1. Specific position(s) for subject and object

2.2.1.2. Special anaphoric properties for subject and object

2.2.1.3. Strategies of pronoun copying for subject and object

2.2.1.4. Null arguments for subject and object

2.2.2. Other grammatical functions: arguments vs. adjuncts

2.2.3. Types of adjuncts

2.3. Word order

2.3.1. Identification of the basic order of constituents in the main declarative clause

2.3.1.1. Order of subject, object and verb

2.3.1.2. Order of auxiliaries (i.e. agreement, tense and aspectual markers) with respect to the verb

2.3.1.3. Order of modals with respect to the verb

2.3.1.4. Order of negation with respect to verb, modals and auxiliaries

2.3.1.5. Order of arguments of ditransitive verbs

2.3.1.6. Position for different types of adverbs and adjuncts

2.3.2. Basic order of constituents in other clauses

2.3.2.1. Basic order in the different types of sentence

2.3.2.2. Basic order in the different types of subordinate clauses

2.3.3. Deviations from the basic order of constituents

2.3.3.1. List of attested and unattested permutations

2.3.3.2. Non-manuals accompanying the deviations from the basic word order

2.3.3.3. Specific order for topicalized elements

2.3.3.4. Specific order for focused elements

2.3.3.5. Word order variations according to the different types of verbs (plain, agreeing)

2.3.3.6. Word order variations according to the different types of predicates (reversible/irreversible)

2.4. Null arguments

2.4.1. Subject and object null arguments

2.4.1.1. Null subjects

2.4.1.2. Null objects

2.4.2. Types of verbs that can license null subjects

2.4.3. Null subjects in main clauses

2.4.4. Null arguments in embedded clauses

2.4.5. Pragmatic and semantic conditions licensing null arguments

2.4.6. Referential properties of null arguments

2.5. Clausal ellipsis

Ellipsis refers to the omission from a clause of one or more signs whose meaning can however be recovered from the context. There are numerous distinct types of ellipsis. One type of ellipsis is omission of one the argument of the verb (**SYNTAX 2.4**). However here we are concerned with omission of an entire part of the clause. Omission typically requires that the meaning of the missing part be recoverable from a nearby clause. For this reason, ellipsis is usually observed in clauses introduced by signs like SAME, AS-WELL, YES or NOT, which indicate that what is described in a given clause is similar or different from what is described in a previously uttered clause.



a. SAME



b. AS-WELL

For example, in the following sentence the signs VASE BREAK are not repeated in the second clause to avoid a redundancy since they have been just uttered in the first sentence.

DINING-ROOM GIANNI VASE BREAK NOT. PIERO YES

[video example]

‘Gianni did not break a vase in the dining room. Piero did.’

The part of the clause that can be omitted can vary. For example, the following two sentences are distinguished by how big the elliptical part is. In the first sentence the signs DINING-ROOM, VASE and BREAK are omitted, while in the second sentence only the signs VASE and BREAK are omitted.

- _____ re
a. DINING-ROOM GIANNI VASE BREAK. MARIO SAME
[video example]
'Gianni broke a vase in the dining room and Mario did so too.'

- _____ re
b. DINING-ROOM GIANNI VASE BREAK. MARIO SAME KITCHEN
[video example]
'Gianni broke a vase in the dining room. Also Mario did, but in the kitchen.'

Another example showing that the size of the ellipsis can vary is observed when a modal verb is present in the sentence. As shown in the next two sentences, a modal verb like MUST can but does not need to be omitted when the main verb and its object are omitted. In the first sentence ellipsis involves BOOK BUY MUST, while in the second sentence it involves only BOOK BUY.

- GIANNI BOOK BUY MUST. MARIA SAME
[video example]
'Gianni must buy a book and Maria too.'

- GIANNI BOOK BUY MUST. MARIA MUST SAME
[video example]
'Gianni must buy a book and also Maria must (buy a book).'

Ellipsis seems to be relatively independent from the type of predicate that is omitted. In the example considered so far, the predicate that is (partially) omitted is agentive (to break a vase, to buy a book). However, this is not necessary for ellipsis to be acceptable. In the following examples, the predicate is not agentive.

- a. VASE CRACKED. MUG SAME
[video example]
'The vase is cracked. The mug too.'

- b. TABLE RED. CHAIR SAME
[video example]
'The table is red. The chair too.'

- c. GIANNI DIE. PIERO SAME
'Gianni die. Piero, too.'

The following example shows that ellipsis is possible also when the predicate is a classifier predicate.

WINDOW CL:rectangular. DOOR SAME

[video example]

‘The window is rectangular. The door, too.’

The clause that contains ellipsis can be a subordinate clause, as shown by the following example:

GIANNI MARIA_i LOVE. IX_{3i} THINK PIERO SAME

[video example]

‘Gianni loves Maria. She thinks that Piero does too.’

In all the preceding examples, the clause from which the meaning of the missing predicate is recovered typically precedes the clause in which ellipsis takes place. However, it does not need to be so. In the following sentence the clause from which the meaning is recovered *follows* the clause that contains ellipsis.

cond

IF PIERO NOT GIANNI GO

[video example]

‘If Piero does not, Gianni will go.’

In all the examples considered so far, what is omitted is the entire predicate or a part of it. Subject were never omitted. However, there is a specific syntactic context in which the subject can be omitted as well. This happens in embedded interrogatives, in which all the interrogative clause is omitted but for the interrogative sign. One example is the following (the embedded interrogative precedes the matrix verb IX₁-KNOW because indirect questions precede the main verb in LIS). The intended embedded interrogative is GIANNI MEET WHO but the signs GIANNI MEET are omitted.

wh

GIANNI SOMEONE MEET BUT WHO IX₁-KNOW NOT

[video example]

‘Gianni met someone, but I do not know who.’

However, embedded interrogatives allow ellipsis of the predicate as well. In the following example, the intended embedded interrogative is BOOK BUY WHO but the signs BOOK BUY are omitted.

SOMEONE BOOK BUY. BUT WHO IX₁-KNOW NOT

‘Someone bought a book, but I don't who.’

2.6. Pronoun copying

2.6.1. Personal Pronoun copying

2.6.2. Syntactic properties of pronoun copying

2.6.2.1. Possible subject-object asymmetry in pronoun copying

2.6.2.2. Position of the copying pronoun

2.6.3. Prosodic features of pronoun copying

2.6.4. Functions of pronoun copying

Information on data and consultants

The descriptions in sections 2.1.1 and 2.1.2 are based on the references below. For information on data and consultants see the references. The video clips exemplifying the linguistic data have been produced by a native signer born in the south of Italy who later in life lived both in the centre and north of Italy.

The description in section 2.5 is based on the reference below. Videos are reproduced from the website set up by the authors of this paper (with their permission).

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References

Bertone, Carmela. 2011. *Fondamenti di grammatica della lingua dei segni italiana*. Milano: Franco Angeli. [2.1.1] and [2.1.2]

- Cecchetto, Cecchetto, Alessandra Checchetto, Carlo Geraci, Mirko Santoro & Sandro Zucchi. 2015. The syntax of predicate ellipsis in Italian Sign Language (LIS). *Lingua*. [2.5]
- Corazza, Serena. 1990. The Morphology of Classifier Handshapes in Italian Sign Language (LIS). In Ceil Lucas (ed.), *Sign Language Research: Theoretical Issues*, 71-82. Washington D.C.: Gallaudet University Press. [2.1.1] and [2.1.2]
- Geraci, Carlo, Carlo Cecchetto & Sandro Zucchi. 2008. Sentential complementation in Italian Sign Language. In Michael Grosvald, and Dionne Soares (eds.), *Proceedings of the thirty-eighth Western Conference on Linguistics, WECOL 2008*, 46–58. DAVIS, CA. [2.1.2.5.]
- Geraci, Carlo & Valentina Aristodemo. 2015. An in-depth tour into sentential complementation in Italian Sign Language. In Annika Herrmann, Roland Pfau and Markus Steinbach (eds.), *Complex Matters: Subordination in Sign Languages*, 95–150. Berlin: De Gruyter. [2.1.2.5.]
- Mazzoni, Laura. 2008a. *Classificatori e impersonamento nella Lingua dei Segni Italiana*. Pisa: Edizioni Plus – Pisa University Press. [2.1.1.5.] [2.1.2.4.]
- Pizzuto, Elena, Enza Giuranna & Giuseppe Gambino. 1990. Manual and non-manual morphology in Italian sign language: grammatical constraints and discourse processes. In Ceil Lucas (ed.), *Theoretical Issues in Sign Language Research*, 83–102. Washington: Gallaudet University Press. [2.1.1.] [2.1.2.3.1.] [2.1.2.3.2.]
- Pizzuto, Elena. 2004. Aspetti morfo-sintattici. In Virginia Volterra (ed.), *La lingua dei segni italiana*. Il Mulino. [2.1.1.]

Chapter 3. Coordination and subordination

3.1. Coordination of clauses

3.1.1 Types of clausal coordination

3.1.2 Coordination by manual markers

3.1.2.1. Manual markers of coordination

3.1.2.1.1. Manual markers in conjoined coordination

3.1.2.1.2. Manual markers in adversative coordination

3.1.2.1.3. Manual markers in disjunctive coordination

3.1.2.2. Position of manual markers of coordination

3.1.2.2.1. Position of manual markers in conjoined coordination

3.1.2.2.2. Position of manual markers in adversative coordination

3.1.2.2.3. Position of manual markers in disjunctive coordination

3.1.2.3. Optionality or obligatoriness of manual markers of coordination

3.1.2.3.1. Optionality/obligatoriness of manual markers in conjoined conjunctions

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3.1.2.3.3 Optionality/obligatoriness of manual markers in disjunctive conjunctions

3.1.3 Coordination by non-manual markers

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3.1.3.1.2. Non-manual markers in disjunctive coordination

3.1.3.1.3. Non-manual markers in adversative coordination

3.1.3.2. The spreading domain of non-manual markers of coordination

3.1.3.2.1. Spreading domain of non-manual markers in conjunctive coordination

3.1.3.2.2. Spreading domain of non-manual markers in disjunctive coordination

3.1.3.2.3. Spreading domain of non-manual markers in adversative coordination

3.1.4 Properties of coordination

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3.1.4.2. Gapping

3.1.4.3. Scope

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3.1.4.3.2. Scope of yes/no questions

3.2. Subordination: distinctive properties

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3.2.2. Position of question signs

3.2.3. Spreading of non-manual markers

3.2.4. Interpretation of embedded negation in the matrix clause

3.3. Argument clauses

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3.3.1.1. Position(s) within the matrix clause

3.3.1.2. Special non-manual markers

3.3.1.3. Tense and aspectual marking

3.3.1.4. Anaphoric relations

3.3.1.5. Null arguments

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3.3.2.4. Special non-manual markers

3.3.2.5. Tense and aspectual marking

3.3.2.6. Anaphoric relations with the main clauses arguments

3.3.2.7. Occurrences of null arguments

3.3.3. Role shift

3.3.3.1. Markers of role shift

3.3.3.2. Integration of the role shifted clause into the main clause

3.3.3.3. Syntactic contexts introducing attitude role shift

3.3.3.4. Special signs introducing action role shift

3.3.3.5. Syntactic differences between action role shift and attitude role shift

3.4. Relative clauses

Relative clauses are subordinate clauses that modify a noun (called *head* of the relative clause). The noun modified by the relative clause has a syntactic role both in the main clause and in the relative clause. LIS makes a productive use of relative clauses marking them with manual (SYNTAX 3.4.2.) and non-manual markers (SYNTAX 3.4.6.).

3.4.1. Types of relative clause

LIS displays more than one type of relative clauses. It has both what we shall call full relative clauses and free relative clauses.

In LIS full relative clauses, the head noun (always in bold in the examples) is produced inside the relative clause (always within brackets in the examples) according to its syntactic role. In the following example, the head noun CHILD is the subject of the relative clause predicate EAT, it is marked by specific non-manuals (glossed ‘rel’) marking relative clauses in LIS (SYNTAX 3.4.6.) and it follows the time adverbial YESTERDAY modifying the predicate of the relative clause. Time adverbials always mark the beginning of a clause in LIS (see SYNTAX 2.3.1.2.). The entire relative clause is marked by specific non-manuals (glossed ‘rel’) (3.4.6.). Optionally, the main clause (TODAY STOMACHACHE in the following example) can contain a pronominal sign (IX₃) co-referent with the head noun in the relative clause (co-reference between elements in a sentence is signaled in the examples by the presence of the same indexing).

_____ rel

[YESTERDAY **CHILD**_i++ CAKE EAT PE_i] TODAY (IX_{3i}) STOMACHACHE

[video example]

‘The children that yesterday ate the cake today have stomach ache.’

In the example below, the head noun DOG is produced inside the relative clause in object position.

_____ rel

[P-A-O-L-O **DOG**_i FIND PE_i] L-U-C-A WASH

[video example]

‘Luca washes the dog that Luca found.’

As opposed to full relative clauses, LIS free relative clauses do not display a head noun modified by the relative clause. In its place, the relative clause displays a wh-sign phonologically homophonous to wh-signs in LIS wh-questions (see [LEXICON 3.7.5](#)). The wh-sign is produced inside the relative clause and it is marked by the ‘rel’ non-manual marking spreading over the relative clause.

_____ rel
[EXAM DONE WHO] EXIT CAN

[video example]

‘Who has taken the exam can go out.’ (Branchini 2009: 104)

3.4.2. Presence or absence of a relativization sign

LIS relative clauses display the presence of manual signs of relativization. Full relative clauses and free relatives differ for the relativization sign employed.

3.4.2.1. List of relativization signs

LIS full relative clauses display a manual sign (glossed PE in the examples) spatially agreeing with the head noun (agreement between PE and the head noun is signaled in the examples by the presence of the same indexing). The sign PE is produced with only the index finger extended (configuration G in LIS) in the neutral space. During its movement, the wrist twists from a position of the hand with the palm facing the face of the signer to a position of the hand whose palm faces the signer’s interlocutor, as illustrated in the video below. During the production of the sign, oral components involving the production of a bilabial phoneme such as /p/ are produced, hence the gloss PE (see [LEXICON 3.7.6](#)).

PE
[video example]

When the head noun is an abstract entity or when it is a noun produced on the body of the signer (see [LEXICON 3.1](#)), the relativization sign PE agrees with an arbitrary point in the signing space, as shown in the example below.

_____ rel
[P-A-O-L-O M-A-R-I-A IDEA SUGGEST PE] IMPORTANT
[video example]

‘The idea that Paolo suggested to Maria is important.’ (Branchini 2014: 193)

As already pointed out (SYNTAX 3.4.1.), LIS free relatives display the presence of a wh-sign. However, not all wh-signs are allowed to mark the relative clause in LIS free relatives. The table below lists the wh-signs permitted or not permitted in this type of construction.

Wh-signs	Availability to mark LIS free relatives
WHO	yes
WHAT	no
WHICH	yes
HOW	yes
HOW-MUCH	no
WHERE	yes
WHEN	yes
WHY	yes

Wh-signs allowed in LIS free relatives

As shown in the table above, all wh-signs except WHAT and HOW-MUCH can be used in LIS free relatives. The examples below exemplify free relatives with the different wh-signs available to mark this construction in LIS.

- _____ rel
- a. [EXAM DONE WHO] EXIT CAN
‘Who has taken the exam can go out.’ (Branchini 2009: 104)
- _____ rel
- b. [P-A-O-L-O LIKE WHICH] IX₁ SEE DONE
‘I saw which Paolo likes.’ (Branchini 2009: 105)
- _____ rel
- c. [G-I-A-N-N-I MONEY GIVE HOW] IX₁ LIKE NOT
‘I don’t like how Gianni gives me the money.’ (Branchini 2009: 106)
- _____ rel
- d. [SISTER IX₁ HOLIDAY GO WHERE] BEAUTIFUL
‘Where my sister went on holiday is beautiful.’ (Branchini 2009: 106)
- _____ rel
- e. [TRAIN ARRIVE WHEN] IX₁ READ DONE
‘I read when the train arrives.’

- _____ rel
- f. [P-A-O-L-O LEAVE WHY] IX₁ FIND-OUT
 ‘I found out why Paolo left.’ (Branchini 2009: 106)

3.4.2.1.1. Human/non-human specificity of the relativization sign

LIS full relative clauses do not display a different relativization sign for human/non-human referents represented by the head noun. In other words, regardless of the human/non-human feature of the head noun, LIS full relative clauses display the same sign PE.

Free relative clauses display wh-signs used for human referents, like the wh-sign WHO, and wh-signs employed for non-human referents, like the wh-sign WHAT.

3.4.2.1.2. Singular/plural specificity of the relativization sign

In LIS full relative clauses, the manual relativization sign PE does not inflect for the singular/plural feature of the head noun. Even in the presence of a plural referent, the sign PE is invariant in its form. In the example below, although the head noun CHILD₊₊ is plural, the sign PE agrees with one point in the signing space associated with the head noun.

- _____ rel
- [CHILD₊₊ WIN PE_i] TEACHER PRIZE GIVE
 [video example]
 ‘The teacher gives the prize to the children who win.’ (Branchini 2014: 192)

As for LIS free relative clauses, wh- signs are specified for the singular number feature.

3.4.2.2. Position of the relativization sign

In full relative clauses, the sign PE can be produced at the end of the relative clause, as in the example (a), or adjacent to the head noun following it, as in the example (b).

- _____ rel
- a. [CHILD₊₊ WIN PE_i] TEACHER PRIZE GIVE
 ‘The teacher gives the prize to the children who win.’ (Branchini 2014: 192)

_____ rel

- b. [CHILD_i PE_i COMPETITION WIN] TEACHER PRIZE GIVE
 ‘The teacher gave a prize to the child who won the competition.’ (Branchini 2014: 199)

In free relatives, the wh-sign is always produced at the end of the relative clause (SYNTAX 3.4.2.1.).

- _____ rel
 [EXAM DONE WHO] EXIT CAN
 ‘Who has taken the exam can go out.’ (Branchini 2009: 104)

3.4.2.3. Optionality or obligatoriness of the relativization sign

In LIS full relative clauses, the presence of the relativization sign PE is optional, as shown in the relative clause below where the relativization sign is absent.

- _____ rel
 [CHILD WIN] TEACHER PRIZE GIVE
 ‘The teacher gives the prize to the child who wins.’

In LIS free relative clauses, the presence of the wh-sign is obligatory.

3.4.3. Position of the noun phrase with the relative clause within the matrix clause

In LIS full relative clauses, the relative clause (including the head noun) precedes the main clause regardless of the syntactic role of the head noun in the main clause. In the examples below, the head noun CHILD is the subject of the main clause predicate FALL-DOWN in (a); and the indirect object of the main clause predicate GIVE in (b). In both sentences, the relative clause precedes the main clause.

- _____ rel
 a. [CHILD_i SOCCER PLAY PE_i] YESTERDAY TREE CL:FALL-DOWN
 ‘The child who plays soccer yesterday fell off a tree.’

- _____ rel
 b. [CHILD_i SOCCER PLAY PE_i] YESTERDAY A-N-N-A_k BALL NEW_k CL:GIVE_i DONE
 ‘Yesterday Anna gave a new ball to the child who plays soccer.’

In LIS free relatives, the relative clause always precedes the main clause, regardless of the syntactic role of the wh-sign in the main clause. In the example (a) below, the wh-sign WHO is the subject of the main clause predicate EXIT, while in (b) the wh-sign WHICH is the object of the main clause predicate SEE. In both sentences, the relative clause precedes the main clause.

- _____ rel
- a. [EXAM DONE WHO] EXIT CAN
'Who has taken the exam can go out.' (Branchini 2009: 104)

- _____ rel
- b. [P-A-O-L-O LIKE WHICH] IX₁ SEE DONE
'I saw which Paolo likes.' (Branchini 2009: 105)

3.4.4. Subject vs. object relativization

LIS relative clauses do not show a different relativization pattern with respect to the syntactic role of the head noun in the relative clause.

Manual and non-manual markers of relativization do not change depending on the syntactic role of the head noun with the respect to the relative clause predicate (subject, object or adjunct).

3.4.5. Displacement of relative clauses

3.4.6. Special non-manual marking

LIS displays a combination of obligatory non-manuals specifically marking the relative clause. Their distribution in the relative clause differs in the two syntactic types identified above: full relative clauses and free relative clauses.

3.4.6.1. List of non-manual markers

The non-manuals marking LIS full relative clauses are: raised eyebrows, squinted eyes, and a forward head nod.

hn

rel

[CHILD WIN PE] TEACHER PRIZE GIVE

[video example]

‘The teacher gives the prize to the child who wins.’

The non-manual marking head nod is produced over the sign PE (either when it is produced at the end of the relative clause, as in the example above, or next to the head noun, as in the example below). A signing pause, an optional eye blink, and a head nod mark the end of the relative clause and the beginning of the main clause.

Spreading of raised eyebrows and squinted eyes over the entire relative clause is obligatory when the sign PE is produced next to the head noun, as in the example below.

hn

hn/eb

rel

[CHILD_i PE_i COMPETITION WIN] TEACHER PRIZE GIVE

[video example]

‘The teacher gave a prize to the child who won the competition.’ (Branchini 2014: 199)

In free relatives, the non-manual markings raised eyebrows and squinted eyes (glossed ‘rel’ in the examples) obligatorily spread over the entire relative clause. A signing pause and eye blink mark the end of the relative clause and the beginning of the main clause.

eb

rel

[EXAM DONE WHO] TODAY RELAX

‘Who has taken the exam today is relaxed.’ (Branchini 2009: 104)

3.4.7. Restrictive vs. non-restrictive relative clauses

LIS distinguishes between restrictive and non-restrictive relative clauses.

Typically, restrictive relative clauses provide information which is crucial in identifying the referent head noun, which is non-specific, as in (a), while non-restrictive relative clauses provide additional information on an already specified referent, as in (b).

- a. The woman who speaks French works in the Italian Embassy.
- b. Laura, who speaks French, works in the Italian Embassy.

While in LIS restrictive relative clauses the head is inside the relative clause, in LIS non-restrictive relative clauses the head is always produced outside the relative clause. More precisely, the head immediately precedes the relative clause.

While LIS restrictive full relative clauses typically display the relativization sign PE, non-restrictive relative clauses cannot. Moreover, non-restrictive relative clauses are not marked by the ‘rel’ non-manual markings described for restrictive relative clauses (SYNTAX 3.4.6.1.). The non-manuals marking non-restrictive relative clauses are: an eye blink, a head nod, and a signing pause at the beginning and end of the non-restrictive relative clause. The example below illustrates a non-restrictive relative clause in LIS.

<u>hn</u>	<u>hn</u>
<u>eb</u>	<u>eb</u>
MARIA [LAST-YEAR MEDICINE NEW DISCOVER] PRIZE WIN	
[video example]	

‘Maria, who discovered a new medicine last year, won the prize.’ (Branchini 2017)

As shown in the example above, the head noun MARIA precedes the time adverbial LAST-YEAR. As time adverbs sit at the beginning of the clause, this shows that the head is external to the relative clause.

Furthermore, while the head of a restrictive relative clause must be an indefinite noun, the head of a non-restrictive relative clause can be a definite referent: a proper name (a), a pronominal sign (b), a definite description (c).

<u>hn</u>	<u>hn</u>
<u>eb</u>	<u>eb</u>
a. MARIA [CITY ROME KNOW NOT] ARRIVE LATE	
‘Maria, who doesn’t know the city of Rome, arrives late.’	

<u>hn</u>	<u>hn</u>
<u>eb</u>	<u>eb</u>
b. IX ₃ [SPIDER AFRAID] HOUSE _i POSS ₁ COUNTRYSIDE VISIT _i NEVER	
‘He, who is afraid of spiders, never visits my house in the countryside.’	

<u>hn</u>	<u>hn</u>
<u>eb</u>	<u>eb</u>
c. BOYFRIEND POSS ₃ [CITY ROME KNOW NOT] ARRIVE LATE	
‘Her boyfriend, who doesn’t know the city of Rome, arrives late.’ (Branchini 2017)	

3.5. Adverbial clauses

3.5.1. Conditional clauses

3.5.1.1. The role of non-manual markers in conditional sentences

3.5.1.2. Factual conditionals

3.5.1.2.1. Non-manual markers and their properties in factual clauses

3.5.1.2.2. Manual conditional signs in factual conditionals

3.5.1.2.3. Order of the components of the factual conditional clause

3.5.1.3. Counterfactual conditionals

3.5.1.3.1. Non-manual markers and their properties in counterfactual conditionals

3.5.1.3.2. Manual conditional signs in counterfactual conditionals

3.5.1.3.3. Order of the components of the counterfactual conditional clause

3.5.1.4. Concessive conditionals

3.5.1.4.1. Non-manual markers and their properties in concessive clauses

3.5.1.4.2. Manual conditional signs in concessive conditionals

3.5.1.4.3. Order of the components of the concessive conditional clause

3.5.1.5. Non-predictive/peripheral conditionals

3.5.1.5.1. Non-manual markers and their properties in non-predictive/peripheral conditionals

3.5.1.5.2. Manual conditional signs in non-predictive/peripheral conditionals

3.5.1.5.3. Order of the components of the non-predictive/peripheral conditional clause

3.5.1.6. Other conditional constructions

3.5.2. Temporal clauses

3.5.2.1. Internal structure of temporal clauses

3.5.2.2. Manual signs marking subordination in temporal clauses

3.5.2.3. Other markers of subordination in temporal clauses

3.5.2.4. Non-manual markers in temporal clauses

3.5.2.5. Position of the temporal clause with respect to the main clause

3.5.2.6. Simultaneous expression of the main event and the adverbial clause

3.5.3. Locative clauses

3.5.3.1. Internal structure of locative clauses

3.5.3.2. Manual signs marking subordination in locative clauses

3.5.3.3. Other markers of subordination in locative clauses

3.5.3.4. Non-manual markers in locative clauses

3.5.3.5. Position of the locative clause with respect to the main clause

3.5.3.6. Simultaneous expression of the main event and the adverbial clause

3.5.4. Manner clauses

3.5.4.1. Internal structure of manner clauses

3.5.4.2. Manual signs marking subordination in manner clauses

3.5.4.3. Other markers of subordination in manner clauses

3.5.4.4. Non-manual markers in manner clauses

3.5.4.5. Position of the manner clause with respect to the main clause

3.5.4.6. Simultaneous expression of the main event and the adverbial clause

3.5.5. Reason clauses

3.5.5.1. Internal structure of reason clauses

3.5.5.2. Manual signs marking subordination in reason clauses

3.5.5.3. Other markers of subordination in reason clauses

3.5.5.4. Non-manual markers in reason clauses

3.5.5.5. Position of the reason clause with respect to the main clause

3.5.5.6. Simultaneous expression of the main event and the adverbial clause

3.5.6. Purpose clauses

3.5.6.1. Internal structure of purpose clauses

3.5.6.2. Manual signs marking subordination in purpose clauses

3.5.6.3. Other markers of subordination in purpose clauses

3.5.6.4. Non-manual markers in purpose clauses

3.5.6.5. Position of the purpose clause with respect to the main clause

3.5.6.6. Simultaneous expression of the main event and the adverbial clause

3.5.7. Concessive clauses

3.5.7.1. Internal structure of concessive clauses

3.5.7.2. Manual signs marking subordination in concessive clauses

3.5.7.3. Other markers of subordination in concessive clauses

3.5.7.4. Non-manual markers in concessive clauses

3.5.7.5. Position of the concessive clause with respect to the main clause

3.5.7.6. Simultaneous expression of the main event and the adverbial clause

3.5.8. Substitutive clauses

3.5.8.1. Internal structure of substitutive clauses

3.5.8.2. Manual signs marking subordination in substitutive clauses

3.5.8.3. Other markers of subordination in substitutive clauses

3.5.8.4. Non-manual markers in substitutive clauses

3.5.8.5. Position of the substitutive clause with respect to the main clause

3.5.8.6. Simultaneous expression of the main event and the adverbial clause

3.5.9. Additive clauses

3.5.9.1. Internal structure of additive clauses

3.5.9.2. Manual signs marking subordination in additive clauses

3.5.9.3. Other markers of subordination in additive clauses

3.5.9.4. Non-manual markers in additive clauses

3.5.9.5. Position of the additive clause with respect to the main clause

3.5.9.6. Simultaneous expression of the main event and the adverbial clause

3.5.10. Absolute clauses

3.5.10.1. Markers of subordination in absolute clauses

3.5.10.2. Non-manual markers in absolute clauses

3.5.10.3. Position of the absolute clause with respect to the main clause

3.5.10.4. Simultaneous expression of the main event and the adverbial clause

3.6. Comparative clauses

3.7. Comparative correlatives

Comparatives correlatives are biclausal constructions as exemplified below.

- _____ sq _____ sq
_____ re _____ re
- a. RUN+++ , SWEAT+++
[video example]
'The more you run, the more you sweat.'

- _____ re
_____ sq
- b. GIANNI RUN+++ , SWEAT MORE
'The more Gianni run, the more he sweats.' (Geraci 2007: 52)

LIS signers can use two constructions to express the meaning of a comparative correlative. The first one is symmetrical, as shown in (a), the other is asymmetrical, as shown in (b). In both cases, the verb of the first clause (RUN) is reduplicated. The two options differ in that the verb of the second clause (SWEAT) is reduplicated only in (a), while in (b) a marker of quantity, corresponding to the English 'more', appears post-verbally. In both (a) and (b) are present special non-manuals: squinted eyes and raised eyebrows. These non-manuals are spread differently in the two variants: in (a) they equally spread in the two clauses, while in (b) they only spread on the first clause. Finally, in (a) both clauses are possible in isolation, while in (b) only the second clause is possible in isolation.

Despite their possible symmetric structure, the two clauses are not reversible: if the order of the two clauses is reversed, the meaning is not preserved. This distinguishes comparative correlatives clauses from if-clauses (see SYNTAX 3.5.1), where the inversion of the two clauses preserves the meaning.

Comparative correlatives in LIS are sensitive to the type of predicate or modifier involved in the construction. The following examples show this feature.

- a. GIANNI RUN+++ , SWEAT+++

‘The more Gianni runs, the more he sweats.’

b. GIANNI RUN AT-LENGTH+++ , SWEAT+++

‘The longer Gianni runs, the more he sweats.’

c. SEA DEEP-INTENSIFICATION, COLD INCREASE+++

‘The deeper the sea, the colder the water.’

d. HAIR LONG-INTENSIFICATION, TIME DRY MORE

‘The longer the hair, the more time to dry them.’ (Geraci 2007: 71)

In LIS comparative correlatives, while atelic verbs trigger reduplication of the verb, like in (a) and (b), stative verbs yield a different verbal morphology, namely intensification, whereby the movement of the sign for the predicate or modifier is different from its citation form: it is articulated slower and the muscles are more tensed (c, d). In this, asymmetric variants behave like symmetric ones, as can be seen in (d): stative predicates do not show reduplication, but intensification.

Wh-phrases, which typically occur at the end of the sentence (see [SYNTAX 1.2.3.5](#)), appear in sentence-final position also in comparative correlatives, as it is shown by the following example:

STUDY+++ , LEARN LESS WHO

‘Who is such that, the more he studies the less he learns?’ (Geraci 2007: 74)

Information on data and consultants

The descriptions in sections 3.4 and 3.7 are based on the references below. For information on data and consultants see the references. The video clips exemplifying the linguistic data have been produced by a native signer born in the south of Italy who later in life lived both in the centre and north of Italy.

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References

Bertone, Carmela. 2007. *La struttura del sintagma determinante nella Lingua dei Segni Italiana (LIS)*. Venezia: Ca’ Foscari University, doctoral dissertation. [3.4]

- Bertone, Carmela. 2011. *Fondamenti di grammatica della lingua dei segni italiana*. Milano: Franco Angeli. [3.4]
- Branchini, Chiara. 2009. Relative libere e interrogative Wh- in LIS. In *Atti delle giornate di studi sulla grammatica della lingua dei segni italiana*, a cura di C. Bertone, A. Cardinaletti, pp. 101-115. Edizioni Cafoscarina, Atti 9. [3.4]
- Branchini, Chiara. 2014. *On relativization and clefting. An analysis of Italian Sign Language*. Mouton De Gruyter. [3.4]
- Branchini, Chiara. 2017. *Digging up the core features of (non)restrictiveness in sign languages relative constructions*. Talk presented at the Formal and Experimental Advances in Sign language Theory (FEAST) 2017. University of Iceland, Reykjavik. [3.4.7.]
- Branchini, Chiara & Caterina Donati. 2009. Relatively different: Italian Sign Language relative clauses in a typological perspective. In Anikó. Lipták (ed.), *Correlatives cross-linguistically*, 157–191. Amsterdam: John Benjamins. [3.4]
- Branchini, Chiara & Lara Mantovan. 2015. *In search for non-restrictive relative clauses in Italian Sign Language (LIS)*. Talk presented at the first meeting Morpho-Syntax of Portuguese Sign Language (LGP) and other Sign Languages, Porto, 27 novembre. [3.4.7.]
- Cecchetto, Carlo, Carlo Geraci & Sandro Zucchi. 2006. Strategies of relativization in LIS. *Natural Language and Linguistic Theory* 24, 945–975. [3.4]
- Geraci, Carlo. 2007. Comparative correlatives in Italian sign language. In *Traitement Automatique des Langues* 48(3), 55–92. [3.7]
- Geraci, Carlo. 2008. Comparative Correlative in LIS. In Bagnara, Caterina, Corazza Serena, Fontana Sabina & Zuccalà Amir (eds.), *I segni parlano. Prospettive di ricerca sulla Lingua dei Segni Italiana. Atti del III Convegno Nazionale sulla lingua dei segni italiana, Dall'Invisibile al Visibile*, 95-104. Milano: FrancoAngeli. [3.7]

Chapter 4. The noun phrase

The noun phrase is a syntactic domain revolving around a nominal head. A noun phrase can include the head noun (a noun or pronoun) alone or the head noun accompanied by other elements (nominal modifiers). The head noun can be modified by several elements: determiners (SYNTAX 4.1), possessives (SYNTAX 4.2), numerals (SYNTAX 4.3), quantifiers (SYNTAX 4.4), and adjectives (SYNTAX 4.5). It can also be modified by a clause (see the section on relative clauses, SYNTAX 3.4).

4.1. Determiners

Determiners are functional elements that modify the noun. Being functional, they constitute a closed class and lack descriptive content. The lexical properties of these elements are illustrated in LEXICON 3.6.

In this section, we consider determiners as a category including articles (SYNTAX 4.1.1) and demonstratives (SYNTAX 4.1.2).

4.1.1. Articles

In their contexts of use in LIS, articles are optionally produced. Definite articles are realized as pointing signs with a relaxed position (LEXICON 3.6.1), whereas indefinite articles are articulatory similar to cardinal ONE (LEXICON 3.6.2).

It should be noted that articles are not independent items and cannot be used in isolation to answer questions. As shown in the examples in the next sections, both definite and indefinite articles must co-occur with a noun.

4.1.1.1. The position of the article

In this section, we observe the distribution of definite and indefinite articles in LIS. Note that both of them are optionally produced in their contexts of use (see LEXICON 3.6.1 and LEXICON 3.6.2).

When used, definite articles usually appear in postnominal position. In the example below, the article IX follows the noun YOUNG.

YOUNG_i IX_i RUN QUICKLY

[video example]

‘The young man is running quickly.’

When another nominal modifier accompanies the head noun, such as an adjective (ANTIQUE in the example below), the definite article appears after it, at the end of the noun phrase.

FURNITURE_i ANTIQUE IX_i CHANGE NEED

[video example]

‘The antique furniture must be replaced.’ (adapted from Bertone 2007: 60)

A less common option is the reduplication of the article, for instance IX_i MAN IX_i. In this construction, two co-indexed pointing signs are produced, one before and the other after the noun. These two elements can be functional equivalent, and hence produce a genuine case of reduplication, or they can carry out two different functions, and hence instantiate a case of demonstrative reinforcer construction (for more details on this construction see [SYNTAX 4.1.2.2](#)).

Indefinite articles in LIS usually occur before the noun. In the example below, the article ONE-DET precedes the noun DEAF.

ONE-DET DEAF IX₁ MEET

[video example]

‘I met a deaf guy.’

As for the postnominal position, judgments are not uniform. According to some signers, when the sign ONE appears after the noun, it functions as a cardinal numeral.

BOOK ONE₂GIVE₁

[video example]

‘Give me one book.’ (Bertone 2007: 146)

According to other signers, when the sign ONE is found in postnominal position and it is associated with trembling motion, it functions as an indefinite determiner.

BOOK ONE-DET_{tremoring} 2GIVE₁

‘Give me a book.’ (Bertone 2007: 146)

This particular articulation can also be used to express a free choice reading (*any book*).

4.1.1.2. Simultaneous manual articulation

The fact of having two independent manual articulators allows signers to realize two different items simultaneously. So, in some cases, the noun and its modifiers (for example adjective or numeral) are articulated with the dominant hand and, at the same time, the article is produced with the non-dominant hand.

In the example below, noun and article are articulated simultaneously: specifically, the noun CHILD and the nominal modifier HAIR BLACK are expressed by the dominant hand, whereas the definite article IX is simultaneously expressed by the non-dominant hand (see the discussion on pointer buoys in [PRAGMATICS 2.2.3](#)).

_____ re roleshift

dom: CHILD; HAIR BLACK WALK DAD GO

n-dom: IX;-----

[video example]

‘The kid with black hair left whining and went to his dad.’

4.1.1.3. Non-manual marking

Definite articles may be accompanied by special facial expressions conveying definiteness. They typically include raised eyebrows, chin up, contracted cheeks, and mouth slightly open.



Non-manuals marking definiteness

It has been observed that these non-manuals are not compulsory. Their use can vary across signers and across contexts. When produced, they highlight the fact that the referent has already been mentioned in the discourse. As for their distribution, these non-manuals (here labelled as ‘def’) can: i) be omitted, as in (a); ii) co-occur with the definite article only, as in (b); or iii) coextend over the whole noun phrase, as in (c).

a. MAN IX; UMBRELLA TAKE
‘The man took the umbrella.’

def

b. MAN IX; UMBRELLA TAKE

‘The man took the umbrella.’

def

c. MAN IX; UMBRELLA TAKE

‘The man took the umbrella.’

Indefinite articles are usually accompanied by facial expressions conveying indefiniteness, such as backward-tilted head and mouth-corners down.



Non-manuals marking indefiniteness

4.1.1.4. Articles expressed by non-manual marking only

In their contexts of use, both definite and indefinite articles are not obligatory in LIS. However, when they are omitted, they are replaced by obligatory non-manuals (the ones described in [SYNTAX 4.1.1.3](#)).

In the example below, the pointing sign IX is not produced and the noun MAN is accompanied by obligatory non-manuals marking definiteness.

def

MAN UMBRELLA TAKE

[video example]

‘The man took the umbrella.’

The same pattern holds for indefinite articles. When the manual sign is not present, the noun must be accompanied by non-manuals marking indefiniteness (here labelled as ‘indef’).

indef

WOMAN CL:entity-COME

[video example]

‘A woman came to me suddenly.’

4.1.2. Demonstratives

Unlike articles, demonstratives are obligatorily produced in their contexts of use in LIS. Demonstratives are pointing signs directed toward a specific point in space and realized with a tense movement ([LEXICON 3.6.1](#)).

Demonstratives have a double usage: they can be combine with a noun, and hence function as nominal modifiers ([LEXICON 3.6.1](#)), but they can also be used as pronouns (see [LEXICON 3.7.1](#)). An example of demonstrative functioning as nominal modifier is shown in the discourse stretches below.

_____ wh

A: IX₂ BUY WHAT
B: BOOK_i IX-DEM_i
[\[video example\]](#)
'What did you buy? This book.'

An example of demonstrative functioning as pronoun is shown in the discourse stretches below.

_____ wh

A: IX₂ BUY WHAT
B: IX-DEM
[\[video example\]](#)
'What did you buy? This.'

This last example demonstrates that demonstratives can be used in isolation to answer questions.

4.1.2.1. The position of the demonstrative

Demonstratives in LIS usually appear in postnominal position. In the example below, the deictic demonstrative IX-DEM follows the noun MOBILE-PHONE.

MOBILE-PHONE IX-DEM_i WORLD CHANGE
[\[video example\]](#)
'That mobile phone has changed the world.'

A less common option is the reduplication of the demonstrative. In this case, as exemplified below, one demonstrative is produced at the beginning of the noun phrase and the other at the end of it.

IX-DEM_i BOOK NEW TWO IX-DEM_i POSS₁

'These two new books are mine.' (Bertone 2007: 85)

A similar construction is the demonstrative reinforcer construction (SYNTAX 4.1.2.2).

Another possibility is to articulate noun and demonstrative simultaneously: the former with the dominant hand and the latter with the non-dominant hand.

dom: MAN LEAVE

n-dom: IX-DEM_i

[video example]

'That man is leaving.'

4.1.2.2. Demonstrative reinforcer construction

The demonstrative reinforcer construction combines three items: noun, demonstrative, and locative. The locative element acts as reinforcer and provides additional information on the exact location of the referent(s).

In the example below, two pointing signs are produced, one before and the other after the head noun (MAN). From an articulatory perspective, the two pointing signs do not look alike: the former is quickly produced, whereas the latter is characterized by a more marked articulation.

PETER IX-LOC_i MAN IX-DEM_i KNOW

'Peter knows that man over there.' (Bertone 2007: 157)

It has been observed that the two pointing signs carry out different linguistic functions: the prenominal one functions as locative (reinforcer), whereas the postnominal one functions as demonstrative. The different status of these two elements is confirmed by plural inflection. With this respect, demonstratives and locatives differ from each other in that the former can be pluralized, while the latter cannot. As shown in the example below, the postnominal pointing sign allows for pluralization and therefore functions as demonstrative, whereas the prenominal pointing sign does not and therefore functions as locative.

PETER IX-LOC_i MAN IX-DEM_{arc i} KNOW

[video example]

'Peter knows those men over there.'

Alternatively, the locative item can follow the demonstrative (a) or be simultaneously articulated with the non-dominant hand (b).

- a. PETER MAN IX-DEM_{arc i} IX-LOC_i KNOW
 ‘Peter knows those men over there.’
- b. dom: PETER MAN IX-DEM_{arc i} KNOW
 n-dom: IX-LOC_i
 ‘Peter knows those men over there.’

The demonstrative reinforcer construction is compatible with the anaphoric demonstrative PE as well.

SUITCASE_i PE_i IX-LOC_i POSS₁
 [video example]
 ‘That suitcase over there is mine.’

4.1.2.3. Non-manual marking

The non-manuals marking definiteness described for articles (raised eyebrows, chin up, contracted cheeks, and mouth slightly open, as discussed in SYNTAX 4.1.1.3) are usually also found with demonstratives. This is because both classes of determiners are definite in nature.

If the direction of the eye-gaze (here labeled as ‘eg’) coincides with that of the demonstrative, the signer emphasizes that the referent is physically present in the extralinguistic context. In the example below, the eye-gaze is pointed downward, in the same direction indicated by the demonstrative IX-DEM. This alignment between eye-gaze and demonstrative suggests that the referent (the pen) is physically present in the scene of the interaction.

_____ eg
 PEN IX-DEM NEED IX₁
 [video example]
 ‘I need this pen.’

Deictic demonstratives refer to someone or something present in the surrounding extralinguistic context, which might be more or less distant from the signer. The proximal or distal specification is often signalled by non-manuals. For example, proximity can be marked by body posture and/or half-closed eyes, as in (a), while distality can be marked by eye opening and chin up, as in (b).



a. Proximal specification



b. Distal specification

4.1.2.4. Anaphoric usage

Anaphoric demonstratives are used to refer to already-mentioned referents. Therefore, they rely on the linguistic context. In LIS, the anaphoric demonstrative is usually expressed by the sign PE (for more details on this sign see [LEXICON 3.6.1](#)).

Like its deictic counterpart, the anaphoric demonstrative in LIS appears in postnominal position. In the example below, the sign PE is used to express anaphoric reference to an already-mentioned project and appears after the noun (PROJECT).

PROJECT₁ PE_i IX₁ 3GIVE₁ GROW-UP

[\[video example\]](#)

‘That project helped me grow up.’

4.2. Possessive phrases

4.2.1. Ways of expressing the possessive relation in the noun phrase

4.2.1.1. Attributive possessive pronouns

4.2.1.2. Possessive markers

4.2.1.3. Juxtaposition

4.2.2. The position of the possessive pronoun

4.2.3. Agreement with the possessor

4.2.4. Agreement with the possessed

4.2.5. Possessive phrases with the possessed elided

4.3. Numerals

Numerals are nominal modifiers used to indicate the number of entities that are referred to. In LIS, there are three different types of numerals: cardinal, ordinal, and distributive numerals (see [LEXICON 3.10.1](#)). This section discusses the distribution of numerals within the nominal domain, with a special focus on cardinals, the most studied numeral class.

4.3.1. The position of the numeral

The distribution of cardinals in the LIS nominal domain appears quite flexible because they can be found both in prenominal and postnominal position. For example, the cardinal TWELVE can appear before the noun BOOK, as in (a), or after it, as in (b).

a. TWELVE BOOK _{2CL}:GIVE₁

[video example]

‘Give me twelve books.’

b. BOOK TWELVE _{2CL}:GIVE₁

[video example]

‘Give me twelve books.’

In some cases, the different positions of the cardinal can produce different interpretations (see [SYNTAX 4.3.3](#)).

A less common pattern involves the reduplication of the cardinal, before and after the noun, as in the example below.

TWELVE BOOK TWELVE
'Twelve books'

4.3.2. Floating numerals

A floating numeral is a numeral that does not appear in its canonical position since it is not close to the noun it modifies. In other words, there is a split between the noun and the numeral. This syntactic construction is attested in LIS.

To illustrate, consider the noun phrase BOOK THREE. The separation between these two elements can be observed in a sentence with topicalisation (see **PRAGMATICS 4.2**), namely a sentence in which a topical constituent accompanied by marked non-manuals is preposed to a sentence-initial position. As shown in the example below, the noun (BOOK) is topicalized at the beginning of the sentence and the related cardinal (THREE) is stranded in a non-adjacent position, after the verb.

top
BOOK IX₁ WANT THREE
[video example]
'I want three books.'

If the noun phrase also includes an adjective, this accompanies the topicalized noun, rather than the stranded cardinal. The example below shows the distribution of the adjective RED and the cardinal THREE with respect to the noun to which they both refer.

top
BOOK RED IX₁ WANT THREE
[video example]
'I want three red books.'

4.3.3. Definite and indefinite reading

The distribution of cardinals in LIS is influenced by information structure (see **PRAGMATICS 4.2**). In that respect, it is important to distinguish two distinct cases: (i) first-mentioned referents, namely entities that are introduced for the first time into the discourse and constitute new-discourse information and (ii) already-mentioned referents, namely entities that have already been mentioned in the discourse and constitute old-discourse information. The noun phrases associated with first-mentioned referents receive an indefinite interpretation, whereas the noun phrases associated with already-mentioned referents receive a definite interpretation.

For LIS, it has been observed that when a cardinal is included in an indefinite nominal expression, it can appear either before or after the noun. When it occurs in a definite nominal expression, it must appear after the noun.

Therefore, if a signer is introducing new referents in the discourse, the cardinal can appear either before or after the noun. In the example below, the first-mentioned referents are two children: both prenominal cardinal (a) and postnominal cardinal (b) are acceptable in this context.



a. TWO CHILD
'Two children' (indefinite reading) (Mantovan 2017: 173-174)



b. CHILD TWO
'Two children' (indefinite reading) (adapted from Mantovan 2017: 173-174)

On the contrary, if a signer is talking about already-mentioned referents, the cardinal is obligatorily postnominal. Below we can see that when the two children are mentioned again in the discourse, they receive a definite reading, which is conveyed through the articulation of the cardinal TWO after the noun CHILD.



CHILD

TWO

CL:entity-BE-LOCATED

‘The two children’ (definite reading) (Mantovan 2017: 173-174)

As the example above shows, the sequence noun + cardinal conveying a definite reading is compatible with the presence of a whole-entity classifier, which defines the position in space of the already-mentioned referents.

Another difference between the two semantic interpretations is represented by non-manuals. As we can see in the examples above, cardinals associated with an indefinite reading are usually articulated with backward-tilted head and raised eyebrows, whereas those associated with a definite reading are usually articulated with squinted eyes, lowered eyebrows, and chin bent downward.

4.3.4. Numeral incorporation

In some cases, cardinal and noun are not conveyed through two distinct lexical signs, rather they come together to form a single sign. This phenomenon is known as numeral incorporation (see [LEXICON 3.10.1.1](#)).

Numeral handshapes (usually from 1 to 5, in some cases from 1 to 10) are combined with movement, location, and orientation of a root. The possible roots, namely signs that can be modified to accommodate a numeral handshape, are nouns, pronouns, and classifiers. Three illustrative examples are provided below: the noun YEAR, as shown in (a), the first-person plural pronoun IX_{1pl}, as shown in (b), and the whole-entity classifier for person, as shown in (c).

a. YEAR-FOUR

[video example]

‘Four years’

b. IX_{1pl}-FOUR

[video example]

‘The four of us’

c. CL:entity-GO-FOUR

[video example]

‘Four people approaching’

4.3.5. Measure phrases

A Measure Phrase is a construction including a measure noun, namely a noun referring to time, capacity, weight, length, temperature, or currency.

In LIS, when cardinals are included in Measure Phrases, they show a special distributional pattern in that they always occur preminimally. Therefore, they always appear before the measure noun. In the following examples, cardinal THREE precedes METRE, cardinal TWO precedes KILOGRAM, and cardinal TWO-HUNDRED-THOUSAND precedes TIME.



a. THREE METRE
‘Three metres’



b. TWO KILOGRAMME
‘Two kilogrammes’



c. TWO-HUNDRED THOUSAND TIME
‘Two hundred thousand times’ (Mantovan 2017: 170)

4.4. Quantifiers

4.4.1 The position of the quantifier

4.4.2. Floating quantifiers

4.5. Adjectives

An adjective occurring within a noun phrase is an attributive adjective (see [LEXICON 3.4.1](#)). This means that it functions as an attribute of the noun and modifies it.

Adjectival modification can be expressed in different ways: i) lexically (for example, the sign NEW), ii) with a classifier (for example, CL:SASS), and iii) non-manually (for example, open mouth co-occurring with a noun expresses augmentation). These three options are illustrated below.



a. CAR
'New car'

NEW



b. GLASS
'Flute glass'

CL:SASS



open-mouth

- c. BRIDGE
'Big/long bridge'

For the sake of simplicity, in this section we especially focus on the distribution of independent lexical adjectives like NEW in (a) above.

There are different classes of adjectives. The most common ones are those conveying: quality, size, shape, colour, and provenance. In some cases, the semantic category of adjectives has an influence on their distribution with respect to the noun and/or other adjectives (see SYNTAX 4.5.4). This section is intended to provide information about the distribution of adjectives with respect to the noun (SYNTAX 4.5.1, 4.5.2, and 4.5.3) and other adjectives (SYNTAX 4.5.4).

4.5.1. Prenominal vs. postnominal adjectives

Considering the distribution of an attributive adjective with respect to the noun it modifies, the most frequent pattern in LIS is: noun + adjective. This distribution holds for provenance, colour, shape, size, and quality adjectives, as shown in the examples below. The provenance adjective GERMAN, the colour adjective RED, the shape adjective ROUND, the size adjective BIG, and the quality adjective BEAUTIFUL follow the noun they modify.

- a. WOMAN GERMAN IX-DEM IX₁ TALK IMPOSSIBLE

[video example]

'It is impossible for me to talk with that German woman.'

- b. BOOK RED IX COST LITTLE

[video example]

'The red book is cheap.'

- c. CANTEEN TABLE ROUND EXIST

[video example]

'In the canteen, there is a round table.'

d. IX₁ DREAM HOUSE BIG

[video example]

‘I dream of a big house.’

e. TRAVEL AMERICA IX-LOC EXPERIENCE BEAUTIFUL

[video example]

‘My travel to the States was a beautiful experience.’

Other types of adjectives, such as OTHER, NEXT, and LAST, show the same preference for a postnominal distribution.

IX₁ WAIT SUMMER NEXT

[video example]

‘I am looking forward to next summer.’

Although they do not constitute the most frequent pattern, some cases of prenominal adjectives (adjective + noun) are occasionally observed. They are almost exclusively quality adjectives. Here we provide an example with BEAUTIFUL.

TRAVEL AMERICA IX-LOC BEAUTIFUL EXPERIENCE

[video example]

‘My travel to the States was a beautiful experience.’

Sometimes, the prenominal distribution in LIS might be reminiscent of Italian word order. For example, the Italian adjective *ex* (Eng. *former*) is always prenominal (Ita. *la mia ex fidanzata*, Eng. *my former girlfriend*). As shown below, the same distribution is found with the sign EX in LIS.

EX GIRLFRIEND IX MAN OTHER GET-TOGETHER

[video example]

‘My ex-girlfriend got together with another man.’

4.5.2. Symmetric adjectives

As mentioned before, some quality adjectives can either precede or follow the nominal head (BEAUTIFUL EXPERIENCE or EXPERIENCE BEAUTIFUL). According to our informants, there is no significant difference in meaning between these two distributional patterns.

4.5.3. Reduplicated adjectives

In signing discourse, a lexical adjective might occasionally be reduplicated, being articulated both prenominally, and postnominally. This is exemplified below with the adjective OTHER.

MUST OTHER JOB OTHER

‘I had to find another job.’ (Mantovan 2017: 118)

Notice that reduplication of adjectives does not induce any difference in meaning.

4.5.4. Ordering restrictions among adjectives

Sometimes, two or more attributive adjectives co-occur within the same noun phrase, establishing a complex nominal expression. The relative order of multiple adjectives in LIS appears to be sensitive to the semantic class they belong to. For the sake of simplicity, we take into consideration the distribution of the following semantic classes of independent lexical adjectives: provenance, colour, size, and quality.

When a provenance adjective and a colour adjective co-occur, the most common relative order is: provenance + colour (for example, CHINA RED).

VASE CHINA RED

‘Red Chinese vase’ (Bertone 2009: 17)

It should be noted that some signers prefer to express provenance with a possessive phrase (CHINA POSS, for more details on this construction see [SYNTAX 4.2](#)), rather than an independent adjective (CHINA). In this case, the sign order tends to be reversed: the colour adjective precedes the possessive construction expressing provenance.



VASE

RED

CHINA

POSS₃

‘Red Chinese vase’

When a size adjective and a colour adjective co-occur, the most common relative order is: colour + size (for example, RED BIG).

VASE RED BIG

‘Big red vase’ (adapted from Bertone 2007: 78)

When a size adjective and a quality adjective co-occur, the most common relative order is: size + quality (for example, BIG OLD).

VASE BIG OLD

‘Old big vase’ (Bertone 2007: 78)

To sum up, the unmarked order of LIS attributive adjectives is: (noun +) provenance + colour + size + quality.

4.6. Multiple noun phrase constituents

Nominal expressions have the potential to host several nominal modifiers. When different types of modifiers co-occur in LIS, their distribution can be quite flexible, but it is never random.

This section illustrates the most frequent sign order patterns observed in complex nominal expressions including multiple modifiers, such as determiners (LEXICON 3.6), cardinal numerals (LEXICON 3.10), and attributive adjectives (LEXICON 3.4.1).

4.6.1. Prenominal modifiers

As reported in the previous sections, most nominal modifiers in LIS preferably occur postnominally. However, some of them can be produced before the noun. This is the case of: i) some quality adjectives (see SYNTAX 4.5.1), ii) the reinforcer element in the demonstrative reinforcer construction (see SYNTAX 4.1.2.2), and iii) some cardinal numerals (see SYNTAX 4.3.3). For the sake of comparability, the glosses of the relevant examples are repeated below: (a) shows a prenominal adjective (BEAUTIFUL), (b) a prenominal reinforcer element (IX), and (c) a prenominal cardinal (TWELVE).

a. TRAVEL AMERICA IX-LOC BEAUTIFUL EXPERIENCE

‘My travel to the States was a beautiful experience.’

b. PETER IX-LOC₁ MAN IX-DEM₁ KNOW

‘Peter knows that man over there.’

c. TWELVE BOOK₂CL:GIVE₁

‘Give me twelve books.’

In the example below, we show an indefinite complex nominal expression containing a prenominal cardinal (THREE). The sign order is cardinal + noun + adjective.

open-mouth

IX₁ SEE THREE DOG BLACK

[video example]

‘I suddenly saw three black dogs.’

4.6.2. Postnominal modifiers

LIS shows a preference for postnominal modifiers. In this section, we observe how multiple postnominal modifiers co-occurring in the same nominal expression are distributed.

Considering indefinite nominal expressions, there are two unmarked orders: noun + adjective + cardinal, as shown in (a), and noun + cardinal + adjective, as shown in (b).

open-mouth

a. IX₁ SEE DOG BLACK THREE

[video example]

‘I suddenly saw three black dogs.’

open-mouth

b. IX₁ SEE DOG THREE BLACK BEAUTIFUL

‘I suddenly saw three beautiful black dogs.’

As for definite nominal expressions, there are two unmarked orders: noun + adjective + cardinal + demonstrative, as shown in (a), and noun + cardinal + adjective + demonstrative, as shown in (b).

a. CAT RED THREE IX-DEM POSS₃

[video example]

‘These three red cats are his.’

b. CAT THREE RED IX-DEM POSS₃

[video example]

‘These three red cats are his.’

To summarize, in complex nominal expressions, the relative order between adjectives and cardinals seems quite flexible. On the other hand, demonstratives tend to appear in the most peripheral position.

Information on Data and Consultants

The descriptions in these sections are based on the references below. The linguistic data illustrated as images and video clips have been checked through acceptability judgments and have been reproduced by Deaf native-signing consultants.

Authorship Information

Lara Mantovan [4.1], [4.3], [4.5], [4.6]

References

- Bertone, Carmela. 2007. *La Struttura del Sintagma Determinante nella LIS*. PhD dissertation. Venice: Università Ca' Foscari di Venezia. (63-74) [4.5], (83-86) [4.6], (143-163) [4.1]
- Bertone, Carmela. 2009. The Syntax of Noun Modification in LIS. Working Papers in Linguistics 19, 7-28. [4.5]
- Bertone, Carmela. 2011. *Fondamenti di grammatica della LIS*. Milano: Franco Angeli. (116-126) [4.1], (133-148) [4.5]
- Brunelli, Michele. 2011. *Antisymmetry and Sign Languages: A Comparison between NGT and LIS*. Utrecht: LOT. (56-59) [4.1], (59-62) [4.3] and [4.5]
- Mantovan Lara, Carlo Geraci & Anna Cardinaletti. 2014. Addressing the Cardinals Puzzle: New Insights from Non-Manual Markers in Italian Sign Language. In: *Workshop proceedings, 6th Workshop on the Representation and Processing of Sign Languages: beyond the Manual Channel*, Reykjavik, pp. 113-116. [4.3]
- Mantovan Lara, Carlo Geraci & Anna Cardinaletti. submitted. *On the cardinal system in Italian Sign Language (LIS)*, manuscript. [3.10]
- Mantovan, Lara, Carlo Geraci. 2015. The syntax of cardinal numerals in Italian Sign Language (LIS). In: T. Bui & D. Özyıldız (eds.), *NELS 45: Proceedings of the Forty-fifth Annual Meeting of the North East Linguistic Society*, vol. 2, pp. 155-164. Amherst, MA: GLSA. [4.3]
- Mantovan, Lara. 2017. *Nominal modification in Italian Sign Language (LIS)*. Berlin: De Gruyter Mouton. [4.3] and [4.6]
- Mazzoni, Laura (2008), *Classificatori e impersonamento nella lingua dei segni italiana*. Pisa: Edizioni PLUS/Pisa University Press. (159-160) [4.3.4]

Chapter 5. The structure of adjectival phrase

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Chapter 2. Reference tracking

In the following sections, anaphoric pronouns will be described in relation to their properties (PRAGMATICS 2.1); anaphoric pronouns are linguistic elements which express co-reference with a previously mentioned item. However, co-referentiality can also be expressed by means of verbal agreement (PRAGMATICS 2.2.1), classifiers handshapes (PRAGMATICS 2.2.2), and buoys (PRAGMATICS 2.2.3).

2.1. Pronouns

Pronouns are linguistic elements which can express co-reference (see LEXICON 3.7). Co-reference occurs when two or more expressions refer to the same entity. Co-referential elements are usually composed of a full form, namely the antecedent, such as a noun, and an abbreviated form, which is the anaphoric element, for example a pronoun. Indeed, pronominal expressions are the main means of expressing co-reference in LIS. Referents are associated with certain areas in signing space, called referential loci. Pointing to a specific area in the space activates the referents associated with this area. For instance, in the sentence below the referent BEAR is associated with the locus *a*. Several sentences later, the signer can use the same locus *a* in order to refer back to the bear.

BEAR IX_a FEAR [...] IX_{3a} RUN AWAY

'The bear is scared [...] He run away.'

LIS seems to distinguish between different types of pronouns: reflexive pronouns, personal pronouns, possessive pronoun, anaphoric pronoun PE and logophoric pronouns (see LEXICON 3.7). In LIS, the differences between types of pronouns can decide which kinds of co-referentiality they bear. Specifically, reflexive pronouns appear to express co-reference between discourse referents within one clause. Other types of pronouns, like personal pronouns and possessive pronouns, behave differently and can express co-reference with discourse referents also outside the boundaries of the clause where they are placed or in non-local domain.

As for reflexive pronouns, in the example below the two co-referential elements are the noun phrase MARCO and the reflexive pronoun SELF; since the meaning of SELF depends on the meaning of MARCO, we will say that SELF is bound by MARCO, and they are identified with the same index (*i*).

MARCO_i LOVE SELF_i

[video example]

'Marco loves himself.'

An alternative form of reflexive pronouns is PERSON in the examples (b) below.

MARCO_i LOVE PERSON_i
[video example]
'Marco loves himself.'

However, the first form in (a) can also be used in other context as an emphatic form of intensification, as in the example below. In cases like this, the pronoun SELF is not really used to refer back to the personal pronoun 'I' (IX₁), but to communicate the idea of performing the action in an independent way.

IX₁ PAY SELF
[video example]
'I have paid it by myself.'

As said before, reflexive pronouns must take their antecedent in their clause, a local context. Another example of reflexive pronouns locally bound by its antecedent is presented below, where the reflexive pronoun SELF can only refer to the proper name MARCO.

GIANNI_a IX_a SAY MARCO_i LOVE ONLY SELF_i
[video example]
'Gianni said that Marco loves only himself.'

There are situations when co-reference can also occur between quantifiers (see [LEXICON 3.10.2](#)) and anaphoric pronouns, such as in the examples below. In this case, since the reflexive pronoun 'himself' (PERSON) refers to the quantifier expression EVERY YOUNG BOY, the reflexive pronoun is semantically bound to the quantifier, and not simply co-referential to it. This special relation is defined 'semantically bound'. Indeed, since the expression EVERY YOUNG BOY is a quantifier, it is not possible to say that EVERY YOUNG BOY has a specific referential pronoun.

YOUNG EVERY PAINT ONLY PERSON
[video example]
'Every young boy paints himself.'

The same 'semantically bound' relation occurs with the form SELF of the reflexive pronoun, as in the example below.

YOUNG EVERY PAINT ONLY SELF
[video example]

‘Every young boy paints himself.’

As anticipated before, other types of pronouns are personal pronouns and possessive pronouns. Unlike the reflexive pronouns, they appear to behave differently. Indeed, personal and possessive pronouns seem to express co-reference with discourse referents which are not contained into the boundaries of the clause or into their local domain. As for personal pronouns (see [LEXICON 3.7.2](#)), they are usually expressed by pointing, or by other means which will be discussed in the following paragraphs. An example of personal pronouns is shown up below, where the noun phrase MARCO and the 3rd person pronoun ‘her’ (IX_{3b}) refer to an entity, which is not locally expressed. This is the reason why MARCO and ‘her’ (IX₃) are not co-indexed. Indeed, different entities which are not co-referential are indicated with different indices, in this case with *i* and *j* respectively. In LIS, non-coreferential items are realized in different signing spaces, which are indicated below with the letter *a* and *b*.

MARCO_{i-a} IX_{3j-b} LOVE_b

[video example]

‘Marco loves her.’

As shown above, in LIS co-referentiality is spatially expressed (see [PRAGMATICS 8](#)). Co-referential elements are localized in the same area (as GIANNI and the personal pronoun IX₃ in the example below). Furthermore, the anaphoric element (which in the example below is the pronouns IX₃) can be expressed through pointing in the same area of the antecedent (in this case GIANNI), as example below. Unlike spoken languages, this spatial strategy of co-referentiality avoids any other ambiguous interpretations.

GIANNI_a SEE PIERO_b. IX_{3a} GO HOME

[video example]

‘Gianni saw Piero. He was going home.’

The personal pronoun ‘he’ (IX₃) clearly refers back to Gianni and not to Piero, because it is realized in the same locus of the signing space of Gianni, indicated with *a* in the example above.

However, this explicit co-reference can be avoided, if there is a clear verbal agreement (see [MORPHOLOGY 3.1](#)), as in the second example below. Here, the co-reference with LUCIA is yielded by the agreement of the verb HATE, which is a directional verb. These cases will be further discussed in the next section.

LUCIA_a IX_a MARCO_b IX_b LOVE_b. IX_{3b} bHATE_a

[video example]

‘Lucia loves Marco. He hates her.’

Possessive pronouns, like personal pronouns, in LIS also refer to entities which are not expressed into their local domain or into the boundaries of the clause. This case is shown in the example below, where the possessive pronoun POSS₃ (realized with the handshape unspread 5) refers to the proper noun GIANNI, because both (the antecedent GIANNI and the possessive pronoun POSS₃) are articulated in the same referential locus, namely the signing space *a*.

GIANNI_a KNOW MARIO_b IX_b LOVE CAT POSS-5_a

[video example]

‘Gianni knows that Mario loves his cat.’

Variant forms of the possessive pronoun above are the forms realized with handshape G and wrist rotation, as in (a), or without wrist rotation, as in (b).

a. GIANNI_a KNOW MARIO_b IX_b LOVE CAT POSS-G_a

[video example]

‘Gianni knows that Mario loves his cat.’

b. GIANNI_a KNOW MARIO_b IX_b LOVE CAT POSS-G1_a

[video example]

‘Gianni knows that Mario loves his cat.’

Other tests exist to illustrate the difference between possessive or reflexive pronouns, one of these tests is the ellipsis of the verbal phrase (SYNTAX 2.5), as shown in the sentences below. In the example (a) the unpronounced reflexive pronoun in the clause with ellipsis (SELF) can only refer to the nearest antecedent (GIANNI). The sentence means: ‘Maria loves herself and Gianni loves himself’.

MARIA_a LOVE SELF, GIANNI_b SAME

[video example]

‘Maria loves herself, Gianni does the same.’

By contrast, the possessive pronoun in (b) is more flexible in its interpretation since the unpronounced possessive pronoun (POSS₃) in the clause with ellipsis (SAME) can refer to MARIA, even if GIANNI is a closest antecedent. Thus, the sentence can mean: ‘Maria loves her cat and Gianni loves the cat of Maria, too’.

MARIA_a IX_a CAT POSS_{3a} LOVE, GIANNI SAME

[video example]

‘Maria loves her cat, Gianni does the same.’

A specific case of anaphoric pronoun in LIS is represented by PE (see [LEXICON 3.7](#) and [SYNTAX 3.4.2.1](#)). PE is a pointer to the noun which is modified by a relative clause, as in the example below.

rel

BOOK_a IX_a MARCO BORROW PE_a DISAPPEARED
[video example]
'The book which Marco borrowed has disappeared.'

Finally, an interesting case of co-referentiality in LIS concerns the logophoricity of first personal or possessive pronouns under role-shift (see [LEXICON 3.7.2.7](#) and [PRAGMATICS 6](#)). In LIS, after a character has been introduced, the signer can assume the internal point of view of this character, for example by moving his/her body towards the position in the space associated to that character. In these cases, even though the signer points to himself, curiously, the pronoun co-refers with the previously introduced character, and it does not refer to the real signer anymore. The use of first personal pronoun IX₁ which is signed in combination with use of role-shift is shown in the example below.

roleshift

MARIA KNOW IX₁ SMART
[video example]
'Maria knows that she is smart.'

In the example above, the point of view of the referent MARIA is assumed by the signer, through a total role-shift, therefore the first personal pronoun IX₃ does not refer to the signer anymore, but it refers to MARIA. The crucial element in the case of role shift is that the signer loses eye contact with his addressee.

2.2. Other means

Although pronouns are the most frequent co-referential element in LIS, they are not the only ones. In fact, other morphosyntactic strategies exist in order to track back referents, such as spatial agreements, classifier handshapes and buoys.

2.2.1. Agreement

Signing space can be used arbitrarily in order to place referents within the discourse. Some verbs, changing direction or movement, agree with the loci associated with their arguments. Indeed, spatial verbal agreements (see [MORPHOLOGY 3.1](#)) are used as co-

referential means. Often, the antecedent is previously realized in a specific signing space, and therefore in the following sentences overt co-referential elements can be omitted without risk of ambiguity. The example below is a case of spatial verbal agreements used without explicit anaphoric forms.

LUCIA_a CL:entity-BE-LOCATED_a GIANNI_b CL:entity-BE-LOCATED_b BOOK RED_b GIVE_a
[video example]

‘There are Lucia and Gianni. He gives her a red book.’

Sometimes, spatial verbs ([LEXICON 3.2.3](#)) agree with topographic locations instead of arguments. Topographic use of space iconically expresses the spatial relation among referents like in the example below, where the verb OPEN is directed towards the door.

OPEN
[video example]

‘Open it!’

In the sentence above the verb is signed in the direction of the door, but neither the linguistic expression DOOR, nor an overt linguistic realization of the referent has ever been mentioned by the signer. Like in the case of verbal agreement, spatial verbs are still cases of reference tracking, indeed the co-reference of topographic locations is realized through spatial agreement.

2.2.2. Classifier handshapes

In classifier predicates (see [MORPHOLOGY 5.1](#)) the handshape classifiers can help in retrieving the antecedent. In fact, these classifiers can identify a class of objects by representing iconically the properties of the entity they describe, such as shape, size or the way in which they are handled. Frequently, the use of handshape classifiers is enough and no other referential means, such as pronouns, are needed in order to disambiguate their referents. The sentences below show an example of these specific uses of classifiers. First, the sign for BEAR and the sign for DOG are introduced, after some sentences, the dog jumps on the bear, but the repetitions of the sign BEAR is not necessary anymore. Indeed, the handshape classifier CL:entity-JUMP is enough in track back the reference of the BEAR.

BEAR RUN. DOG FOLLOW. BEAR FALL. IX₃ DOG CL:entity-JUMP
[video example]

‘The bear runs. The dog follows him. The bear falls and the dog jumps on him.’

As co-referential strategies, the most commonly used types of predicative classifiers are entity classifiers (see MORPHOLOGY 5.1.1), body part classifiers (see MORPHOLOGY 5.1.2) and handle classifiers (see MORPHOLOGY 5.1.3), but not Size and Shape Specifiers (see MORPHOLOGY 5.2) which are not used for reference tracking.

2.2.3. Buoys

In a discourse, signers can hold the handshape of a sign with the non-dominant hand, while the dominant hand continues to sign independently. This phenomenon is called weak hand holds and it can have two different functions. One concerns the discourse level, where the non-dominant hand simply expresses discourse relations, while in other cases the information held with the non-dominant hand still represents a co-referential meaning: these latter cases are called buoys (see LEXICON 1.2.3).

In LIS, several types of buoys can be identified: list buoys, pointer buoys, theme buoys and fragment buoys.

List buoys are the outstretched fingers which function to track a certain number of referents. Each finger ensures a co-referential link to the discourse referents, as in the example below, where the signer refers to his fingers to keep track of his brothers and sisters during the speech.

dom: IX₁ BROTHER THREE EXIST: IX DOCTOR IX LAWYER IX TEACHER

n-dom: THREE-----

[video example]

‘I have three brothers, the first is a doctor, the second a lawyer, and the third a teacher.’

The signer may also point to the fingers with the dominant hand in order to retrieve that specific co-referent.

Pointer buoys are pronominal elements realized by the non-dominant hand. These buoys are very similar to pointing pronouns, but they articulated simultaneously with the other signs. The example below shows this phenomenon.

dom: BEAR_a SEE_b. IX_b BAD IX_b

n-dom: IX_b-----

[video example]

‘The bear see the dog. (The bear) thinks (the dog) is bad.’

Theme buoys are holding signs which represent prominent information at the discourse sentence. They are realized through pointing and their function is to preserve the salience of these referents along all of the signed discourse, unlike the pointer buoys

which are just arguments of a single sentence. In the example below, the theme buoy refers to some bad situation happened to the signer.

dom: SAD IX₃. IX₃ THINK ALWAYS ALL-DAY. IX₁ UNDERSTAND NOT

n-dom: IX₃-----

[video example]

‘He is sad, I think about him all day. I don’t understand.’

Sometimes, these prominent referents can be realized through a full lexical sign, which has been held for the whole duration of the related discourse. In these cases, the referents are called fragment buoys.

dom: IX₁ QUIET WRITE. CALL IX₁ SEE_i SOMEONE_i SEE_k. PAPER_k IX-LOC

n-dom: PAPER-----

[video example]

‘I was quietly writing when someone called me. I turn my head. My paper is here.’

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The descriptions in this chapter are based on the references below. Please see the data and consultant information in these references. The video clips exemplifying the linguistic data have been produced by a fluent native signer who was born and grown in the northern part of Italy.

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References

- Bertone, Carmela. 2011. *Fondamenti di grammatica della lingua dei segni italiana*. Milano: Franco Angeli. [2.1], [2.2]
- Cecchetto, Carlo & Sandro Zucchi. 2006. Condizioni di verità, sottospecificazione e discorso nelle lingue dei segni. In Rocco Pititto & Simona Venezia (eds.), *Tradurre e comprendere. Pluralità dei linguaggi e delle culture*, 353-385. Roma: Aracne editrice. [2.2.2]

- Cecchetto, Carlo, Alessandra Checchetto, Carlo Geraci, Mirko Santoro & Sandro Zucchi. 2015. The syntax of predicate ellipsis in Italian Sign Language (LIS). *Lingua* 166, 214-235. [2.1]
- Corazza, Serena. 1990. The Morphology of Classifier Handshapes in Italian Sign Language (LIS). In Ceil Lucas (ed.), *Sign Language Research: Theoretical Issues*, 71-82. Washington D.C.: Gallaudet University Press. [2.2.2]
- Mazzoni, Laura. 2008. *Classificatori e impersonamento nella Lingua dei Segni Italiana*. Pisa: Edizioni Plus – Pisa University Press. [2.1] and [2.2.2]
- Pizzuto, Elena. 2009. Meccanismi di coesione testuale e Strutture di Grande Iconicità nella Lingua dei Segni Italiana (LIS) e altre lingue dei segni. In Carmela Bertone & Anna Cardinaletti (eds.). *Alcuni capitoli della grammatica della LIS*. Atti della Giornata di Studio, 16-17 maggio 2007, 137-158. Venezia: Editrice Cafoscarina. [2.1]

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Chapter 11. Register and politeness

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Annex 3. LSC (Catalan Sign Language) Grammar

A Reference Grammar
of
Catalan Sign Language (LSC)

Lexicon

Chapter 1. The native lexicon

1.1. Core lexicon

1.2. Non-core lexicon

Catalan Sign Language (LSC) includes in its lexicon elements that are inherent to the visual nature of sign languages. These elements exploit the properties of the three-dimensional space for the expression of referents and events. Namely, they use the signing space in an isomorphic and non-categorical way in order to provide spatial descriptions, sometimes violating the phonological constraints present in the core lexicon. Also, the visual motivation of these elements makes them highly iconic and less arbitrary, and thus more transparent than items in the core lexicon. However, the meaning of these elements is highly dependent on the discourse context.

In the following subsections three different types of entries from the non-core lexicon will be explored: classifier constructions, pointing, and buoys.

1.2.1. Classifier constructions

Classifier constructions in Catalan Sign Language (LSC) reproduce visual features of situations, actions and objects. For this reason, these constructions are considered as highly iconic. However, they cannot always be interpreted in a straightforward way. In the following example, for instance, previous information is necessary to know that the sphere classifier articulated with the dominant hand refers to a ball and not to other round objects, and that the flat surface classifier articulated with the non-dominant hand refers to a table and not to any other kind of flat surface.

CL-: ball falling
CL-: table
'The ball fell from the table,'

Therefore, it is necessary to introduce a lexical sign specifying to which referent the classifier is linked to before using a classifier construction.

BALL TABLE CL-: ball falling
CL-: table
'The ball fell from the table'

Most of the times, though, classifier's referents can be retrieved by contextual information. However, if the context is not clear enough and no antecedent has been introduced, the meaning of the classifier can be ambiguous.

Classifiers can also be accompanied by modifiers of intensity, length, size, etc. that are expressed through facial expression [[Syntax – Section 5.1](#)].

LSC distinguishes between three different types of classifiers: i) **semantic classifiers**, ii) **descriptive classifiers**, and iii) **handling and instrumental classifiers**.

Semantic classifiers express movement or location of entities in space. These constructions often substitute an element that has been previously introduced by a lexical sign.

- a. IX₃ CAR CL-: car parking
'He parked the car.'
- b. TREES CL-: tree+++
'There are many trees along the avenue.'

In LSC, the most frequently used semantic classifiers are the following:

person
person standing
person on a bicycle
person sitting
very fat person
animal
statue / figure / dummy
column
car
bicycle / motorbike
plain
train
coach
boat
sailing boat
zodiac launch
carriage
lorry
tramway
coach
cable car
trailer
crane
caravan
tree
plant
telephone
paper
book
cutlery

spoon
knife
fork
plate
bird
big bird

(Quer et al., 2005)

Moreover, semantic classifiers are used to refer to parts of the body, both human and animal:

legs of a person
feet
head
tongue
lips
teeth
eyelashes
eyes
eye balls
eye lids
breasts
nipples
penis
testicles
vulva
vagina
hair
eyebrows
ears
toes
thin paws
thick paws
frog legs
penguin feet
animal head
beak
fine tongue

(Quer et al., 2005)

The richness of use of semantic classifiers can be appreciated with a particular case: *water*. In the following examples *water* is represented in many different ways, thanks to a variety of semantic classifiers.

large river

tide
geyser
fountain
sprinkler
water pump
water breaking on rocks
sweat beads
shower
giant wave
water from a tap
waterfall

(Quer et al., 2005)

There are also some classifiers from this category that represent the instrument that is being handled with the handshape:

‘Drill perforating the wall.’
‘Scissors cutting.’
‘Adjustable spanner turning.’
‘Paintbrush and brush painting.’
‘Video camera filming.’

(Quer et al., 2005)

Descriptive classifiers describe features of the physical properties of objects and persons. Instead of describing the referent’s movement, the movement carried out by the hands in the articulation of this type of classifier usually follows the perimeter or the surface of the element described, as in the examples below.

rectangle	line
python	arch
spots	mountain side
grid	

(Quer et al., 2005)

Descriptive classifiers can also include information about shape and volume, as in the following examples:

ellipsoidal
hexahedron
sphere
cylinder
cube

Moreover, this classifier type can also indicate the texture of a surface. In these cases, different mouth patterns accompany the articulation of the classifier, as we can see below.

‘rough’
‘smooth’
‘velvety’
‘bumpy’

(Quer et al., 2005)

Handling classifiers adopt a hand configuration that represents some of the features of how an object is being handled.

‘To take a suitcase, an olive, an apple, a thread.’
‘To open a tap, a door, a zip, a newspaper, a drawer.’
‘To close a jar, a button, a wardrobe, curtains.’
‘To drink using a cup, a glass, a bowl, a long-spouted wine bottle, a bottle.’

(Quer et al., 2005)

1.2.2. Pointing

1.2.3. Buoys

Catalan Sign Language (LSC) uses the sign LIST as a buoy. This sign is articulated with the non-dominant hand, while the dominant hand continues to sign, as we can see in the following examples:

- a. ‘Of the five brothers and sisters I am the fifth.’
- b. ‘Out of the five you are third. Congratulations!’

(Quer et al., 2005)

This sign can be used for different purposes. For instance, we can add elements to the group, or we can also subtract them, as in examples (a) and (b) below:

- a. ‘Of the four participants only two remained.’
- b. ‘There were eight persons enrolled in the course, but as two more enrolled now there are ten.’

(Quer et al., 2005)

We can also use this sign to refer to a whole group or to subsets of the same group:

- a. ‘We are four brothers and sisters, and all of us are deaf.’
- b. ‘We are four brothers and sisters, the two older are men and the two younger are women.’
- c. ‘We are four brothers and sisters, the eldest and the youngest live in Tarragona, and the two in the middle live abroad.’

(Quer et al., 2005)

The sign LIST is also commonly used in LSC to refer to the four weeks of a month.

- a. 'The second week of every month there's an ecological market in my district'
- b. 'My friend is coming to Barcelona the first fortnight of March and the second I will go to visit Berlin.'
- c. 'I have two job interviews, one in the second week of the month and the other in the fourth.'
- d. 'He is divorced and he takes care of his children on alternate weeks.'

Lastly, the sign LIST can be used in LSC to refer to previously mentioned elements (see the section on [Pragmatics – Section 2.2.3]).

'There are three chapters and it's difficult to start by the third. If you do the first and the second in the first place the third chapter will be easier.'

(Quer et al., 2005)

1.3. Interaction between core and non-core lexicon

Regardless of the distinction that we have made in the previous section, the core and the non-core lexicon do not represent independent parts of the LSC system. On the contrary, the two systems appear side by side in any fragment of signed discourse and contribute to meaning. LSC may alternate between both types simultaneously or sequentially [Lexicon – Section 1.2.1]. However, depending on the register and style used one type may be more frequent than the other (formal register may use more core lexicon whereas poetic registers tend to use more the non-core lexicon, which offers more expressive options).

Moreover, the boundary between each type is not that clear because of the two-way interaction between them: i) the non-core lexicon can undergo a process of lexicalization and become part of the core lexicon, and ii) elements from the core lexicon can be modified and show behavior typically found in the non-core lexicon.

1.3.1. Lexicalization processes

In Catalan Sign Language (LSC) there are some cases in which the classifier has become a lexical sign. For instance, the sign used for 'plane' can be either a classifier or a lexical sign, depending on the context, the aspect, the movement, or other factors. In example (a) below, the sign TREE is a lexical sign. By contrast, in example (b) the same sign is a classifier which expresses the falling movement.

- a. IX_{1pl} TREE+++ CL-✎: trees being cut PROTECT MUST
'We must protect trees from being cut.'
- b. TREE LIGHTNING CL-✎: tree falling off
'A lightning made the tree fall off.'

1.3.2. Modification of core lexicon signs

1.3.3. Simultaneous constructions and use of the non-dominant hand

Information on data and consultants

See the references below for information on data and consultants.

Authorship Information

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References

Quer, J. (dir.), Rondoni, E.M. (dir. tècn.), Barberà, G., Frigola, S., Aliaga, D., Boronat, J., Gil, J.M., Iglesias, P. & M. Martínez. 2005. *Gramàtica bàsica LSC*. Barcelona: FESOCA, DOMAD.

Chapter 2. The non-native lexicon

2.1. Borrowings from other sign languages

2.2. Borrowings from (neighboring) spoken language

2.2.1. Calques

2.2.2. Lexicalization of fingerspelling

2.2.2.1. Initialization

2.2.2.2. Multiple-letter signs

2.2.3. Mouthing

2.2.3.1. Full forms

2.2.3.2. Reduced forms

2.2.3.3. Mouthing and fingerspelling

2.2.4. Other marginal types of borrowing

2.3. Borrowings from conventionalized gestures

2.3.1. Lexical functions

2.3.2. Grammatical functions

Chapter 3. Parts of speech

3.1. Nouns

3.1.1. Common nouns

3.1.2. Proper nouns and name signs

3.2. Verbs

Verbs in sign languages use space in order to express verbal morphology. In Catalan Sign Language (LSC), different types of verbs can be differentiated depending on the grammatical properties derived from the use of signing space. There are three different types of verbs in LSC: plain verbs, agreement verbs, and spatial verbs. These verb types differ from each other in the morphosyntactic information that they overtly encode about the subject and the object of the sentence.

Nevertheless, in LSC, all verbs can display a neutral or basic form regardless of the verb class they belong to. For instance, both the verb REMEMBER and the verb HELP can be articulated in a neutral form. However, the verb HELP can change its neutral form in order to indicate the subject and the object of the sentence, as we can see in the examples below.

- a. IX₁ FIRST DATE REMEMBER.
'I remember my first date.'
- b. IX₃ NUMBER PHONE REMEMBER NOT.
'He doesn't remember his phone number.'

- c. IX₁ IX_{POSS} SIBLING WOMAN HOMEWORK ₁HELP₃.
'I'm helping my sister with her homework.'
- d. IX_{POSS} MOTHER CV ₃HELP₁.
'My mother is helping me with my CV'.

In examples (a) and (b) above the verb REMEMBER does not change its form depending on who is doing the action or what the object is. This verb is considered a **plain verb**, as it does not modify its form irrespective of its arguments.

The verb HELP, however, changes its form in order to indicate the subject and the object of the sentence, that is to say, depending on who the subject and the object are. In examples (c) and (d) above we can observe how the movement and the orientation of the hand in the verb HELP change in order to express agreement on the subject and the object. This verb is considered an **agreement verb**, as it is marked overtly for agreement with the subject and the object of the sentence.

Moreover, there is another class of verbs that modify their form: **spatial verbs**. These verbs modify their form depending on the location of the action, like, for example, the verbs CLEAN and CUT.

a. IX₁ BATHROOM_a WINDOW_b WASHBASIN CLEAN_a CLEAN_b.

‘I cleaned the window of the bathroom and the washbasin.’

b. YESTERDAY IX_{POSS} FATHER ACCIDENT ARM_a CUT_a.

‘Yesterday my father got cut in his arm accidentally.’

In sum, LSC distinguishes three different types of verbs: plain verbs, agreement verbs, and spatial verbs. Each of these types is further explained in the corresponding sections.

3.2.1. Plain verbs

Plain verbs do not include information about the subject or object or the location or source and goal of the movement. The most characteristic feature of plain verbs is that they do not inflect, regardless of the arguments of the sentence. Thus, they need to be accompanied by a referential expression, a personal pronoun or an agreement auxiliary [Syntax – Section 3.3] in order to make the arguments explicit.

Some of these verbs are body-anchored, i.e. the place of articulation of the sign is on the body of the signer, and not in the signing space. For example, the verb THINK is articulated in the forehead, and the verb EAT is articulated in the mouth of the signer. These verbs need to be accompanied by an overt referential expression such as a pronoun in order to express the information of the subject and object arguments.

a. IX₃ PASTA EAT

‘He eats pasta.’

b. FUTURE IX₃ THINK TOO-MUCH

‘He thinks too much about the future.’

However, there are other plain verbs that are articulated in neutral signing space, like for instance COOK and PLAY.

a. YESTERDAY IX₃ ZUCCHINI COOK.

‘Yesterday, he cooked zucchini.’

b. ALL-DAY CHILD PLAYED.

‘The child played all day long.’

It is important to take into account this subtype of plain verbs in the analysis of person agreement, as they are not always signed in a neutral position. In an intransitive sentence, for instance, the verbal sign is sometimes placed in the referential locus of the subject. By contrast, in a transitive sentence the verbal form can be placed in the referential locus of the object or, in the case of a ditransitive sentence, of the indirect object [Syntax – Section 2.1.2.3].

3.2.2. Agreement verbs

As mentioned in section 3.2, agreement verbs can change its form depending on the arguments of the sentence. Namely, they change the direction of the movement, and when no movement takes place, they change the orientation of the hand, the palm or the fingers, depending on the subject and the object of the sentence. Thus, they agree with the subject and the object of the sentence, which in most cases are animate entities.

Agreement verbs can be divided into different subtypes. Four subclasses of agreement verbs have been attested in LSC: **(1) regular agreement verbs**, **(2) backward agreement verbs**, and **(3) reciprocal agreement verbs**.

In **regular agreement verbs**, the movement of the sign begins in the subject location and ends in the object location, as we can see in the examples below. In example (a) below, the subject is first person, so the movement starts at the body of the signer, and the object is third person, so the movement ends in the area of the signing space where the third person is located. By contrast, in example (b) below, the movement begins in the the location in the signing space where the subject has been located, and ends in the object location, namely, the one associated with the signer.

a. FATHER HAT ₁GIVE-GIFT₃
'I gave a hat to my father.'

b. SISTER BOOK ₃GIVE-GIFT₁
'My sister gave a book to me.'

In both examples, the verb gives information about the subject and the object by displaying a trajectory movement, namely, the start and end points of the path movement indicate the grammatical subject and object, respectively.

Other regular agreement verbs do not display such path movement but, instead, they show agreement of the subject with the object by changing the orientation of the fingers or the hand palm. In these verbs, the fingers or the palm of the hand are always oriented towards the object:

a. EVERYDAY WORK FINISH IX₁ GRANDMOTHER ₁TAKE-CARE₃.
'I take care of my grandmother every day after work.'

b. PAST IX₁ EX CHILD CLASSES FINISH IX_{POSS} GRANDMOTHER ₃TAKE-CARE₁.
'When I was a child my grandmother used to take care of me after classes.'

It is important to notice that regular agreement verbs usually agree with the subject and the object of the sentence (if transitive, with the direct object, as with TAKE-CARE; if ditransitive, with the indirect object, as with HELP).

Some regular agreement verbs are body-anchored. In these verbs, different parts of the body of the signer can serve as a point of contact: the forehead, the nose, the cheeks,

the mouth, the chin, or the ear. Some examples are the verbs GIVE-ADVICE, INFECT, or PHONE.

Contrary to regular agreement verbs, in **backward agreement verbs** the path movement begins in the object location instead of the subject one, and it ends in the subject location. Some common verbs in this category are TAKE, CHOOSE, BUY, CALL-FOR, COPY, INVITE, STEAL, GUESS, COLLECT-TAXES, among others.

a. TENNIS PARTNER IX₁ CHOOSE₃

‘Would you choose me as your tennis partner?’

b. YESTERDAY RESTAURANT_a IX_a PASTA DISH_b CHOOSE₁

‘Yesterday at the restaurant I chose pasta.’

It is also important to notice that although the path movement is realized backwards, the fingers are still oriented towards the object. Moreover, backward agreement verbs usually agree with the subject and the object of the sentence. For instance, in the previous examples the verb CHOOSE agrees with both the subject and the direct object.

There are also some backwards agreement verbs that have its basic form body-anchored, like the verb ASK.

a. YESTERDAY CLASS IX₁ TEACHER₃ ASK₁ QUESTION++ IMPORTANT TWO.

‘Yesterday, in class, I asked my teacher two important questions.’

b. IX₃ IX_{POSS} BOSS_a IX_a ASK₃ IF TABLE CHANGE ALLOW?

‘Have you asked your boss if you can change your table?’

In the examples above both the basic form and the agreement form of the verb ASK begin in the chin of the signer. In the first example, this phonologically determined location coincides with that of the subject. However, in the second example the signer is not the subject; instead the subject is the second person of the sentence, and the object the third person and the backwards path encodes this.

Lastly, **reciprocal agreement verbs** are a type of agreement verbs that can be used in its reciprocal form when the subject is plural and its referents are both interpreted as subject and object at the same time.

UNDERSTAND_{RECIPROCAL(1,2)} WELL+++

‘We understand each other very well.’

In this type of verbs, the sign changes its form from one-handed to two-handed in order to express the reciprocal meaning. Moreover, each hand is agreeing with the referents in opposite distribution of subject and object roles, so the trajectory movement and orientation of each hand are inverse with respect to each other. Some reciprocal forms are UNDERSTAND-EACH-OTHER, ATTRACT-EACH-OTHER, CALL-EACH-OTHER, SEE-EACH-OTHER, NEVER-WANT-TO-SEE-EACH-OTHER-AGAIN.

Some agreement verbs only exist in their reciprocal form, so they are always two-handed, like, for instance, ARGUE, AGREE, MEET, CONSULT, CONTACT, DISCUSS-IN-GROUP.

ALL MORNING IX_{1pl} DEBATE₊₊

‘We were debating the whole morning.’

3.2.3. Spatial verbs

Spatial verbs modify their form depending on the locative arguments of the event expressed by the verb. There are two subtypes of spatial verbs: i) spatial verbs that agree with one location (KEEP-IN, PUT, SEE, COME, etc.), and ii) spatial verbs that start and end their movement in the initial and final locations of the movement expressed by the verb (GO, FLY, MOVE, etc.).

a. YESTERDAY LIVING ROOM DECORATION CHANGE. PICTURE₊₊ NEW₊₊ TWO WALL_a PUT_a ₊₊, PLANT CORNER_b PUT_b.

‘Yesterday I changed the decoration of my living room. I put two new pictures on the wall, and a plant in the right corner of that wall.’

b. PAST HOLIDAYS GREECE_a GO_a. FIRST ATHENS_b FLY_b DAY₊₊ TWO STAY_b THEN SMALL- ISLAND_c ₊₊ NEAR ATHENS FLY_c THEN ISLAND₊₊ VISIT ALREADY BARCELONA_d FLY_d.

‘These holidays I went to visit Greece. First, I flew to Athens, where I stayed for two days, then I flew to a small island near Athens, and after some days visiting the islands I flew back to Barcelona.’

Some spatial verbs can also mark agreement with body parts in which the verb is articulated, as in the example below, where the verb OPERATE is located on the heart of the signer. These body locations do not necessarily refer to the body part of the signer, but can refer to the body part of some other referent.

LAST WEEK DOCTOR IX₁ HEART_a OPERATE_a.

‘The doctor operated on my heart last week.’

Other spatial verbs that can involve body parts are CUT, EXAMINE, OR HURT.

List of regular agreement verbs:

SAY

NARRATE/EXPLAIN

INFORM

ORDER

INHERIT

GIVE

GIVE-GIFT

TEACH

PAY

NAME

ADVISE

ACCUSE

OBLIGE

SEND-LETTER

SHOW

SUBSIDIZE

ASK FOR

ANSWER

CALL

WIN/BE SUPERIOR

CHEAT

SCOLD

DEFEND

ARREST

PESTER

FIRE₁

FIRE₂

TRAIN

ANNOY

PUNISH

SMS

BRIBE

CHASE

DISCRIMINATE

MOTIVATE

FAX

RECOMMEND

SAY-NO

TEASE

LET-KNOW

VOTE

INSULT

HELP
INFECT
CORRECT
TAKE-CARE
INFLUENCE
SPOIL
BITE
IGNORE
OBSESS
HATE
HARM
PRESS
LOOK
AFFILIATE
INCLUDE
ABANDON
EXAMINE
RESEARCH
ATTACK
CORNER
AFFECT
SURROUND
PHOTOGRAPH
REJECT
MISS
SUPPORT

List of backwards agreement verbs:

CHOOSE
COPY
ATTRACT
GUESS
STEAL
TAKE
UNDERSTAND
ABSORB/RECORD
HOOK-ON
HIRE
ASK
BORROW
SUMMON
INVITE

List of reciprocal verbs:

INTERCHANGE
DISCUSS
MEET
TALK-TO-EACH-OTHER
FIGHT
APPROVE
SUBSTITUTE
COLLABORATE
SHARE
SHAKE-HANDS
DIALOG
AGREE
AGREE
CONTACT
DISAGREE

3.3. Lexical expressions of inflectional categories

In Catalan Sign Language (LSC) there are some lexical expressions that co-occur with lexical verbs and act as markers of some morphosyntactic features such as tense, aspect, modality, or agreement.

3.3.1. Tense markers

In LSC, tense is not marked on the verb. Information about tense is provided by temporal adverbials [[Lexicon – Section 3.5.2](#)].

3.3.2. Aspectual markers

In Catalan Sign Language (LSC) different aspectual markers are found for different types of aspect: **continuative and durative**, **habitual**, **iterative**, and **perfect**. Some of these aspectual markers are related to lexical verbs and some other to adverbials, as we will see in the next paragraphs.

The **continuative and durative aspect** is mainly marked by changes in the verb [[Morphology – Section 3.3.1.2](#)]. However, it can also be expressed by means of manual signs: DURATION, TO-TAKE-A-LONG-TIME, TO-WAIT-A-LONG-TIME, STILL, CONTINUE, NON-STOP, amongst others.

‘I’ve been waiting in the hospital for a long time.’

‘My friend is still sick.’

‘I’m still studying my BA.’

The **habitual aspect** is frequently indicated by means of manual signs entailing meaning, such as ALWAYS, FIXED or ALWAYS-THE-SAME.

- a. IX₃ ALWAYS LATE
'She always arrives late.'
- b. SEMINAR SESSION THURSDAY FIXED
'Seminar sessions are always held on Thursdays.'
- c. TODAY EIGHT MORNING IX₁ WAKE-UP ALWAYS-THE-SAME
'Today I woke up at 8, as always.'

These signs expressing habituality can also be modulated through verbal inflection, namely, through repetition of the sign [Morphology – Section 3.3.1.1].

The **iterative aspect** is mainly marked by verbal inflection, namely repetition of the sign [Morphology – Section 3.3.1.1]. However, it can be reinforced by means of modifiers such as LOADS-OF-TIMES and REPEAT-AND-REPEAT.

- a. IX₁ MOVIE IX WATCH LOADS-OF-TIMES
'I've watched this movie a thousand times!'
- b. IX₃ LIFE UNTIL-NOW SAME MISTAKES REPEAT-AND-REPEAT
'He's been repeating the same mistakes all his life'

The **perfect aspect** is marked with the sign ALREADY, which is signed after the verbal form.

- a. IX₁ LUNCH ALREADY
'I already had lunch.'

This aspect, though, does not always refer to actions in the past. Have a look at the following example:

- a. IX₃ DRESS ALREADY, IX_{3pl} PARK GO.
'As soon as you get dressed, we will go to the park.'

This meaning can be expressed sometimes by the verb followed by the signs FINISH or END.

- a. IX₁ CLASS FINISH
'I ended classes.'
- b. MOVIE END
'The movie is over.'

Lastly, in LSC the sign ALREADY can be found in the same sentence along with FINISH or END without being redundant.

STUDENT UNIVERSITY ALREADY FINISH TITLE GET

‘Once the student finishes university he gets a title.’ (Ribera, 2015, p.319)

3.3.3. Modality markers

3.3.3.1. Deontic markers

3.3.3.2. Epistemic markers

3.3.4. Agreement markers

In the previous section on verbs [Lexicon – Section 3.2], we examined the different verb classes identified for Catalan Sign Language (LSC). We saw that most plain verbs cannot express agreement by means of verbal inflection. These verbs use a different strategy to express agreement: agreement markers.

LSC uses two different agreement markers: AUX and AUX-DA. These markers support the lexical verb in order to express the agreement relation by means of movement and orientation features [Morphology – Section 3.1].

The first marker (AUX) is used to express the relationship between the subject and the object in sentences with plain verbs that need to indicate this relationship.

- a. ${}_2$ AUX $_1$ FORGET?
‘Have you forgotten me?’
- b. IX $_1$ THINK $_3$ AUX $_2$ FORGET ALREADY
‘I think she has already forgotten you.’ (Quer et al., 2005)

Moreover, this sign can be also used with agreement verbs in order to clarify and emphasize the subject-object relationship. In these cases, the agreement verb can either maintain its basic form (as in example b), or its agreeing form (as in example a).

- a. IX $_1$ KNOW-NOT IF $_1$ INVITE $_3$ $_3$ AUX $_1$ WEDDING
‘I don't know whether I'll be invited to his wedding.’
- b. PARENTS POSS $_1$ LET $_3$ AUX $_1$ FINAL TERM TRIP GO
‘My parents let me go to the end of term trip.’ (Quer et al., 2005)

This marker can express all person combinations, and it is only used with animate arguments.

The second one, the agreement marker AUX-DA is not only used to express agreement but it also expresses a causative-result meaning. This agreement marker only combines with psychological predicates, as is the case of NERVOUS in the example below. Most of the times it occurs with a first-person argument, and it does not allow agreement between third person subject and object. Moreover, unlike AUX, it can take inanimate subject arguments, such as EXAM in the example below.

This LSC agreement marker (AUX-DA) has been grammaticalized from a lexical sign: the verb *give* (the mouthing that accompanies the sign (/da/) is related to the Catalan verb *dar* 'give'). By contrast, the agreement marker (AUX) has been grammaticalized from a concatenated pronoun.

3.4. Adjectives

3.4.1. Attributive adjectives

3.4.2. Predicative adjectives

3.5. Adverbials

3.5.1. Verb-oriented adverbials

3.5.2. Sentence adverbials

3.6. Determiners

3.6.1. Definite determiners

3.6.2. Indefinite determiners

3.7. Pronouns

In Catalan Sign Language (LSC) pronouns usually take the form of a pointing sign. However, it is important to note that pointing signs fulfill a variety of functions in LSC. Namely, they can function as personal pronouns – as in example (a) below –, demonstratives – as in example (b) –, possessives – as in (c), determiners – as in (d) –, or locatives – as in example (e) –.

_____ br

a. IX_{3a}, IX₁ LIKE

'I liked it.'

b. *While referring to a present book*

BOOK IX_{3a} NAME PYJAMA CL-: stripes

'The name of this book is "The boy in the striped pyjamas".'

_____ br

c. DELFINA IX_{3a} BOOK INTERESTING

'Delfina's book is interesting.'

d. IX_{3a} BOOK INTERESTING

'The book is interesting.'

(Barberà, 2012: 92)

e. BOOK IX₃

'The book is there'

(Barberà, 2012: 119)

Pointing signs typically select the index-finger handshape and they are always associated with a location in space. As occurs in the case of spatial modification of verbs [Lexicon – Section 3.2.2] or classifiers [Morphology – Chapter 5], the establishment of different loci within the pronominal system is also used for grammatical purposes.

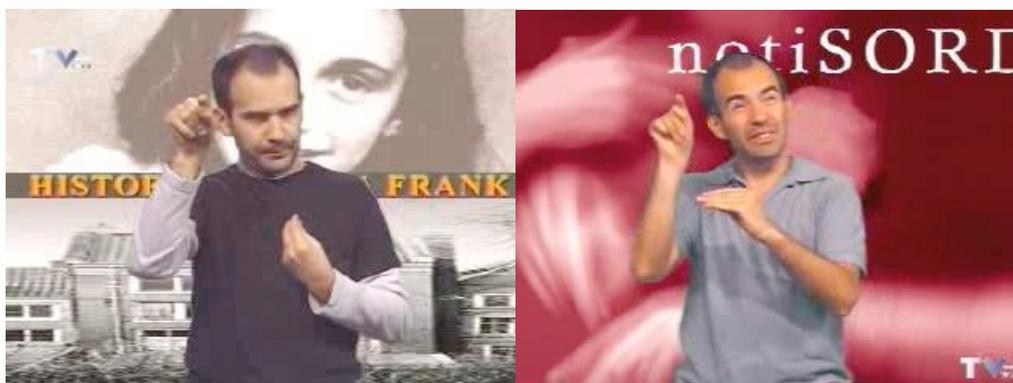
Specifically, in the case of demonstratives, determiners and possessives, index signs are modified in order to localize the nouns that they co-appear with.

Likewise, in the case of personal pronouns, the establishment of different locations allows for the introduction and retrieval of discourse referents. Namely, pointing to a locus can introduce a discourse referent, while subsequent pointing signs to the same location are used to refer back to the same entity, thus creating discourse anaphors.

In the following subsections, we will describe the mechanisms employed in LSC to express different pronominal categories.

3.7.1. Locative and demonstrative pronouns

As mentioned above, locative and demonstrative pronouns are expressed using pointing signs. In the case of locatives, when the pronoun marks a singular location, an index sign is directed to a point in space to denote the location. Plurals, in turn, are marked by reduplicating the sign, which establishes a sequence of points in space.



Singular locative

Plural locative

(Barberà, 2012: 118)

Importantly, the location selected by the pointing sign can be motivated or, if the real location is irrelevant, the locative can be arbitrarily established in the signing space.

SCHOOL IX_a HOME IX_b CHILD IX₃ _aGO_b, STAY_b

'The child went from school to his home and stayed there.'

(Quer & Steinbach, 2015: 157)

In the example above, the locations assigned to SCHOOL and HOME are not motivated by their real-world situation. Instead, they are used to establish a contrast between the two entities within the signing space.

Locative information is usually denoted by pointing at the upper part of the signing space. The upper part of the frontal plane is a marked location which conveys particular meanings such as locative information or superiority of the referent in the social hierarchy [Lexicon – Section 3.7.2.6].

When locatives co-appear with lexical signs that denote places and physical locations, the pointing sign is most often directed towards the upper part of the signing space, especially when nouns refer to countries or wider areas.

However, when locatives refer to cities or smaller regions, they can be located within an imaginary map on the horizontal plane. Also, when more than one locative is used, real-world locations and distances are mapped onto sign space at a reduced scale.

Furthermore, when there is no agreement with a noun, and locatives appear alone, the location towards which the pointing sign is directed is not necessarily the upper part of the signing space.

BOOK IX₃

'The book is there.'

(Barberà, 2012: 119)

Index signs can also function as demonstratives. As mentioned in the introduction, demonstratives are always spatially modified to localize the nominals that co-appear with it. They typically point at entities present in the context of conversation, but also at absent referents located in signing space.

While referring to a present book

BOOK IX_{3a} NAME PYJAMA CL-: stripes

'The name of this book is “The boy in the striped pyjamas”.'

(Barberà, 2012: 92)

3.7.2. Personal pronouns

LSC personal pronouns use the index-finger handshape as the non-marked configuration. This index sign is then directed either towards the physical location of present referents, or to a location in the signing space previously associated with a non-present referent. This means that when referring to non-present entities, the space in front of the signer is used for grammatical purposes.

TODAY INTERVIEW ONE PERSON_{3-ip} WOMAN. IX_{3-ip} KNOWS ENGLISH

'Today (I) have an interview with a woman. She knows English.'

(Barberà, 2012: 234)

In the example above, the sign PERSON and the pronoun are both directed towards the ipsilateral side (ip) of the signer's body, that is, towards the side corresponding to the dominant hand of the signer.

The location component is very productive in LSC reference devices in general. In fact, lexical nouns can be spatially modified when articulated in different locations in the signing space.

Apart from pointing signs and spatially modified nouns, LSC allows the use of the sign PERSON as a pronominal index, glossed as PERSON_{PR} [Lexicon – Section 3.7.7]. It can be articulated with a ✎-handshape or with the bimanual ✎-configuration, which is used in emphatic contexts.



PERSON with ✎-handshape

PERSON₃ with ✎-handshape

(Barberà, 2012: 93)

Pronominal PERSON can refer to first, second and third person, but its use is restricted to human entities, as opposed to the index sign, that can be applied to all kind of referents.

Along with manual components, LSC personal pronouns can also incorporate non-manual elements, such as eye gaze, body leans, and head tilts. Thus, referents can be introduced and recovered in the discourse by pointing with the index sign, by directing the eye gaze towards the location associated with the entity or by a combination of both.

But LSC pronouns are not always obligatory, though. In fact, LSC allows the omission of personal pronouns in some contexts. For instance, subject and object personal pronouns can be dropped if is used an agreement verb [Lexicon – Section 3.2.2].

PLEASE, ₂CALL₃

'Please, can you call him/her?'

(Quer et al. 2005)

Also, pronominal ellipsis is possible if an agreement auxiliary sign is used, that is, a sign which has the same manual handshape as the pronoun and which moves from the subject location to the object location [Lexicon – Section 3.3.4].

CHILDREN ₁AUX₃MISS++

'I'm missing my children very much.'

(Quer et al. 2005)

Finally, if the context is sufficiently explicit, personal pronouns can be omitted even with plain verbs.

SPAGHETTI LIKE, YES IX₁ LIKE LOVE

'Do you like spaghetti? Yes, I like them a lot.'

(Quer et al. 2005)

In the next subsections, we will examine the existing grammatical distinctions in the LSC pronominal system, namely person, number, and honorific marking.

3.7.2.1. Person

LSC distinguishes among first, second and third persons. First person reference is body-anchored, as the index sign is always directed towards the signer's chest.

Second person reference involves pointing to the addressee, either the actual addressee, present in the context of utterance, or the reported addressee in case of role shift constructions.

Finally, in third person reference, the location the pointing sign is directed to depends on the actual location of referents – if they are present – or on their ascribed location within the signing space – in case of referents which are not physically present in the context of utterance –.

Therefore, the location established in the signing space does not distinguish by itself between second and third person, as it does in the case of the first pronominal form. Instead, to differentiate between second and third pronouns it is necessary to take into account non-manual components, and the alignment of those elements with the spatial location selected by the pointing sign.

More specifically, second person pronouns are marked by the alignment of the direction of the hand, eye gaze, chest and head towards the spatial location of the referent. Conversely, third person pronouns are characterized by the disalignment of the location component and the non-manuals just listed above.

An additional distinction between first, second and third person pronominal forms relates to manual handshapes. As mentioned before, in pronominal forms the index-finger configuration is the default handshape. However,  handshape can be used for second person in formal register and pointing with the thumb is exclusively used for third non-present referents.

3.7.2.2. Number

LSC personal pronouns can mark number distinctions depending on the path movement of the index sign. In particular, singular pronouns take the form of the pointing sign, which is directed to the area associated with the referent, while plurals are articulated with an arc-shaped movement.

NOW IX_{1pl} WANT₁ EXPLAIN₂ THEME HISTORY PERSON_{3-ip} WOMAN NAME A-N-N-A F-R-A-N-K

'Now we want to explain the story of Anna Frank.'

(Barberà, 2012: 169)

However, if plural referents are understood as a group, it is also possible to express plurality by pointing to an area in the signing space previously associated with the collective referent, just as in the case of singular referents. Therefore, no arc-shaped movement is needed in such cases. The examples below illustrate both possibilities when referring back to a plural entity, such as a group of students:

IX₃ CLEVER

'They are very clever.'

IX_{3PL} CLEVER

'They are very clever.'

(Barberà, 2012: 190)

As we can observe, plurality can be encoded both by pointing back to the location of the plural entity with the singular pronominal form (IX₃) or by using the plural pronoun (IX_{3pl}), marked by an arc-shaped movement.

In addition, plural referents can be expressed by incorporating a numeral into the pronominal form.

ASSOCIATION CERECUSOR RESPONSIBLE FOOD DRINK. ASSOCIATION CASAL
RESPONSIBLE ORGANISATION. 4-IX₂ BUY THING++. 3-IX₂ STAY SIGN THEME
ORGANISE HOW

'Cerecutor will be responsible for food and drinks. And Casal will take care of the organisation. You-four go and buy everything. And you-three may stay here and talk about organisational issues.'

(Barberà, 2012: 224)

In the example above, the pronominal incorporates the numeral “four” in the first instance, and “three” in the second one, along with an arc-shaped movement. However, the direction of the movement is not towards the real addressees, because they are not grouped together in sets of 4 and 3, but mixed in the audience. Therefore, even when the addressees are present, the direction of the pronoun does not necessarily select them taking into account their real positions in space. In fact, in this case pronouns are interpreted on the basis of the nouns CERECUSOR and CASAL, which function as anchors the pronouns are linked to.

3.7.2.3. Clusitivity

3.7.2.4. Case

3.7.2.5. Gender

3.7.2.6. Honorific pronouns

In LSC pointing signs directed to the upper part of the signing space convey specific meanings, such as locatives [[Lexicon – Section 3.7.1](#)], and non-specificity [[Pragmatics – Section 1.4](#)].

In this subsection, we will see a third meaning that personal pronouns can convey if associated with the upper part of the signing space, namely that of a prominent position in the social scale of the entity denoted by the pronoun [Pragmatics – Section 1.1.2].



IX₃ GOVERNMENT

(Barberà, 2012: 116)

Since personal pronouns directed to the upper part of the signing space can be used to denote a hierarchical relation of superiority (referring to the individual who is higher in the social scale), the contrast between the upper and lower frontal plane is associated with asymmetrical relations such as boss and worker or parents and children.

However, it should be noted that reference to the upper part of the signing space does not reflect real heights, but a linguistic convention. In other words, even if the individual who is associated with a lower position in the social scale is taller in a real-world situation, the personal pronoun will still be directed to the lower part of the signing space.

Personal pronouns can co-appear with lexical signs that refer to entities that are higher in the hierarchical structure. In this case, pronouns inherit the location of those entities and, therefore, they are executed in the same part of the signing space.

3.7.2.7. Logophoric pronouns

3.7.3. Possessive pronouns

LSC has two possessives pronouns, POSS and OWN, which are used to express possession of (i) kinship terms, (ii) concrete objects and (iii) abstract concepts, as in the examples below:

_____ t
 BROTHER POSS₃ FAT
 ‘His brother is fat.’

_____ t
 TOY POSS₃ BROKEN

‘One of his toys is broken.’ (Quer & GRIN, 2008: 41)

_____ t
AMERICA IX_{LOC} INDIAN, LANGUAGE POSS_{A-B-C}- THERE-BE_{A-B-C}
‘North American Indians each have their own language.’
(Quer & GRIN, 2008: 48)

For body parts, personal pronouns are used as possessors, instead.

_____ t
IX₃ FACE SCRATCH₁
‘They scratched his face.’ (Quer & GRIN, 2008: 41)

The pronoun POSS consists of a bimanual sign combined with the mouthing [su]/[seu], literally 'his/her/their', regardless of the person that it refers to. As in the case of the pronominal paradigm, the orientation of the possessive pronoun depends on the location attributed to the possessor within the signing space [Lexicon – Section 3.7.2].

In general, the use of POSS is limited to second and third person, as in the examples (a) and (b) below. However, it can also be used in contrastive contexts to mark first person as opposed to the rest, as in (c):

_____ t _____ y/n
a. BOOK POSS₂ BORROW
‘Will you lend me your book?’

_____ wh
b. GROUP 1A TUTOR POSS WHO
‘Who is the tutor of class 1A?’

c. CAR POSS₂ POSS₁ USE SEPARATE
‘We have to use our own cars separately.’ (Quer & GRIN, 2008: 40)

In contrastive contexts such as in (c) above, the possessive can co-occur with personal pronouns.

_____ t _____ t _____ t _____ t
CELL-PHONE POSS_{3a} IX_{3a} POSS_{3b} IX_{3b} POSS₁ IX₁ ALL BROKEN
‘His cellular, her cellular and mine are all out of work.’
(Quer & GRIN, 2008: 40)

The second possessive, OWN, is used to express emphatic possession. In neutral contexts, it expresses first person possession.

As for the position of the possessives within the nominal phrase, both POSS and OWN appear after the possessed noun, but this is just obligatory in the case of POSS [Syntax – Section 4.2].

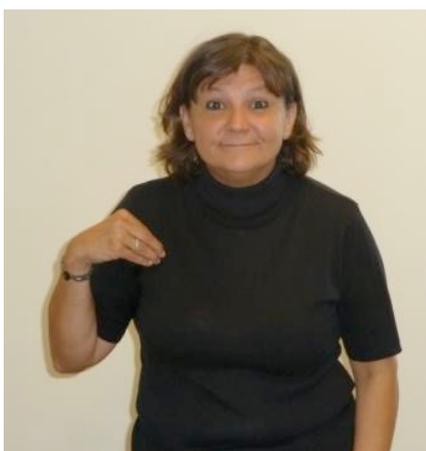
In the sentential domain, possession can be expressed using other devices apart from the possessive pronouns, such as the existential construction THERE-BE [Syntax – Section 2.1.5.).

3.7.3. Reflexive and reciprocal pronouns

3.7.5. Interrogative pronouns

3.7.6. Relative pronouns

LSC allows the use of an optional sign SAME in relative clauses. The sign selects the  handshape and is combined with the mouthing corresponding to the Catalan word *mateix* or its Spanish counterpart *mismo* ('the same'). The most common non-manuals accompanying it are raised eyebrows and body leans. However, specific non-manuals for shared information, namely squinted eyes, can also be present.



SAME with raised eyebrows and body lean



SAME with squinted eyes

(Mosella, 2012: 162)

This sign is linked to a nominal element through the use of the signing space. SAME can either be combined with the nominal element or it can be used to retrieve it anaphorically in the discourse. Since the sign is body-anchored, body leans are used to point at the location where the referent is established.

SAME MUSHROOM+ PICK++ BASKET CL-: put in the basket++
'I'll put in the basket the mushrooms I'll pick.' (Mosella, 2012: 176)

We defined the sign SAME as optional, but when used as part of an answer it is mandatory.

IX₂ COOK WHAT

'What did you cook?'

_____ rel

IX_{loc} MORNING FISH BUY SAME

'A/the fish that I bought this morning.'

(Mosella, 2012: 178)

SAME alternates with the pointing sign, but SAME only occurs in contexts where the noun it combines with is specific. The index sign, in turn, can also be used to denote indefiniteness [Lexicon – Section 3.7.7]. Therefore, when used in relative constructions, SAME only refers to definite antecedents.

_____ rel

IX₁ MARRY (SAME) GIRL BORN MOROCCO

'I will marry a/the girl that was born in Morocco.'

(Mosella, 2012: 228)

3.7.7. Indefinite pronouns

LSC employs a wide range of devices to encode indefiniteness: it can use determiners and pronouns, the indefinite PERSON, pronominal compounds, the indefinite pronoun ONE, and the signs SOME and ANY.

A first option available to express indefiniteness involves the use of determiners and pronouns, which, depending on the specificity of the referent [Pragmatics – Section 1.4], can be associated with high or low locations. For instance, in the case below, the index handshape points at a low locus, motivating a specific interpretation. That is, the pointing sign is used to denote a group within the entire set of cats.

CAT IX_{3pl-lo} OBEDIENT

'Some of the cats are obedient.'

The preceding example involves the use of a pointing sign articulated with an arc-shaped movement. However, the singular form is also valid to produce an indefinite reading.

IX_{3pl-lo} OBEDIENT

'Some of them are obedient.'

(Barberà, 2016: 23)

The determiner PERSON, derived from the lexical sign PERSON, can also be used as an indefinite. Depending on the context, the sign can be used as a co-referential pronoun or as an impersonal with an indefinite reading. In the latter case, the pronoun is articulated in a high locus.

_____ IS

PERSON_{up++} OWN ERROR RECOGNIZE NEVER. MATEIX IX_{3pl-lo} FRIEND ₃WARN₃ LOOK
COUNT₁₋₂₋₃

_____ IS

‘One never realizes his own faults. It is his friends who have to warn him.’

If the sign PERSON is reduplicated, it results in a plural interpretation.

IX BALEAR PERSON_{up}+++ SPEAK CATALAN

‘In the Balearic Islands, they speak Catalan.’

(Barberà, 2016: 23)

A third strategy to express indefiniteness consists in the use of a pronominal compound [Morphology – Section 1.1], formed by the interrogative wh-sign WHO with either the third person plural personal pronoun or with the determiner. In both cases, the order of the signs is irrelevant and the mouthing is always the Spanish word *alguien* ‘someone’, which spreads over the two signs.



Sign ‘someone’ formed with WHO^{IX}_{3pl}



Sign ‘someone’ formed with WHO^{SOME}

(Barberà, 2016: 24)

Another option is the use of the indefinite determiner ONE_{up}, which consists in an index sign, resembling the numeral ONE, but signed in a higher location.



Pronoun ONE_{up} signed at a high location

(Barberà & Cabredo-Hofherr, 2017)

The indefinite ONE_{up} may function as a pronoun in a generic context, as in example (a), and as a determiner preceding or following a noun in an episodic context, as in (b) below.

- a. ONE_{up} MOMENT HOSPITAL GO, ALWAYS THINK RESULT WORST
‘When one is admitted to the hospital, always fears the worst results.’
- b. ONE_{up} PERSON DOOR KNOCK
‘Someone is knocking at the door.’

(Barberà, 2016: 25)

Reduplication of the indefinite ONE_{up} is possible with collective and distributive predicates. Importantly, if the plural distributive form of the indefinite is used, the verb must be reduplicated as well.

- WAR CITY ONE_{up}+++ SURROUND+++
‘They each surrounded a different city during the war.’

(Barberà & Cabredo-Hofherr, 2017)

Finally, the signs SOME and ANY can function as indefinites (determiners and pronouns). As in the case of ONE_{up}, they are not restricted to a particular kind of entity.

Both SOME and ANY can be signed in high or low locations, but if articulated at low loci (glossed as _{lo}), they trigger a partitive interpretation with respect to a set.

- br
IX₁ BOOK CL-☞: row of books SOME_{lo} OLD
‘Some of the books from my shelf are old.’

- br
IX₁ BOOK CL-☞: row of books IX₂ TAKE ANY_{lo}
‘Take any book from my shelf.’

(Barberà, 2016: 25)

The indefinites above are syntactically in complementary distribution. However, they diverge in their semantics, namely in the class of referents they can be applied to. For instance, the compound WHO^{IX}_{3pl} only refers to animate entities, that is, to human and animal discourse referents. PERSON_{up}, in turn, refers exclusively to human referents, while ONE_{up} does not present any constraint on the class of entities it can be applied to.

Also, to get an indefinite reading, PERSON_{up} and ONE_{up} need to be articulated at a high locus, but the remaining signs can be associated to both high and low locations.

Finally, the indefinites ONE_{up} and WHO^{SOME}_{up} diverge regarding their number specification. Namely, with the indefinite pronoun ONE_{up}, the subject has to be always singular.

CHINA AREA ONE_{up} EAT CAT

‘In China there is someone who eats cats.’ (one person only)

(Barberà & Cabredo-Hofherr, 2017)

However, when the pronominal compound WHO^{SOME}_{up} is used, the subject need not be singular.

CHINA AREA WHO^{SOME}_{up} EAT CAT

In China someone/some people ate a cat/cats.’ (can be more than one person)

(Barberà & Cabredo-Hofherr, 2017)

On the other hand, the compound WHO^{SOME}_{up} is preferentially plural and, therefore, is compatible with collective predicates, while the same is not true for ONE_{up} (which is preferentially singular).

WAR CITY WHO^{SOME}_{up} SURROUND

‘They surrounded the city during the war.’

(Barberà & Cabredo-Hofherr, 2017)

Indefinite determiners and pronouns referring to non-unique, non-novel, and non-familiar entities, co-occur with non-manual markers that are distinctive for indefinite contexts. The non-manual markers in question include sucking the cheeks in, pulling the corners of the mouth down, and sometimes a shrug.



(Barberà, 2016: 26)

Moreover, when the indefinite corresponds to a non-specific discourse referent, non-manuals align with a non-fixed eye gaze towards the spatial location.



(Barberà, 2016: 26)

3.8. Adpositions

3.8.1. Manual adpositions

3.8.2. Adpositions and spatial relations

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3.12. Interjections

Information on data and consultants

See the references below for information on data and consultants.

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References

Barberà, G. 2012b. The meaning of space in Catalan Sign Language (LSC). Reference, specificity and structure in signed discourse. PhD dissertation, Universitat Pompeu Fabra [Published as a monograph in 2015, Berlin and Nijmegen: De Gruyter Mouton and Ishara Press].

Barberà, G. 2016. Indefiniteness and specificity marking in Catalan Sign Language (LSC). *Sign Language & Linguistics* 19 (1): 1-36.

Barberà, G. & Cabredo Hofherr, P. 2017. Two indefinite pronouns in Catalan Sign Language (LSC). *Sinn und Bedeutung* 21, University of Edimburg.

Barberà, G. & M. Mosella. 2014. Les llengües de signes: Gramàtica i modalitat gestovisual. Un estudi de cas de la concordança verbal en la llengua de signes catalana (LSC). *Llengua i literatura* 24: 111-151.

Mosella, M. 2012. Les construccions relatives en llengua de signes catalana (LSC). PhD Dissertation, Universitat de Barcelona

Quer, J. (dir.), Rondoni, E.M. (dir. tècn.), Barberà, G., Frigola, S., Aliaga, D., Boronat, J., Gil, J.M., Iglesias, P. & M. Martínez. 2005. Gramàtica bàsica LSC. Barcelona: FESOCA, DOMAD. 978-84-932511-9-2

Quer, J. & GRIN. 2008. Structures of possession and existence in Catalan Sign Language. *Possessive and existential constructions in sign languages*. Nijmegen: Ishara Press.

Quer, J. & S. Frigola. 2006. The workings of indexicals in role shift structures in Catalan Sign Language (LSC). VII Congrés de Lingüística General. Barcelona, April 2006. Actes del VII Congrés de Lingüística General. Barcelona: Publicacions i Edicions de la Universitat de Barcelona. 84-475-2086-8

Quer, J. & Steinbach, M. 2015. Ambiguities in sign languages. *The Linguistic Review* 32(1): 143–165

Quadros, R. Müller de & J. Quer. 2008. Back to back(wards) and moving on: on agreement, auxiliaries and verb classes in sign languages. *Theoretical Issues in Sign Language Research 9 (TISLR9)*. Florianópolis, Brasil, December 2006. *Sign Languages: spinning and unraveling the past, present and future. TISLR9, forty five papers and three posters from the 9th Theoretical Issues in Sign Language Research Conference*. Petrópolis: Editora Arara Azul, 2008. 978-85-89002-27-0, 695 p.

Ribera, E. 2015. La categoria verb en la llengua de signes catalana. PhD dissertation, Universitat Autònoma de Barcelona

Morphology

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Chapter 3. Verbal inflection

Catalan Sign Language (LSC) uses inflectional morphology in some type of verbs in order to express agreement. Namely, agreement and spatial verbs make use of space in order to mark the subject and the object of the sentence (agreement verbs), or the location where the action takes place or the locations between which movement happens (spatial verbs) [Lexicon – Section 3.2.2]. Also, a subset of plain verbs, the ones that are not body anchored, can show agreement with one of their arguments [Lexicon – Section 3.2.1].

However, inflectional morphology is not only used for the expression of agreement. In LSC, verbal roots also use inflectional morphology in order to express aspect.

In this chapter, we will explore different morphological strategies that LSC uses in order to express agreement, tense, and aspect.

3.1. Agreement

Catalan Sign Language (LSC) distinguishes the following types of agreement: person agreement, spatial agreement, and number agreement. Agreement in LSC can be marked by a modification of the verb or by an agreement auxiliary [Lexicon – Section 3.2.2]. Verbal roots in LSC use different phonological parameters for agreement marking:

- Location
- Path movement
- Orientation of the hand
- Handshape
- Numeral incorporation
- Classifiers

Person agreement (first, second and third person) and spatial agreement are realized mainly by changes in the location, the path movement, and the hand or tip of the fingers orientation. Number agreement, instead, is realized through changes in the form of the movement and changes in the handshape (double articulators, numeral incorporation or classifiers).

Though it is generally accepted that only a subset of verbs can be modified: agreement and spatial verbs [Lexicon – Section 3.2.2], in LSC some plain verbs can also be modified in order to express agreement through the location of the sign [Lexicon – Section 3.2.1].

3.1.1. Person and locative markers

In Catalan Sign Language, person agreement (first, second and third person) and spatial agreement are realized mainly by changes in the location, the path movement, and the hand or tip of the fingers orientation of the verbal sign. In the following subsections, we will explore which specific markers are used in LSC in order to express agreement with subject, object and also with location.

3.1.1.1. Subject markers

In regular agreement verbs with path movement, the subject marker is the beginning point of the movement.

IX₁ NEIGHBOR₃HATE₁
'My neighbor hates me.'

Moreover, in transitive agreement verbs, the subject of a sentence is marked through the use of the location associated with the subject argument. First person subject, for instance, may be articulated at the location of the signer (except for body-anchored verbs in which the initial location in contact with the body does not always mark first person subject). Moreover, different locations in the vertical axis of the body of the signer are distinguished:

- The verb can be located at the eyes (i.e. SEE),

₃SEE₁
'Look at me!'

- at the mouth or the chin (i.e. HATE or TELL),

PLEASE₃TELL₁ WHAT-HAPPENS.
'Please, tell me what happens.'

- and at the chest (i.e. GIVE).

₁GIVE₃ MOTHER BOOK
'I gave my mother a book.'

Second and third person subjects are marked using locations in the signing space in front of the signer. In the case of body-anchored agreement verbs, second and third person subjects start their movement at the location of the body where the verb is anchored, and then move to the location in the signing space that is linked to the second or the third person subject.

₃ASK₃ TOILET WHERE

‘She asked him where the toilet was.’

On the contrary, in backward agreement verbs [[Lexicon – Section 3.2.2.2](#)], the subject marker is the end point of the path movement, as shown in the example below.

₃UNDERSTOOD₁ ME PERFECTLY.

‘He understood me perfectly.’

As for intransitive verbs, first person subject agreement is marked through the location of the subject near the body of the signer. This is the most common strategy for the other persons as well, as, most of the times, the signer assumes the role of the subject, as shown in the example below.

IX₃ ANSWER QUICK

‘She answered quickly.’

However, there are some examples in which second and third person subject marking are expressed through the articulation of the non-agreement verb in the location of the signing space where the second or third person is placed. In both cases, the locus itself is the agreement marker of subject.

GIRL_x HANDS DRAW_x

‘The little girl draws with her hands.’

PLEASE IX₂ SIT

‘Please, sit down.’

Thus, in LSC, intransitive plain verbs can also sometimes show agreement with the subject, as shown in the example below.

In the case of body-anchored plain verbs, agreement with the subject is blocked due to the phonological restriction, so it is expressed through the use of a pronoun [[Lexicon – Section 3.7](#)] or an auxiliary sign [[Lexicon – Section 3.3.4](#)].

3.1.1.2. Object markers

In normal agreement verbs with path movement, the object marker is the end point of the movement. First person object marker is signed at the location of the signer, just as first person subject marker.

RECEPTIONIST IX₃ HOTEL SERVICES ₃INFORMED₁

‘The receptionist informed me about the hotel services.’

For second and third person object markers, the end point of the movement is placed in the signing space in front of the signer where the second or third person is localized, as in the example below.

IX₁ SIGN LANGUAGE COURSES₁ INFORM₃
'I informed him/her about the sign language courses.'

Interestingly, orientation can also mark object agreement in some verbs that do not have path movement, as in the example below, where the tip of the fingers is oriented towards the object location.

IX₃ LINGUISTICS₃ TEACH₁
'He teaches me linguistics.'

Transitive plain verbs that are not body-anchored can show agreement with the direct object by means of location agreement. Namely, the verb is signed in the location of the signing space that has been assigned to the object, as in the example below.

BILL_{pl-i} PAPER ACCUMULATE_{pl-i} PAY_{pl-i} MUST
'Bills that are accumulated must be paid.' (adapted from Ribera, 2015: 231)

Ditransitive plain verbs, instead, show agreement with the indirect object by the same means: location of the signing space that has been assigned to the indirect object.

IX₁ CLASSMATE PENCIL LEND₁
'My classmate lent me a pencil.'

3.1.1.3. Locative markers, spatial verbs.

Locative markers in LSC can be realized as the beginning and end points of a path movement. The beginning point can coincide with the Source location and the end point with the Goal location, when both locations are relevant to the verb. In the example below, the verb FLY starts moving at the location of the signing space where Barcelona (the Source location) is established and ends its movement at the location of the signing space where Brussels (the Goal location) is placed.

PLAIN BARCELONA FLY BRUSSELS.
'The plain flew from Barcelona to Brussels.'

Sometimes, only one of the locations may be relevant. This location can be either a Source location or a Goal location.

IX₁ BOOK SHELF TAKE_{Source Location}
'I take the book from the shelf.'

IX₁ BOOK SHELF PUT_{Goal Location}
'I put the book in the shelf.'

There are also some examples of locative markers in verbs that express a static location. In the example below the position in the signing space of the classifier CL-: book is marking the location of the subject ('the book').

BOOK SHELF CL-: book
'The book is on the shelf.'

In LSC, any location of the signing space or the body of the signer can be a locative marker. In the example below the body of the signer, namely the heart, is used as a locative marker.

IX₃ HEART-SURGERY
'He was operated on his heart.'

Moreover, sometimes the two hands of the signer can express two different locative markers, as shown in the example below.

BIKE CL-BIKE++
'The bikes were parked one next to the other.'

3.1.2. Number markers

In LSC verbal morphemes cannot incorporate information about the number of the subject. However, they can express if the number of the object is a distributive or exhaustive plural. In the next subsections, we will explore different morphological strategies that LSC verbs use in order to express three different types of plural: dual, multiple, exhaustive, and reciprocal.

3.1.2.1. Dual

The dual plural signals that two entities are involved. It can be marked in two different ways:

i) The verb is repeated once.

TWO_{dual-x_y} CLEAN SWEEP_x SWEEP_y PUNISH
'Both of them are punished to sweep (the floor).'

(Ribera, 2014: 385)

ii) In the case of one-handed signs, the non-dominant hand can be added in the articulation of the verb in order to express the dual plural. When the non-dominant hand is added and articulated at the same time it means that the two actions occurred at the same time.

TAKE_{pluriaccionalidad}

(Ribera, 2014: 383)

3.1.2.2. Multiple

Multiple or collective plural is used when the object of a sentence is treated as a single group. This kind of plural is realized by an arc movement:

TIME CHRISTMAS IX₁ ALL FAMILY BOOK++ _{contra}[GIVE-PRESENT]_{ipsi}
'For Christmas, I will give books to all my family.'

In the example above the verb moves from the location of the signer in a straight line towards a location on the contralateral side of the signing space and then it moves in a continuous arc movement towards a location on the ipsilateral side of the signing space.

3.1.2.3. Exhaustive

The exhaustive plural (also called *distributive plural*) is used when an action is distributed among the different members of a set.

Body-anchored verbs cannot modify their location, so they make use of pronouns [Lexicon – Section 3.7] and/or the auxiliary sign (Lexicon – Section 3.3.4) for the expression of exhaustive plural.

LOVE EACH-ONE+++

'I love each one of you.'

Verbs that are not body-anchored express exhaustive plural by means of the reduplication of the verb in different locations. However, depending on the type of verb (regular agreement or backwards agreement verbs, with or without movement path) the interpretation of the predicate may be different.

Regular agreement verbs that have a movement path start the articulation of the verb in a single location and end it repeated locations along a sideways arc on the horizontal or vertical plane. In this case, the distributive meaning is related to the indirect or direct object, as shown in the example below.

CLASSMATES LSC TEACH+++_{exhaustive}

'I teach LSC to each of my classmates.'

The distribution in space of these locations can be either horizontal (the default form) or vertical, depending on the context of the sentence.

STUDENTS WARN+++horizontal
'I warn the students.'

NEIGHBORS WARN+++vertical
'I warn the neighbors.'

These plural markers can also have an interpretation that is linked to the subject and the object at the same time, that is to say a combination between distributive subject and distributive object. In this case there are different starting points and different final points, as in the example below.

CLASSMATES_i EACH-ONE_i, EACH-ONE_n LSC_nTEACH_i
'Each of us is teaching LSC to each of our classmates.'

3.1.3. Reciprocal markers

As we have seen in previous sections, some verbs in LSC are inherently reciprocal from a lexical point of view: DEBATE, ARGUE, AGREE, MEET, COLLABORATE, INTERVIEW, etc. [Lexicon – Section 3.2.2].

However, there are other verbs, like for instance, UNDERSTAND or SEND, that are one-handed in their citation form. In order to mark the reciprocal plural, these verbs are articulated with the two hands, having each of the hands a path movement from the start location (subject) towards the final location (object).

UNDERSTAND_{reciprocal} WELL.
'They understand each other very well.'

SEND_{reciprocal}.
'We send letters to each other.'

Moreover, when there are more than two participants, in order to express the reciprocal meaning, the verb is again articulated with two hands, and it is reduplicated alternating arc movements in each of the reduplications.

WE BOOK GIVE-A-PRESENT, _{1pl}-GIVE-A-PRESENT-_{1pl_reciprocal}
'We give each other books.'

CHILDREN LOOK_{reciprocal}
'The children look at each other.'

3.2. Tense

Catalan Sign Language (LSC) verbs do not include information about time, so tense is not marked through morphological changes in the verb. Tense inflection is not present in LSC, neither a particle or copulative verb that contributes to express tense. Instead, LSC uses time adverbials and tense markers in order to establish the temporal framework [[Lexicon – Section 3.3.1](#)].

3.2.1. Time lines

Time expression in Catalan Sign Language (LSC) is located on different temporal axes (basic, anaphoric, and sequential) depending on the type of information that is being expressed.

For the expression of chronological time (present, past and future), LSC uses a **basic axis** that starts behind the dominant shoulder of the signer and ends in the signing space in front of the signer. Signs referring to the past are signed in the part of the axis located over the shoulder, and signs related to the future are signed in the signing space in front of the signer. In the following examples, you can see different locations in the chronological axis for the sign YEAR that correspond with different locations in time (past, present and future).

THREE-YEARS-AGO HOLIDAYS BERLIN GO.

‘Three years ago, I went to Berlin on holidays.’

YEAR IX CHRISTMAS ISLAND CANARY GO.

‘This year I am going to the Canary Islands for Christmas.’

YEAR AFTER CONFERENCE OPORTO GO.

‘Next year I will go to a conference in Oporto.’

The basic axis, as well as the anaphoric and sequential axis, are also used in order to express temporal adverbials [[Lexicon – Section 3.5.2](#)].

3.2.2. Tense inflection

3.3. Aspect

3.3.1. Imperfective

3.3.1.1. Habitual

3.3.1.2. Continuative/durative

3.3.1.3. Conative

3.3.2. Perfective

3.3.2.1. Iterative

3.3.2.2. Inceptive/inchoative

3.3.2.3. Completive

3.4. Modality

3.4.1. Deontic modality

3.4.2. Epistemic modality

3.5. Negation

3.5.1. Regular negation

3.5.1.1. Manual markers

3.5.1.2. Non-manual markers

3.5.2. Irregular negation

Information on data and consultants

See the references below for information on data and consultants.

Authorship Information

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References

Barberà, G. & M. Mosella. 2014. Les llengües de signes: Gramàtica i modalitat gestovisual. Un estudi de cas de la concordança verbal en la llengua de signes catalana (LSC). *Llengua i literatura* 24: 111-151.

Quadros, R. Müller de & J. Quer. 2008. Back to back(wards) and moving on: on agreement, auxiliaries and verb classes in sign languages. *Theoretical Issues in Sign Language Research 9 (TISLR9)*. Florianópolis, Brasil, December 2006. *Sign Languages: spinning and unraveling the past, present and future. TISLR9, forty five papers and three posters from the 9th Theoretical Issues in Sign Language Research Conference*. Petrópolis: Editora Arara Azul, 2008. 978-85-89002-27-0, 695 p.

Quer, J. (dir.), Rondoni, E.M. (dir. tècn.), Barberà, G., Frigola, S., Aliaga, D., Boronat, J., Gil, J.M., Iglesias, P. & M. Martínez. 2005. *Gramàtica bàsica LSC*. Concordança. Barcelona: FESOCA, DOMAD. 978-84-932511-9-2

Quer, J. 2011b. *When agreeing to disagree is not enough: Further arguments for the linguistic status of sign language agreement*. *Theoretical Linguistics*, vol. 37, n.3-4, p. 189-196

Ribera, E. 2015. *La categoria verb en la llengua de signes catalana*. PhD dissertation, Universitat Autònoma de Barcelona

Chapter 4. Nominal inflection

4.1. Number

4.1.1. Manual marking

4.1.2. Non-manual marking

4.2. Localization and distribution

Chapter 5. Classifiers

5.1. Predicate classifiers

5.1.1. Entity classifiers

5.1.2. Bodypart classifiers

5.1.3. Handle classifiers

5.2. Size-and-Shape Specifiers (SASS)

Syntax

Chapter 1. Sentence Types

In Catalan Sign Language (LSC) the different sentence types can be distinguished due to a particular marking which allows to recognize them. In LSC it is possible to distinguish between declarative sentences (affirmative and negative sentences), interrogative sentences (polar interrogatives, alternative interrogatives and content interrogatives) and imperative sentences because each type has its own marker devices.

1.1. Declaratives

1.2. Interrogatives

Interrogative sentences, as well as declaratives [Syntax – Section 1.1], imperatives [Syntax – Section 1.3] and exclamatives [Syntax – Section 1.4], are one of the four recognized sentences types in LSC. Signers of LSC utter an interrogative sentence in order to elicit information from the addressee. The function of an interrogative sentence is, thus, different from that of a declarative sentence: while a declarative sentence provides information, an interrogative sentence asks for information.

As any other language, LSC has developed grammaticalized forms that are associated with interrogation. Non-manual markers, in this sense, play an important role in LSC interrogatives. Indeed, most of the times, non-manual markers are the only formal difference between a declarative and an interrogative sentence in LSC.

LSC distinguishes three major types of interrogatives: polar interrogatives [Syntax – Section 1.2.1], alternative interrogatives [Syntax – Section 1.2.2] and content interrogatives [Syntax – Section 1.2.3]. LSC can also perform rhetorical questions/self-questions (or Question-Answer clauses). This peculiar construction has two components: a question and its answer, which immediately follows it. Rhetorical questions are used in LSC for introducing and highlighting new information into the discourse.

The following section contains more detailed information of interrogation in LSC, focusing on the specific forms the language uses for marking this sentence type.

1.2.1. Polar interrogatives

A polar interrogative looks for a “yes” or a “no” as a reply. Polar interrogatives in LSC are most of the time only identified by the non-manual markers that accompany them; word order remains the same as in declaratives sentences. LSC can optionally include a question particle (the YES-NO q-sign) at the end of this clauses. The following section deals with all these mechanisms that LSC has for marking polar interrogatives.

1.2.1.1. Non-manual markers in polar interrogatives

Non-manual marking is the key marking device in LSC which distinguishes polar interrogatives from declaratives. The difference between neutral non-manual marking and polar interrogative non-manual marking can be spotted in the figures of the following example.

 y/n
IX₂ BREAD EAT
'Do you eat bread?'



Resting position

EAT

(Cañas 2015: 26)

The non-manual marking for LSC polar interrogatives usually involves a combination of the following features.

- Raised eyebrows
- Widened open eyes
- Direct gaze to the addressee
- Forward and downward head position (a slight sideways position can be added)
- Raised chin (it can optionally remain on its horizontal neutral position)
- Upward shoulders movement
- Forward body position

Due to pragmatics factors, the non-manual marking of polar interrogatives in LSC can experience a change of several of its components. When signers want to express doubt, skepticism, disbelief or surprise, regarding the content of the interrogative, they may change some of the non-manual marking features presented above by the following ones.

- Lowered and furrowed eyebrows (typical of content interrogatives)
- Upward head position
- Backward body posture



PARIS

CAPITAL

FRANCE

(Cañas 2015: 27)

Eyebrow movement occurs throughout the whole sentence, and eye contact is held with the addressee. Body and head move forward during the sentence realization: the culmination of their position is found at the end of the clause; even sideways head position is more prominent at the end of the sentence.

The non-manual marking scope in LSC polar interrogatives is usually the whole clause: non-manual marking has its onset at the very beginning of the clause and extends until the end. Polar interrogatives where the non-manual marking features only take scope over the last components of the sentence are also usual in LSC.

- | | | | |
|----|---------------------------|----|---------------------------|
| | <u> y/n </u> | | <u> y/n</u> |
| a. | IX ₂ BREAD EAT | b. | IX ₂ BREAD EAT |
| | ‘Do you eat bread?’ | | ‘Do you eat bread?’ |

(Cañas 2015: 34)

However, it is not possible to utter a polar interrogative with non-manual marking features just taking scope over the first components of the sentence: the last component needs to be always marked through non-manual marking features.

1.2.1.2. Word order changes between declaratives and polar interrogatives

Polar interrogatives maintain the word order of declarative sentences. The only relevant changes that a polar interrogative can optionally experience in terms of word order concerns its pronominal subject. It can be doubled—it occurs in its original position and also at the very end of the sentence—or it can be moved—it does not occur in its neutral position—.

- | | | | |
|----|---------------------------------------|----|---|
| | <u> y/n</u> | | <u> y/n</u> |
| a. | IX ₂ TIRED IX ₂ | b. | IX ₃ LIVE LLEIDA IX ₃ |
| | ‘Are you tired?’ | | ‘Does he live in Lleida?’ |

(Quer et al. 2005)

- y/n
c. DEAF IX₂
‘Are you deaf?’

(Cañas 2015: 41)

Neither of these changes in word order are obligatory, they just convey emphasis to the proposition uttered.

1.2.1.3. Interrogative particles

In addition to non-manual markings, LSC has an interrogative particle to mark exclusively polar interrogatives: the YES-NO Q-sign. The YES-NO is a one-handed sign which is made with index configuration in two consecutive movements. The first movement is from the top downwards and the second one, from the left to the right; both movements are performed in the frontal plane. The second part of the sign is accompanied with an “o” mouthing. See the following sequences.

 y/n
YES-NO



(Cañas 2015: 36)

The YES-NO Q-sign always occurs within the same prosodic unit as the rest of the interrogative and it is typically performed at the end of the clause. When it is not used, the polar interrogative remains with the same word order as the declarative sentence and it is marked with non-manual marking features, which are compulsory. When the YES-NO Q-sign occurs, it is always marked with prototypical non-manual marking features of LSC polar interrogatives: body and head pushed forward, shoulders slightly upward, chin usually raised, eye contact with the addressee and eyebrow movement. It is not possible to find a polar interrogative in LSC without non-manual markings over the Q-sign. Look at the same sentence performed with and without the YES-NO Q-sign.

a. _____ y/n
IX₂ SLEEP YES-NO
'Have you slept?'

b. _____ y/n
IX₂ SLEEP
'Have you slept?'

(Cañas 2015: 36)

When the YES-NO Q-sign is used, the sign itself co-occurs with the non-manual marking. Thus, adding the sign at the very end of a declarative turns the sentence into a polar interrogative.

_____ y/n
IX₂ WATER DRINK YES-NO
'Did you drink water?'

(Cañas 2015: 38)

However, the non-manual marking can optionally be spread over the whole sentence.

(_____) y/n
IX₂ PARTY GO YES-NO
'Are you going to the party?'

(Cañas 2015: 38)

Adding this interrogative particle into the polar interrogative slightly changes the interpretation of the sentence: it demands an urgent, specific and faster response. Thus, the YES-NO Q-sign is pragmatically marked as it requires an immediate answer while putting the interlocutor under pressure for getting a response as rapidly as possible.

_____ y/n
a. IX₂ EAT NIGHT WANT YES-NO. BECAUSE IX_{2P} DISH PREPARE ALREADY
'Do you want to have dinner? Because it is already prepared.'

_____ y/n
b. IX₂ SKI COME WANT YES-NO. BECAUSE IF YES COME WANT, IX₁ HOME LEAVE BEFORE
'Will you come skiing with us? Because if you want to come, I must leave home earlier.'

(Quer et al. 2005)

1.2.2. Alternative interrogatives

LSC signers use alternative interrogatives when presenting more than one option to the addressee and ask him/her to choose one. Although alternative interrogatives seem polar interrogatives, the person asking is not, in this case, expecting a 'yes' or a 'no' as an answer; he/she is asking the addressee to reply with one of the options displayed. When two alternatives are displayed, a head movement from side to side of the frontal plane accompanies the signs.

- a. $\frac{\text{hn}}{\text{ORANGE}} \frac{\text{hn}}{\text{APPLE LIKE MORE}} \frac{\text{y/n}}{\text{?}}$
 ‘Do you prefer orange or apple?’
- b. $\frac{\text{hn}}{\text{IX}_2 \text{ EAT HERE}} \frac{\text{hn}}{\text{IX}_2 \text{ HOME}} \frac{\text{y/n}}{\text{?}}$
 ‘Are you eating here or are you eating home?’

(Quer et al. 2005)

Alternative interrogatives that contain two options can also be performed using a manual sign that would occur clause-finally. These signs can be ONE-OF-THE-TWO, WHICH-OF-THE-TWO, WHICH. See the examples below.

- a. $\frac{\text{hn}}{\text{ORANGE}} \frac{\text{hn}}{\text{APPLE LIKE MORE}} \frac{\text{y/n}}{\text{ONE-OF-THE-TWO ?}}$
 ‘Do you prefer orange or apple?’
- b. $\frac{\text{hn}}{\text{ORANGE}} \frac{\text{hn}}{\text{APPLE LIKE MORE}} \frac{\text{y/n}}{\text{WHICH-OF-THE-TWO ?}}$
 ‘Do you prefer orange or apple?’
- c. $\frac{\text{hn}}{\text{ORANGE}} \frac{\text{hn}}{\text{APPLE LIKE MORE}} \frac{\text{y/n}}{\text{WHICH ?}}$
 ‘Do you prefer orange or apple?’

(Quer et al. 2005)

1.2.3. Content interrogatives

Content interrogatives are uttered when the signer is looking for a specific answer regarding one of the partial components of the sentence. Thus, the answer of the addressee provides new information.

1.2.3.1. Non-manual markers in content interrogatives

Content interrogatives have specific non-manual marking features associated with them. The non-manual marking usually consists in a combination of the following features.

- Furrowed eyebrows
- Forward head tilt
- Body lean
- Chin raise

- WHAT:

- wh
b. IX₂ WORK WHAT
'What do you do?'

- WHY:

- top wh
c. MAN-LITTLE IX₃ PLAY FOOTBALL NO WHY
'Why doesn't this kid play football?'

- WHICH:

- wh
d. IX₂ SPORT LIKE-MOST WHICH
'Which sport do you like the most?'

- HOW:

- top wh
e. IX₂ SIBLING WOMAN WORK FIND HOW
'How did your sister find a job?'

- WHEN: in this case, the sign is articulated differently if the time reference is related to the past or to the future. This time distinction is expressed by spatially modifying the sign towards the back of the dominant shoulder (past) and towards the front of signing space (future).

- top wh
f. IX₂ DEGREE TEACHER LSC WHEN-PAST
'When did you get the professional degree of teacher of LSC?'

- wh
g. IX₂ BIRTHDAY WHEN-FUTURE
'When is your birthday?'

- HOW-MANY/MUCH: there are different signs depending on the referent that is intended.

- wh
h. IX₂ HOUSE SLEEP ROOM HOW-MANY
'How many rooms does your house have?'

- top wh
i. ORANGE ONE KILO HOW-MUCH-COST
'How much does a kilo of oranges cost?'

j. top _____ wh
IX_{2P} FRIENDS HOW-LONG
'For how long have you been friends?'

k. _____ top _____ wh
TOWN GO NEED TIME HOW-MUCH
'How much is left to get to the town?'

- WHERE:

m. _____ top _____ wh
LIBRARY WHERE
'Where is the library?'

(Quer et al. 2005)

Wh-expressions in LSC can be simple or complex. Complex *wh*-expressions are formed by a *wh*-sign plus a restrictor.

n. _____ wh
COOKIE STEAL BOY WHO
'Which boy stole the cookie?'

(Alba 2016: 104)

1.2.3.3. Content interrogatives without *wh*-signs

Exceptionally, *wh*-signs may not appear in content interrogatives, as in the following examples.

a. _____ wh
IX₃ COLOR
'What color is it?'

b. _____ wh
TIME
'What time is it?'

c. _____ wh
IX₃ YEAR
'How old are you?'

d. _____ wh
IX₃ FACE X₃
'What does it look like?'

‘What did John steal?’

(Alba 2016: 99)

This option is quite infrequent, but note that non-manual marking spreading is compulsory until the end of the sentence.

For complex *wh*-expressions in LSC, such as ‘WHICH BOY’ or ‘WHICH BOOK’, they follow the same distribution patterns as simple *wh*-expressions. Their canonical location is also the end of the sentence.

- | | | | |
|----|-------------------------------|----|------------------------------|
| | _____ <u>wh</u> | | _____ <u>wh</u> |
| a. | COOKIE STEAL BOY WHO | b. | JOHN STEAL BOOK WHICH |
| | ‘Which boy stole the cookie?’ | | ‘Which book did John steal?’ |

(Alba 2016: 98)

1.2.3.6. Split between the *wh*-sign and its restriction

1.2.3.7. Doubling of the *wh*-sign

Doubled constructions are sentences in which some element is repeated in final position. In the case of *wh*-signs, doubling this element in a content interrogative results in a partial question with two equal, coreferential *wh*-signs. A content interrogative with a doubled *wh*-sign differs from a multiple *wh*-interrogative [Syntax – Section 1.2.3.8]; the first construction requires only a single element as their answer, while the second one requires a pair list.

_____ wh
WHAT JOHN STEAL WHAT
‘What did John steal?’

(Alba 2016: 100)

The actual distribution of the *wh*-expressions in doubled constructions can only be:

- Initial plus final position, or
- In situ plus final position.

The spreading of non-manual markings over the components to the left of the first *wh*-sign is optional. However, the appearance of a *wh*-sign in an initial or in situ position triggers the obligatory spreading of non-manual marking to the end of the clause.

- | | |
|--|--|
| <p>Initial + final position</p> <p style="text-align: right; margin-right: 20px;"><u>wh</u></p> <p>b. WHAT JOHN STEAL WHAT</p> <p>‘What did John steal?’</p> | <p>In situ + final position</p> <p style="text-align: right; margin-right: 20px;">() <u>wh</u></p> <p>c. JOHN WHAT STEAL WHAT</p> <p>‘What did John steal?’</p> |
|--|--|
- (Alba 2016: 100-101)

Complex *wh*-expressions (*wh*-sign plus a restrictor) can also participate in doubled *wh*-interrogatives. Regarding their distribution, the behavior is the same one observed for simple *wh*-expressions. At least one of the two *wh*-expressions must occupy the final position of the sentence. The other one may be in initial position or in situ. Non-manual markings must cover all the material between the two *wh*-expressions.

- wh
- WHISKY WHICH JOHN DRINK WHISKY WHICH
- ‘Which whisky does John drink?’
- (Alba 2016: 105)

1.2.3.8. Multiple *wh*-signs in interrogatives

Multiple *wh*-interrogatives are questions with two non coreferential *wh*-signs; thus, they ask for pair list answers. In LSC, there is a preference to move just one of the two *wh*-signs towards the end of the clause, leaving the other in situ.

- | | |
|--|--|
| <p><i>wh</i>-object moved + <i>wh</i>-subject in situ</p> <p style="text-align: right; margin-right: 20px;"><u>wh</u></p> <p>a. WHO BUY WHAT</p> <p>‘Who bought what?’</p> | <p><i>wh</i>-subject moved + <i>wh</i>-object in situ</p> <p style="text-align: right; margin-right: 20px;"><u>wh</u></p> <p>b. WHAT BUY WHO</p> <p>‘Who bought what?’</p> |
|--|--|
- (Alba 2016: 102)

Although both *wh*-signs can be located sentence-finally, the result is dispreferred. Moreover, it is not possible to located both *wh*-signs at the front of the clause.

- | | |
|--|--|
| <p style="text-align: right; margin-right: 20px;"><u>wh</u></p> <p>a. BUY WHO WHAT</p> <p>‘Who bought what?’</p> | <p style="text-align: right; margin-right: 20px;"><u>wh</u></p> <p>b. BUY WHAT WHO</p> <p>‘Who bought what?’</p> |
|--|--|
- (Alba 2016: 102)

If both *wh*-signs are located at the end of the clause, LSC prefers to leave the *wh*-object in a more peripheral position, preceded by the *wh*-subject. Example (c), then, is preferred by LSC signers.

1.2.3.9. Interrogative particles

No interrogative particle in LSC for content interrogatives has been described.

1.3. Imperatives

1.3.1. Subtypes of imperatives

1.3.1.1. Orders

1.3.1.2. Invitations

1.3.1.3. Suggestions/advice

1.3.1.4. Permissions

1.3.1.5. Instructions

1.3.1.6. Recommendations

1.3.2. Imperative markers

1.3.2.1. Manual signs

1.3.2.2. Non-manual markers

1.3.3. Imperatives and verb classes

1.3.4. Word order in imperatives

1.3.5. Attention callers

1.3.6. Negation in imperatives

1.3.6.1. Manual negation

1.3.6.2. Non-manual negation

1.3.7. Subjects in imperatives

1.3.7.1. Null and/or overt subject

1.3.7.2. The person of the subject

1.3.7.3. Anaphoric properties

1.3.8. Embedding imperatives

1.3.9. Special constructions: imperative-and-declaratives (IaD)

1.3.10. Exhortative constructions

1.4. Exclamatives

1.4.1. Total exclamatives

1.4.1.1. Non-manual marking

1.4.1.2. Manual signs

1.4.2. Partial exclamatives

1.4.2.1. Non-manual marking

1.4.2.2. *Wh*-signs

1.4.2.3. Other structures

1.4.3. Negation in exclamatives

1.5. Negatives

1.5.1. Manual marking of negation

1.5.1.1. Manual negative elements

1.5.1.1.1. Negative particles

1.5.1.1.2. Irregular negatives

1.5.1.1.3. Negative determiners and adverbials

1.5.1.2. Syntax of negative clauses

1.5.1.2.1. Position of negative elements

1.5.1.2.2. Doubling

1.5.1.2.3. Negative concord

1.5.2. Non-lexical marking of negation

1.5.2.1. Head movements

1.5.2.2. Facial expressions

1.5.2.3. Body posture

1.5.2.4. Spreading domain

Chapter 2. Clause structure

2.1. The syntactic realization of argument structure

2.1.1 Types of predicates

2.1.1.1. Transitive and ditransitive predicates

2.1.1.2. Intransitive predicates: unergatives and unaccusatives

2.1.1.3. Psychological predicates

2.1.1.4. Meteorological predicates

2.1.1.5. Argument structure alternations

2.1.2. Argument realization

2.1.2.1. Overt noun phrases

2.1.2.2. Pronouns

2.1.2.3. Verb agreement

In Catalan Sign Language (LSC), verb agreement [[Morphology – Section 3.1](#)] is crucial to determine the argument structure of predicates, as it only involves syntactic arguments, and not adjuncts. In the following subsections, we will mainly explore two different types of manual and non-manual verbal agreement inflections: person agreement (with animate participants) and locative or spatial agreement (with arguments of location and movement predicates encoding goal, source, path or location). Moreover, we will also explore the realization of argument structure in some plain verbs that in LSC can show agreement with their arguments.

2.1.2.3.1. Manual verb agreement

In Catalan Sign Language, most person agreement predicates can be characterized as ditransitive predicates expressing some notion of transfer. In these predicates, subject agreement encodes the agent/source argument and object agreement encodes the goal/recipient argument. In the example below, the verb GIVE is articulated through a path movement that goes from the location of the subject (the agent argument) to the location of the indirect object (the recipient/goal argument).

BOOK RAQUEL IX₃ IX₁ 1GIVE₃

'I gave the book to Raquel.'

The internal theme argument (the direct object BOOK) is not encoded through agreement morphology on the verb, but through the shape of the hand, which is determined by the theme argument (sometimes identified as handling classifier [Morphology – Section 5.1.3]). This change in the handshape can be considered as a sort of agreement as well, or also as an instance of noun incorporation in the verb.

Some LSC transitive verbs also function as person agreement verbs. In this case, the second agreement marker agrees with the internal argument realized as a direct object.

COMPANY DIRECTOR 1SUMMON₃

'The director of the company summoned me.'

LSC also has some plain verbs, which are not body-anchored, that can show agreement with their arguments [Morphology – Section 3.1.1; Lexicon – Section 3.2] by means of the location in the signing space. Intransitive plain verbs can show agreement with the subject, as shown in the example (a) below, and transitive plain verbs can show agreement with the object, as shown in example (b) below.

a. PLEASE IX₂ 2SIT

'Please, sit down.'

b. BILL_{pl-i} PAPER ACCUMULATE_{pl-i} PAY_{pl-i} MUST

'Bills that are accumulated must be paid.'

As for plain verbs that cannot carry inflection (usually body-anchored plain verbs), LSC can coappear with an auxiliary sign that encodes subject and object marking.

IX₃ LOVE 3AUX₁

'He loves me.'

This auxiliary sign can also accompany inflected agreement verbs with an emphatic interpretation, as shown in the example below.

IX₁ 1SEND-LETTER₃ 1AUX₃

'I sent the letter to him!'

Moreover, in LSC, the agreement auxiliary can appear with an inflected backwards agreement verb [Lexicon – Section 3.2.2]. Contrary to the backwards agreement verbs, the path of the auxiliary starts in the location of the subject locus and moves towards the location of the object.

IX_x IX_y xAUX_y yUNDERSTAND_x NOT
'She doesn't understand him.'

On the other hand, in LSC, spatial predicates show manual agreement by means of path movement (motion verbs) or localization at a point (locative verbs) [Morphology – Section 3.1]. With motion verbs, the initial and final points of the path agree with the locations of the source and goal arguments that define the path.

IX₃ BARCELONA IX_a BERLIN IX_b aMOVE_b
'She moved from Barcelona to Berlin.'

Spatial locative verbs only have one location argument, and thus, realize agreement by placing the sign in the relevant location or also by orienting the hand or the tip of the fingers towards it.

STAY_a BARCELONA_a YEAR-FOUR
'She stayed in Barcelona for four years.'

2.1.2.3.2. Non-manual verb agreement

2.1.2.4. Classifier handshape

In Catalan Sign Language (LSC) a classifier handshape [Morphology – Section 5; Pragmatics – Section 2.2.2] can show agreement with the direct object of a ditransitive verb, as shown in the previous section. This type of agreement can be realized in classifier constructions by selecting some visually salient property of the argument, as in the following example.

TREE CL-: be.at_a MAN CL-: move_a
'A man approached the tree.'

2.1.3. Argument structure changes

2.1.3.1. Extension of argument structures

2.1.3.2. Passive

2.1.3.3. Reflexivity

2.1.3.4. Reciprocity

2.1.4. Non-verbal predication

2.1.4.1. Copular constructions

2.1.4.2. Secondary predication

2.1.5. Existentials and possessives

In the sentential domain, the mechanisms available in Catalan Sign Language (LSC) to express possessive relations include the existential construction THERE-BE, the lexical predicates HAVE and BELONG, zero marking, and attributive sentences with possessives and pronominals as predicates.

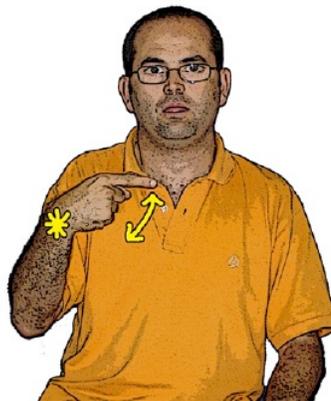
2.1.5.1. Possessives

At the sentential level, the main tool that LSC has at its disposal to express predicative possession is the use of the construction THERE-BE, with the predicate in sentence-final position.

IX₁ MONEY THERE-BE

'I have money.'

(Quer & GRIN, 2008: 46)



Predicate THERE-BE (Quer & GRIN, 2008: 46)

The same construction can be used either in possessives or existential/locative constructions, but the latter might trigger some extra locative index or localizing classifier construction [[Syntax 2.1.5.2](#)].

The sign THERE-BE is articulated with tongue wiggling. When the manual predicate is omitted, the non-manual can be coarticulated with the possessed noun.

tongue-wg

IX₃ MONEY

‘S/he has money.’

(Quer & GRIN, 2008: 48)

There is a negative counterpart of this predicate, the sign THERE-BE-NOT, which incorporates the negation in the articulation of the sign.



Predicate THERE-BE-NOT

(Quer & GRIN, 2008: 47)

THERE-BE and THERE-BE-NOT are used to express both alienable and inalienable possession. Specifically, kin terms usually appear with these predicates.

t hn

IX₃ SIBLING THERE-BE

‘S/he does have siblings.’

IX₃ SIBLING THERE-BE-NOT

‘S/he doesn’t have siblings.’

(Quer & GRIN, 2008: 48)

There is one exception, though: inalienable body parts cannot appear with THERE-BE. However, they can appear with the negative predicate THERE-BE-NOT.

hs

IX₃ EYE ONE THERE-BE-NOT

‘S/he lacks one eye.’

(Quer & GRIN, 2008: 47)

If theme nouns are modified, the modifier usually appears after the predicate, as in the examples below with quantifiers.

IX₁ PROBLEM THERE-BE ONE

‘I have a problem.’

t

IX₃ THERE-BE SIBLING TWO, LIST₁ MAN LIST₂ WOMAN

‘S/he has a brother and a sister.’

(Quer & GRIN, 2008: 48)

Another option to express possession within the clausal domain consists in the use of the predicate HAVE. However, its distribution is more restricted, since it is used exclusively to express alienable possession. Therefore, it cannot be used to express possession of body parts, kinship terms, locative/part-whole relationships, and psychological-physical states.

IX₁ BICYCLE HAVE TWO

‘I have two bicycles.’

(Quer & GRIN, 2008: 51)



Possessive predicate HAVE (Quer & GRIN, 2008: 50)

There exists a negative form HAVE-NOT, with negation incorporated into the articulation of the verb.

IX₃ CELL-PHONE HAVE-NOT

‘S/he does not have a cell phone.’

(Quer & GRIN, 2008: 51)

The predicate BELONG is related to the possessive marker OF [Syntax 4.2.1.2], but the verb is articulated with two contacts instead of just one, as in the case of the possessive linker.



Possessive predicate BELONG

(Quer & GRIN, 2008: 51)

The verb BELONG takes the possessed theme as subject, as in the examples below:

_____ t

BARCELONA CITY BELONG CATALONIA

‘The city of Barcelona belongs to Catalonia.’

_____ t

EXERCISE IX BELONG LESSON OTHER

‘These exercises belong to another lesson.’

_____ t

IX CAR BELONG BORONAT

‘That car belongs to Boronat.’

(Quer & GRIN, 2008: 51)

In the case of inalienable possession, a common mechanism used in LSC is zero marking, particularly in the case of body parts – since the construction THERE-BE cannot be used –, and kin terms – which can appear either in zero marking constructions or with the verb THERE-BE –.

_____ t

IX₁ SIBLING FOUR

‘I have four siblings.’

IX₃ CHILDREN TWO BLOND

‘S/he has two blond children.’ (Quer & GRIN, 2008: 49)

IX₃ MEMORY VERY-GOOD

‘S/he has very good memory.’/ ‘Her memory is very good.’

_____ t

GOAT LEG FOUR

‘A goat has four legs.’ (Quer & GRIN, 2008: 50)

Zero marking is also used to denote physical and mental states.

IX₃ HEADACHE

‘He has a headache.’

IX₁ FEAR

‘I’m scared.’

IX₃ PATIENCE

‘S/he has got patience.’ (Quer & GRIN, 2008: 50)

However, when the mental state is negated, the use of the negative existential THERE-BE-NOT is required in the clause.

FEAR THERE-BE-NOT

‘I’m not scared.’

SHAME THERE-BE-NOT

‘I’m not ashamed.’

(Quer & GRIN, 2008: 50)

Finally, LSC can also express possessive relations using possessive and personal pronouns or possessive NPs as predicates in attributive sentences. Due to the fact that LSC does not have a copula TO-BE, the possessive predicates just mentioned appear alone. Importantly, pronouns in predicative position are reduplicated.

_____ t _____ hn

BOOK IX IX₁++

‘That book is mine.’

_____ t _____ hn

LSE POSS++

‘LSE is theirs (language).’

(Quer & GRIN, 2008: 52)

Pronouns used as nominal predicates in attributive sentences can appear with the possessive marker OF.

_____ t _____ hn

LSE OF POSS++

‘LSE is theirs (language).’

_____ t _____ hn

LSE OF IX₃++

‘LSE is his/hers (language).’

(Quer & GRIN, 2008: 52)

As mentioned, possessive noun phrases can also function as nominal predicates:

_____ t

DELFINA SIGNING POSS++

‘That is Delfina’s way of signing.’

IX JOSEP WORK POSS++

‘That’s Josep’s work.’

(Quer & GRIN, 2008: 52)

2.1.5.2. Existentials

As noted in the previous subsection, the verb THERE-BE can function either as a possessive predicative or as an existential/locative. In the latter case, a locative index sign or a localizing classifier can be triggered by the existential construction.

_____ t

WALL HOLE ONE CL₁: circle-on-vertical-surface

‘The wall has a hole/There is a hole in the wall.’ (Quer & GRIN, 2008: 49)

However, in some cases both possessive and existential/locative constructions are formally indistinguishable. Therefore, the following examples may be interpreted either as possessive predicative or as existential constructions.

_____ t

PRINTER PAPER THERE-NOT-BE

‘The printer has no paper/There is no paper in the printer.’

_____ t

WINTER TREE LEAF+ THERE-NOT-BE

‘In the winter the tree does not have leaves/there are no leaves in the tree.’

_____ t _____ hn

PYRENEES IX GOAT THERE-BE

‘The Pyrenees have goats/There are goats in the Pyrenees.’

(Quer & GRIN, 2008: 49)

The same negative counterpart of the sign THERE-BE that was described for the possessive construction [Syntax – Section 2.1.5.1] is found in existential constructions, namely the sign THERE-BE-NOT.

Both THERE-BE and THERE-BE-NOT can be used with concrete and abstract themes.

MOUNTAIN SNOW THERE-BE

‘There is snow on the mountains.’

(Quer & GRIN, 2008: 46)

TIME THERE-BE-NOT

‘There is no time left.’

MAYBE SOLUTION THERE-BE

‘Maybe there is a solution.’

(Quer & GRIN, 2008: 48)

2.2. Grammatical functions

2.2.1. Subject and object identification

2.2.1.1. Specific position(s) for subject and object

2.2.1.2. Special anaphoric properties for subject and object

2.2.1.3. Strategies of pronoun copying for subject and object

2.2.1.4. Null arguments for subject and object

2.2.2. Other grammatical functions: arguments vs. adjuncts

2.2.3. Types of adjuncts

2.3. Word order

2.3.1. Identification of the basic order of constituents in the main declarative clause

2.3.1.1. Order of subject, object and verb

In Catalan Sign Language (LSC) the basic order of a sentence with a subject and direct object is subject-object-verb (SOV).

ACCOUNTANT CHEQUE LOOSE

‘The accountant lost the cheque.’

(Quer et al., 2005)

However, with locative verbs such as GO, TAKE-TO, LIVE or STAY, the locative argument is usually articulated after the verb, so the most usual word order is subject-verb-location, as illustrated in the examples below. Moreover, the argument indicating the location is usually accompanied by a pointing sign.

IX₁ ALWAYS LIVE IX SANTA-COLOMA

‘I’ve always lived in Santa Coloma.’

MONTH AFTER IX₁ GO IX PORTUGAL

‘Next month I’ll go to Portugal.’

(Quer et al., 2005)

2.3.1.2. Order of auxiliaries (i.e. agreement, tense and aspectual markers) with respect to the verb

2.3.1.3. Order of modals with respect to the verb

2.3.1.4. Order of negation with respect to verb, modals and auxiliaries

2.3.1.5. Order of arguments of ditransitive verbs

2.3.1.6. Position for different types of adverbs and adjuncts

Adverbs and adjuncts that provide information about time and location are, by default, placed at the beginning of the sentence. This position establishes a "frame" regarding when and where the action is taking place.

PAST TWO-WEEKS BUS STRIKE

‘Two weeks ago there was a bus strike.’

TOMORROW IX MOUNTAIN WEATHER GOOD SURE

‘Tomorrow in the mountains I’m sure the weather will be good.’

(Quer et al., 2005)

However, if the information about time or place is the information focus of the sentence, it is placed at the end of the sentence [Pragmatics – Section 4.1], as shown in the examples below.

BUS STRIKE PAST TWO-WEEKS

‘The bus strike took place two weeks ago.’

BALL CHEESE MANUFACTURED IX HOLLAND

‘Edam cheese is made in Holland.’

(Quer et al., 2005)

2.3.2. Basic order of constituents in other clauses

2.3.2.1. Basic order in the different types of sentence

2.3.2.2. Basic order in the different types of subordinate clauses

2.3.3. Deviations from the basic order of constituents

As we have seen in the previous sections, Catalan Sign Language (LSC) basic word order is SOV [Syntax – Section 2.3.1]. Sometimes though, different factors make this basic word order change. Information structure notions such as **focus** and **topic** are some of the factors that can make the basic word order to change. Moreover, different types of **verbs** and **predicates** can also influence the word order of LSC.

In the next sections, we will explore the different permutations on word order that are allowed to happen in LSC.

2.3.3.1. List of attested and unattested permutations

2.3.3.2. Non-manuals accompanying the deviations from the basic word order

2.3.3.3. Specific order for topicalized elements

Topics in LSC [Pragmatics – Section 4.2] are placed at the beginning of the sentence in LSC, as illustrated in the example below:

 t
ONION, INDEX₁ HATE
'Onions, I hate.'

(Pfau & Quer, 2010)

In this example, the basic word order SOV is changed: the direct object is placed at the beginning of the sentence, giving rise to an OSV order. Moreover, the topicalized element receives a specific non-manual marking [Pragmatics – Section 4.3.2].

2.3.3.4. Specific order for focused elements

In LSC, focused elements can appear in different positions in the sentence. Generally, the type of focus [Pragmatics – Section 4.1] determines the position of the focused item. In narrow new information focus we can find instances of focus placed at the end of the sentence, where the pitch accent is more prominent, as shown in examples (a) and (b) below. In these examples, the basic word order SOV [Syntax – Section 2.3.1] is altered becoming OVS in (a) and (S)VO in (b).

a. CLOTHES T-SHIRT₃GIVE₁ [FATHER]_F
'FATHER gave me the shirt.'

b. EAT [BREAD]_F
'(I) eat BREAD.'

(Navarrete-González, 2016: 28)

Regarding contrastive focus, it has been found that the focused element can also be placed at the end of the sentence, as in the example below, where the word order is (S)VO.

What do you like more, skiing or snowboarding?

 nb

LIKE MORE [SKI]_F

‘I like more SKIING.’

However, fronting of the focused item is possible too. In the example below, the verb SKI is placed at the beginning of the sentence. In this case, the basic word order has become O(S)V.

What do you like more, skiing or snowboarding?

rb

[SKI]_F LIKE MORE

‘SKIING I like more.’

When the contrastive focus is placed at the beginning of the sentence, it is accompanied by raised eyebrows, as illustrated in the example above.

2.3.3.5. Word order variations according to the different types of verbs (plain, agreeing)

Sometimes the basic word order varies depending on the type of verb. For instance, some verbs can incorporate the object in one single form. This is the case for examples of some agreement verbs that can specify the subject, the direct object and the indirect object in the same form, as in the examples below.

‘I’ve already put it away.’

‘The took a bunch of flowers to my grandmother.’

(Quer et al., 2005)

2.3.3.6. Word order variations according to the different types of predicates (reversible/irreversible)

2.4. Null arguments

2.4.1. Subject and object null arguments

2.4.1.1. Null subjects

2.4.1.2. Null objects

2.4.2. Types of verbs that can license null subjects

2.4.3. Null subjects in main clauses

2.4.4. Null arguments in embedded clauses

2.4.5. Pragmatic and semantic conditions licensing null arguments

2.4.6. Referential properties of null arguments

2.5. Clausal ellipsis

2.6. Pronoun copying

2.6.1. Personal Pronoun copying

2.6.2. Syntactic properties of pronoun copying

2.6.2.1. Possible subject-object asymmetry in pronoun copying

2.6.2.2. Position of the copying pronoun

2.6.3. Prosodic features of pronoun copying

2.6.4. Functions of pronoun copying

Information from data and consultants

See the references below for information on data and consultants.

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References

- Barberà, G. & M. Mosella. 2014. Les llengües de signes: Gramàtica i modalitat gestovisual. Un estudi de cas de la concordança verbal en la llengua de signes catalana (LSC). *Llengua i literatura* 24: 111-151.
- Jarque, M.J., Pascual, E & M. Bosch-Baliarda. 2014. Estructuras de foco en la lengua de signos catalana (LSC): cohesión y estructura discursiva esqueletal. IX Congreso Internacional de la Asociación Española de Lingüística Cognitiva (AELCO). Badajoz.
- Navarrete-González, A. 2016. Focus constructions in Catalan Sign Language. MA thesis, Universitat Pompeu Fabra
- Morales, Boldú, Alonso, Gras & Rodríguez (2007): El sistema verbal en la lengua de signos catalana (LSC)
- Pfau, R. & Quer, J. 2012. Nonmanuals: their grammatical and prosodic roles. In D. Brentari (ed.), *Cambridge Language Surveys: Sign Languages*, 381-402. Cambridge University Press.
- Quadros, R. Müller de & J. Quer. 2008. Back to back(wards) and moving on: on agreement, auxiliaries and verb classes in sign languages. *Theoretical Issues in Sign Language Research 9 (TISLR9)*. Florianópolis, Brasil, December 2006. *Sign Languages: spinning and unraveling the past, present and future*. TISLR9, forty five papers and three posters from the 9th Theoretical Issues in Sign Language Research Conference. Petrópolis: Editora Arara Azul, 2008. 978-85-89002-27-0, 695 p.
- Quer, J. (dir.), Rondoni, E.M. (dir. tècn.), Barberà, G., Frigola, S., Aliaga, D., Boronat, J., Gil, J.M., Iglesias, P. & M. Martínez. 2005. Gramàtica bàsica LSC. Concordança. Barcelona: FESOCA, DOMAD. 978-84-932511-9-2
- Quer, J. & GRIN. 2008. Structures of possession and existence in Catalan Sign Language. *Possessive and existential constructions in sign languages*. Nijmegen: Ishara Press. 978-90-8656-004-2, p. 33-53
- Ribera, E. 2015. La categoria verb en la llengua de signes catalana. PhD dissertation, Universitat Autònoma de Barcelona

Chapter 3 Coordination and subordination

3.1 Coordination of clauses

Coordination is a syntactic construction in which two or more constituents [Syntax – Section 2.0.1] belonging to the same syntactic category such as noun phrases [Syntax – Chapter 4], verb phrases, or clauses are combined at the same level. It can be expressed with the use of an overt element such as *and*, *or*, *but* or juxtaposition, where no overt marker is used.

In the next sections the different types of coordination in LSC are introduced, as well as the different types of manual and non-manual markers used to express them. Moreover, the properties of coordination that make possible to diagnose it are presented.

3.1.1 Types of clausal coordination

In LSC there are three main ways of combining one or more constituent using different types of coordination, manual or non-manual [Lexicon – Section 3.9]:

- (i) conjunction, using a sign or non-manual with the meaning of *and*,
- (ii) disjunction, using a sign or non-manual with the meaning of *or*,
- (iii) adversative coordination, using a sign with the meaning of *but*.

We can see an example for each type below. In (a) conjunction, in (b) disjunction and in (c) adversative coordination.

bs ipsilateral
_____ re _____ hth _____ re _____ hth

a. MARINA DANCE JORDI CHAT. (COO11.20)
'Marina danced and Jordi chatted.'

_____ fe+sq
hl+sp.contr. [or] hl+bbl contr.

b. MARINA WORK _____ VACATIONS. (COO16.02)
'Marina will work or will go on vacation.'

_____ hl contr. _____ hl contr.
_____ r _____ hs

c. JORDI SUPERMARKET GO BUT MILK BUY NOT (COO75.01)
'Jordi went to the supermarket, but he didn't buy the milk.'

Zorzi (to appear)

In (a) and (b), conjunction and disjunction respectively are expressed using juxtaposition where no overt marker is used. Coordination and disjunction are mainly expressed using this strategy. However,

this is not the case for adversative coordination, which can only be expressed using the sign BUT. Disjunction, differently than conjunction, often displays the use of the mouthing for *o* ‘or’. Both types, though, need the use of non-manual markers such as body or head shift or lean and the use of space to localise each conjunct. In conjunction it is also possible to use buoys [Lexicon – Section 1.2.3] to express a list of elements or events, but also to put them in temporal order.

Moreover, conjunction expressed using juxtaposition mainly expresses simultaneous events, while sequential ones, if the pragmatic context is not very explicit, need to be separated by the temporal adverb THEN [Syntax – Section 6.4.2.1] or by buoys with -handshape [Phonology – Section 1.1.3]. In the following examples, (a) features two simultaneous or atemporal events and (b) two sequential ones are conjoined using juxtaposition. In (b), though, pragmatics compensates for the absence of a temporal adverb. In (c), instead, buoys with a -handshape is used. It is glossed as LIST-X-F, where X represents the number of the finger selected, starting from the index till the pinky finger. In (c), to mark the two conjuncts, there is alternation between body shift towards the ipsilateral side of the space and a centered neutral position of the body.

- bs ipsilateral
re hth re hth
- a. MARINA DANCE JORDI CHAT. (COO11.20)
 ‘Marina danced and Jordi chatted.’

- bs contralat. bs ipsilateral
re re
- b. MARINA CAKE MAKE JORDI SELL. (COO75.15)
 ‘Marina made a cake and Jordi sold it.’

- re
- c. DAY TIME SAINT GEORGE LIST-4 IX₁ PALM-UP LIST-1-INDEX BOOK BUY
pc bs ipsilateral pc pc bs ipsilateral
 LIST-2-F ROSE BUY LIST-3-F FRIEND₁ GIVE₃₁ BOOK LIST-4-F ROSE₁ GIVE₃₁.
 (COO2.12)
 ‘On Saint George’s day, I bought a book, then I bought a rose, then I gave a book to a friend and then the rose to another one.’

Zorzi (to appear)

In the following sections, we are going to present the manual and non-manual markers used to express the three different types of coordination just described.

3.1.2 Coordination by manual markers

In the subsections that follow the manual markers used in LSC to express conjunction, disjunction and adversative coordination are described. Their position in the sentence and their optionality or obligatoriness will be explained as well.

3.1.2.1 Manual markers of coordination

In LSC the use of non-manual markers only is preferred in conjunction and disjunction, while adversative coordination must be manually marked.

3.1.2.1.1 Manual markers in conjoined coordination

In LSC, conjunction is mainly expressed using non-manual markers such as body/head lean/shift (see also [Syntax – Section 3.1.3.1.1]) but several manual markers can be used in combination with them.

One of the main manual markers in conjunction are buoys [Lexicon – Section 1.2.3], which are mainly used to introduce a list of conjuncts that can be in the range between 2 and 5 or 10, depending on the preference of the signer. Due to their properties, they are referred to as *list buoys*. List buoys are mainly used to introduce a list of conjuncts. Each finger of the non-dominant hand corresponds to the number of the list to which each conjunct is related. Until five, the signer touches the finger of the non-dominant hand before or after signing the conjunct referred to it. The listing does not need to be introduced by the total number of referents that are going to be presented. Moreover, list buoys do not necessarily express a temporal relation between the conjuncts. This can come from the context or from the use of the -handshape instead of index (the default one) and the non-manual marking puffing [Pragmatics – Section 2.2.3]. These elements can be combined in different ways:

i) list buoys using handshape index on the dominant hand and straight movement to the fingers of the non-dominant one: no temporal order is implied;



LIST-BUOYS-INDEX

_____ re bl+space contr. _____ re bl+space ipsil.

LIST-1 MARC CAKE CL: bake LIST-2 MARINA PIZZA CL: bake (COO1.17)

‘One, Marc baked a cake and two, Marina baked a pizza.’

ii) list buoys using the -handshape on the dominant hand combined with obligatory puffing together with an arc movement to the fingers of the non-dominant hand: temporal order is implied;

a.



LIST-BUOYS-F (puffing)

iii) list buoys using a -handshape on the dominant hand combined with obligatory puffing together with an arc movement to the fingers of the non-dominant hand: temporal order is implied.

a.



LIST-BUOYS-INDEX (puffing)

The use of the -handshape is related to the sign meaning ‘turn’ in LSC, the action of giving the turn to somebody else that is characterized by the use of the -handshape and the movement in space to agree with the different referents. It is also possible to use T-handshape even if it seems that  is more common. This relation between list buoys expressed with -handshape and the sign PASS-TURN expressed with - or T-handshape shows a progressive phonological change in the selection of the handshape, where the -handshape turned out to be the prevalent one. The choice among one of the three ways of signing list buoys depends, then, on the need of expressing temporal order of the events or not.

Another manual marker used in conjunction in LSC is the one that expresses the meaning of “both”, glossed as **THE-2** or **BOTH**. It is mainly used to mark the accomplishment of the events in the two conjuncts it refers to. This sign is realized in two different ways:

a) the use of the -handshape on both hands in which the non-dominant is oriented towards the body and the dominant one, facing down, touches the non-dominant one twice. It is also characterized by the mouthing *dos* ‘two’ (gloss: BOTH);

a.



BOTH

bs contr. _____ bs ips. re

b. MARINA PIZZA EAT ICECREAM BUY BOTH. (COO2.24)

‘Marina both ate pizza and bought ice-cream.’

b) the use of only the dominant hand with the -handshape facing up. It is characterized by a movement from the ipsilateral to the contralateral part of the signing space in order to refer to the conjuncts previously introduced (gloss: THE-2). THE-2, as well, is characterized by the mouthing *dos* ‘two’.

a.



THE-2

hth hth
bs contr. _____ bs ips [doz]

b. MARINA PIZZA EAT ICECREAM BUY THE-2. (COO2.25)

‘Marina both ate pizza and bought ice-cream.’

The marker THE-2, with respect to BOTH, is more common. This might be due to the fact that THE-2 is also used as a pronoun [[Lexicon – Section 3.7](#)].

A third manual marker used is the sign PLUS, which is realized in two different ways even though it keeps the same meaning of “addition”. The two signs differ in handshape:  in one case and  in the other. The sign with -handshape shows a circular movement of the wrist from the vertical to the horizontal plane, as illustrated in (a), while the other one keeps the orientation towards the vertical plane but shows a circular movement upward, as shown in (b). The sign glossed as PLUS-F is the older version that is disappearing. We can see a picture for each sign below. Both signs have the mouthing *más* [mas] ‘plus’.

a.



PLUS-☞

_____ hl cont. _____ bl+hl ipsi.
 _____ re [mas] _____ re

a'. MARINA PIZZA BAKE PLUS-☞ MARC SANDWICH PREPARE. (COO27.01)

'Marina baked a pizza and Marc prepared a sandwich.'

b.



PLUS-☞

_____ hl cont. _____ bl+hl ipsi.
 _____ re [mas]+re _____ re

b'. MARC PIZZA BAKE PLUS-☞ MARINA SANDWICH PREPARE. (COO27.13)

'Marina baked a pizza and Marc prepared a sandwich.'

Finally, another sign that is used as coordinator is **ALSO**. It is signed using the ☞-handshape and it has an internal movement of the wrist characterized by an orientation of the hand first towards the front and finally towards the body. We can see a picture and an example below.

a.



ALSO

_____ hl ipisl. sp.cont. _____ hl ips. _____ hl contr.

- b. MARC CAKE BAKE ALSO MARINA PIZZA EAT ALSO IX₂ SANDWICH PREPARE.
(COO1.25)

‘Marc baked a cake, and Marina ate a pizza and you prepared a sandwich.’

We can conclude that PLUS and ALSO are the most productive realization of conjunction using manual markers. These manual markers, anyway, always appear in combination with non-manual marking expressing conjunction.

3.1.2.1.2 Manual markers in adversative coordination

Adversative coordination, differently from the other two types of coordination, is expressed mainly through manual markers. The main sign used is BUT (see (a)), which marks the contrast between the two conjuncts. If we remove BUT in (b), juxtaposition of the two conjunct is not enough to express contrast between the two conjuncts. We can see its use in the example (b) below. Another strategy consists in putting the sign YES at the end of the second conjunct when the first one is negative. YES has the function, as well, of expressing contrast with respect to the first conjunct, as in (c).

a.



BUT

re sp.contr. sq hl+sp.ipsi.

- b. MARINA CAKE BUY BUT MARK PREPARE. (COO1.30)

‘Marina bought the cake but Mark prepared it.’

bs ipsi.
bs contr. sq+fe re

- c. MARINA PIZZA EAT DOUBT BUY ICECREAM YES. (COO3.34)

‘Marina doesn’t know if she’ll eat pizza, but she will buy ice-cream.’

The kind of adversative coordination in (a) and (b) above is called contrastive, or counterexpectational.

3.1.2.1.3 Manual markers in disjunctive coordination

Disjunction is mainly expressed using non-manual markers such as squinted eyes, furrowed eyebrows and both lips curving down in combination with body/head lean/shift, as well as, the mouthing [o],

which is very productive. These non-manual markers will be described in deep later in [Syntax – Section 3.1.3.1.2]. Together with non-manual markers, it is also possible to find several signs.

In combination with non-manual marking, it is often possible to see the production of **PALM-UP** signed with a -handshape oriented upward. This sign seems to be a prosodic marker that expresses doubt or uncertainty and it can be found in combination with other non-manual markers, but never alone, for instance with the mouthing [o] ‘or’, as in (b).

a.



PALM-UP

_____ re _____ lcd
 _____ bs contral. [o] bs ipsil.

b. MARINA_j FRIEND IX-POSS_j CAR RENT CL PALM-UP BUS PUBLIC USE. (COO16.07)
 ‘Marina’s friend will rent a car or use the public bus.’

A second manual marker that is used in disjunction is the sign **DOUBT**. It is a very productive sign and it appears to help expressing disjunction in a context of doubt or uncertainty.

a.



DOUBT

_____ lcd
 _____ bs+space cont. [o] bs+space ipsi.

b. MARINA DOUBT LIST-1 PIZZA KNEAD LIST-2 CAKE PREPARE. (COO16.29)
 ‘Marina doesn’t know if she’ll knead a pizza or prepare a cake.’

DOUBT is an element that, depending on its position in the sentence and on the context, expresses the knowledge state of the speaker or of a referent. More data can be found in [Syntax – Section 3.1.2.2.3].

Another manual marker in disjunction is the sign **EITHER-ONE**. It is very productive and it can be used in affirmative and interrogative sentences. The sign is bimanual and both hands are characterized

by the -handshape. The non-dominant hand faces the signer, while the dominant one is oriented downward towards the horizontal plane. The non-dominant hand does not move and the dominant touches alternatively the top of the fingers of the non-dominant hand. It can also be characterized by the mouthing of *cuál*, ‘which’, as in (b).

a.



EITHER-ONE

bl contr. [o] bl ipsi. [kwál]

b. MARINA PALM-UP HOUSE GO SCHOOL STAY EITHER-ONE. (COO2.05)

‘Marina went home or stayed at school, which one.’

There is also another sign that seems to have the same properties as EITHER-ONE, even if it is generally produced only at the end of the sentence. It is glossed as WHICH. It is characterized by an alternating movement up and down of the two hands with a -handshape handshape. Moreover, it is used to put in competition two options already introduced by the conjuncts’ location in the space referring back to them. We can see a picture of the sign in (a) and an example in (b).

a.



WHICH

lcd

bs contr. bs ipsi.

b. MARINA PALM-UP HOUSE GO SCHOOL STAY WHICH. (COO2.04)

‘Marina either went home or stayed at school.’

A further manual marker used in disjunction is THE-2alternate. It has the same form as THE-2 for conjunction, but with a different movement: the wrist turns alternating the orientation of the hand from up to down. Due to the movement in space of the sign THE-2alternate, the location in space of the two conjuncts is important. It is depicted in (a) and an example is shown in (b).

a.



THE-2alternate

re bs+hl ipsi. [o] bs+hl contr. lcd

- b. MARINA PIZZA KNEAD ICECREAM BUY THE-2alternate. (COO28.01)
 ‘Marina either kneaded pizza or both ice-cream.’

Finally, it is also possible, but very rarely, to have the sign OR that keeps the -handshape of the word ‘o’ meaning ‘or’. If used, the sign is produced in combination with the mouthing o ‘or’. Below we can see a picture of the sign and an example in which it is used.

a.



fe+sq
hl contr. [o] hl ipsi.

- b. MARINA WORK OR VACATION. (COO16.04)
 ‘Marina will work or will go to vacations.’

The manual markers for disjunction described in in this subsection are productively used in combination with non-manual marking, but they are not obligatory, they add information to the structure expressing disjunction already marked by the non-manual marking [Syntax – Section 3.1.2.3.3].

3.1.2.2 Position of manual markers of coordination

The position in which manual markers in coordination appear in the sentence are described, focusing on whether the coordinator belongs to the first or the second conjunct when put between them or if it is instead found in an initial or final position of the conjunct.

PALM-UP can be found repeated at the beginning of each conjunct, as in example (a), used once between the two conjuncts (b) and at the beginning (c) or at the end (d) of the two conjuncts. The different positions of PALM-UP do not influence the meaning of the sentence.

- _____ lcd
- bs+bl cont. bs+bl ipsi.
- a. MARINA PALM-UP HOME GO PALM-UP SCHOOL STAY. (COO2.01)
 ‘Marina doesn’t know whether to go home or stay at school.’
- _____ re _____ lcd
- _____ bs contral. [o] _____ bs ipsil.
- b. MARINA; FRIEND IX-POSS; CAR RENT CL PALM-UP BUS PUBLIC USE. (COO16.07)
 ‘Marina’s friend will rent a car or use the public bus.’
- bl contr. [o] bl ipsi. [kwal]
- c. MARINA PALM-UP HOUSE GO SCHOOL STAY EITHER-WHICH. (COO2.05)
 ‘Marina went home or stayed at school, one of the two.’
- _____ sq
- bs+hs ipsi. hl+bl contr. lcd+hs
- d. THINK LIST-1 MARINA CAKE BAKE LIST-2 MARC CAKE KNEAD PALM-UP.
 (COO16.09)
 ‘I think that, one, Marina baked a cake or, two, Marc kneaded a cake, (I don’t know).’

DOUBT, when used, can also take different positions in the sentence, which affects the meaning of the sentence with respect to the attribution of the knowledge state of doubt or uncertainty to either the speaker or a referent.

In the following examples, we can see the different positions and meanings that DOUBT can take:

- i) at the beginning of the sentence: reference to the knowledge state of the speaker (a);

- _____ lcd
- bl ipsi. sp. contr. [o] _____ bl ipsi.
- a. DOUBT LIST-1 MARINA PASTA KNEAD LIST-2 MARC CAKE PREPARE. (COO16.30)
 ‘I have a doubt whether Marina kneaded pasta or Marc prepared a cake.’

- ii) after a referent: reference to the knowledge state of a referent (b), also when used inside role shift [Syntax – Section 3.3.3], as in (c).

- _____ lcd
bs+space cont. [o] bs+space ipsi.
- b. MARINA DOUBT LIST-1 PIZZA KNEAD LIST-2 CAKE PREPARE. (COO16.29)
 ‘Marina doesn’t know if she’ll knead a pizza or prepare a cake.’

- _____ RS
re _____ bl ipsi. [o] bl contr.
- c. MARINA_j DOUBT IX_{1-j} GO HOME STAY. (COO17.06)
 ‘Marina whether to go home or to stay.’

iii) at the end of the two constituents: it is ambiguous. Depending on the context and on the non-manual marking it can refer to the knowledge state of the referent or of the speaker, as in (d), but inside role shift there is no ambiguity, and it can only refer to the knowledge state of the referent, as in (e).

- _____ bs contr. _____ bs ipsi. lcd+fe
- d. MARINA PIZZA EAT ICECREAM BUY DOUBT. (COO2.26)
 ‘I don’t know if Marina ate pizza or bought ice-cream.’

- _____ RS
 _____ bl contr. _____ bl ipsi.
- e. MARINA_j IX_{1-j} HOME STAY GO DOUBT. (COO17.10)
 ‘Marina (doubted whether to stay home or to go.’

EITHER-ONE can appear at the beginning or at the end of the two conjuncts, as in the examples below, where also clauses co-occurring with role shift are included in the sentence. EITHER-ONE, when used in a question, can also be repeated at the beginning and at the end of the two conjuncts, as in (c). In the expression of disjunction, it is very common to use role shift when referring to a third person. Moreover, the different positions of EITHER-ONE do not affect the meaning of the sentence.

- _____ RS+fe
re _____ bl contr. bl ipsi.
- a. MARINA EITHER-ONE HOME STAY GO? (COO17.16)
 ‘Marina (thought) “Do I/you stay at home or do I/you leave?”’

- _____ bl contr. [o] _____ bl ipsi. _____ [kwal]
- b. MARINA PALM-UP HOUSE GO SCHOOL STAY EITHER-ONE. (COO2.05)
 ‘Marina went home or stayed at school, either one of the two.’

_____ RS+fe

Extraction show important properties of coordination. Researchers noticed that in coordination it is not possible to extract from only one conjunct, but it is if the same element is moved out of both conjuncts. This is studied with the extraction of elements in content interrogatives [Syntax – 1.2.3] and in topicalization [Syntax – Section 2.3.3.3; Pragmatics – 4.2].

In LSC it is not possible to extract an element from only one conjunct but neither from both using a single wh-sign [Syntax – Section 1.2.3.2]. In order to extract the same element, it is only possible to have the wh-sign at the end of each conjunct, as in the example (a) that follows. Another way to express this is to use the pronominal element THE-2, as in (b). In both examples the answer can refer to the same element or to different ones. It is possible to see that the two clauses are anyway coordinated thanks to the presence of the characteristic non-manual markers of coordination.

- hl+bl contr. hl+bl ipsil.
fe fe
- a. MARY BUY WHAT JORDI READ WHAT? (COO45.22)

- bl contr. bl ipsil.
t fe
- b. MARINA BUY JORDI READ THE-2 WHAT? (COO47.01)
‘What did Mary buy and Jordi read?’

With topicalization, instead, it is possible to topicalize the same element out of both conjuncts, as in the examples below. In (a), CAR is moved out from both conjuncts and in (b), POPCORN.

- t bs contr. bs ipsil.
- a. CAR, MARINA BUY JORDI SELL. (COO75.18)
‘The car, Marina bough and Jordi sold.’

- t bs+hl contr. hs ipsil.
- b. POPCORN, MARINA LIKE JORDI LIKE NOT. (COO75.19)
‘Popcorn, Marina likes and Jordi doesn’t.’

In LSC, then, it is not possible to extract the same element from both conjuncts using wh-extraction, but it is possible with topicalization.

3.1.4.2 Gapping

Gapping is clearly a structure used in LSC and this confirms also the presence of coordination. In coordination, gapping is a very common structure. The general definition for this structure describes it as a type of ellipsis [Syntax – Section 2.5] in which a verb is removed in one, or more, of a series of coordinations. In LSC, the verb can be missing only in the first conjunct, realizing an SOV-SO order, as in the example below. A SO-SOV order, is instead impossible. The verb in the second conjunct,

stricken through in the example below, can be gapped because it is identical to the one in the first conjunct.

hl contral. hl ips. hl ipsilateral
re re
 MARINA COFFEE PAY, JORDI CROISSANT ~~PAY~~. (COO39.25)
 ‘Marina paid for a coffee and Jordi for a croissant.’

Zorzi (2018: 71)

Gapping in LSC, though, can also appear in subordination, for example in reason clauses [Syntax – Section 3.5.5], as in the next example.

hl ips. hl ips. hl ipsil.
re re re space contral.
 MARINA FRUIT EAT BECAUSE JORDI CAKE ~~EAT~~. (COO49.10)
 ‘(*Marina ate fruits because Jordi some cake.)’

Zorzi (2018: 71)

Moreover, another syntactic property that characterizes gapping in LSC is the possibility to embed the gapped verb, as in the example below.

hl contral. hl ips. hl ipsilateral
re re
 JORDI DOUGHNUT EAT, MARINA SAY MARC_j IX_{3j} CROISSANT ~~EAT~~. (COO55.01)
 ‘()’

Zorzi (2018: 73)

As for the verbs [Lexicon – Section 3.2] that can be used in gapping in LSC, plain, agreement and spatial verbs can gap. Below we have an example with a plain verb in (a), with an agreement verb in (b) and with a spatial one in (c). Also, verbal classifiers [Semantics – Section 7.1] can be used in gapping, as illustrated in (d).

hl contral. hl ips. hl ipsilateral
re re
 a. MARINA COFFEE PAY, JORDI CROISSANT ~~PAY~~. (COO39.25)
 ‘Marina paid for a coffee and Jordi for a croissant.’

bl+hl ips. bl+hl ip. bl+hl ip. bl+hl ip. bl+hl c. bl+hl contr. space contr.
re re re re
 b. MARINA_j JORDI_i WATCH_jGIVE_i MARC_k JORDINA_y PLANT_kGIVE_y. (COO56.09)
 ‘Marina gave Jordi a watch and Marc a plant to Jordina.’

hl contr. hl contr. hl ips. hl ipsilateral
re re re

- c. MARINA HOME_j GO_j JORDI SWIMMING-POOL_y ~~GO_y~~. (COO69.09)
 ‘Marina went home and Jordi to the swimming-pool.’

hl ipsil. hl cont. hl contr.
re re

- e. MARINA TABLE HEAD HIT-CL JORDI WALL ~~HIT-CL~~. (COO46.10)
 ‘Marina hit the head against the table and Jordi against the wall.’

Zorzi (to appear)

As for the non-manual markers used in gapping, they mainly mark the presence of contrast between the elements in the first conjunct and the ones left in the second one. The two conjoined clauses, as well, are marked by a spreading of body lean or body shift all over each conjunct, towards opposite directions in the space. In example (a) above, the two subjects MARINA and JORDI are contrasting with each other and they are topicalized [Pragmatics – Sections 4.2, 4.3.2]. Therefore, they are marked with contrastive topic. On both subjects, there are raised eyebrows and on the subject in the second conjunct, there is also head lean marking the contrast with the subject in the first one. In some other examples, though, head lean can be found on the subject of both conjuncts, having the head leaning towards opposite sides of the space, as in (b) above. In other cases, the head can lean towards the same side on both subjects and in those cases, the contrast between the two topics is guaranteed by the parallelism between the two conjuncts and the contrast in the use of space in at least one element in each conjunct.

The two objects, instead, are marked with contrastive focus [Pragmatics – Section 4.1.3]. In order to mark contrast, they show head lean towards opposite sides of the space. In the example in (a) above, the head leans towards the contralateral side on COFFEE and towards the ipsilateral on CROISSANT. Also for contrastive focus, the movement of the head can be towards the same side of the space on both objects but it can be compensated by a contrastive use of space in placing them. Moreover, head leans on the objects can also be accompanied by a movement forward of the head or in other cases by raised eyebrows, head nods or body leans, especially on the object of the first conjunct.

3.1.4.3 Scope

Another property of coordination relates to the scope of elements such as negation and question morphemes. If a negative element can affect two constituents, it is possible to conclude that these constituents are coordinated.

3.1.4.3.1 Scope of negation

In coordination two constituents are considered coordinated if a negative marker can scope over both. In LSC, a negative marker in one conjunct cannot affect both conjuncts, though. This test cannot be applied, then, to LSC. There are two different strategies available, though, to negate both conjuncts,

- bl contr. bl ipsil. re
a. MARINA WIN JORDI LOSE, RIGHT?! (COO75.13)

- bl contr. bl ipsil. fe
b. MARINA WIN JORDI LOSE, Y/N? (COO75.14)
'Marina won and Jordi lost, right?'

Zorzi (to appear)

3.2. Subordination: distinctive properties

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3.2.2. Position of question signs

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3.3.2.5. Tense and aspectual marking

3.3.2.6. Anaphoric relations with the main clauses arguments

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 - 3.5.5.2. Manual signs marking subordination in reason clauses
 - 3.5.5.3. Other markers of subordination in reason clauses
 - 3.5.5.4. Non-manual markers in reason clauses
 - 3.5.5.5. Position of the reason clause with respect to the main clause
 - 3.5.5.6. Simultaneous expression of the main event and the adverbial clause
- 3.5.6. Purpose clauses
 - 3.5.6.1. Internal structure of purpose clauses
 - 3.5.6.2. Manual signs marking subordination in purpose clauses
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References

Zorzi, Giorgia. 2018. Gapping vs VP-ellipsis in Catalan Sign Language. FEAST 2017 Proceedings vol.1, 71-82.

Zorzi, Giorgia. (to appear). Coordination and gapping in Catalan Sign Language. PhD Thesis. Univeristat Pompeu Fabra.

Chapter 4. The noun phrase

4.1. Determiners

4.1.1. Articles

4.1.1.1. The position of the article

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4.1.2.4. Anaphoric usage

4.2. Possessive phrases

Catalan Sign Language (LSC) uses different devices in order to encode possession: it uses possessive and personal pronouns [Lexicon – Section 3.7.2], and predicative possession in the clausal domain, which includes the existential construction THERE-BE, lexical predicates, zero marking and possessives or pronominals as predicates [Syntax – Section 2.1.5].

In the following subsection we will describe the specific mechanisms that LSC has at its disposal to encode attributive possession, that is, to express the relation between the possessor and the possessum within the noun or the determiner phrase.

4.2.1. Ways of expressing the possessive relation in the noun phrase

LSC expresses possession within the nominal domain (i) by using attributive possessive pronouns to refer to the possessor, (ii) by juxtaposing two nouns (one referring to the possessor and the other to the

possessum), and (iii) by using linkers or possessive markers that make explicit the possessive relation between the possessum (what is possessed) and the possessor.

4.2.1.1. Attributive possessive pronouns

LSC has two possessive pronouns. The first one, glossed as POSS, is mostly used with second and third person. The second one, glossed as OWN, in neutral contexts is used for first person and expresses emphatic possession [Lexicon – Section 3.7.3].

Within the noun phrase, a possessive pronoun can be used to refer to the possessor. If used POSS, the pronoun is oriented towards the location attributed to the possessor within the signing space.

_____ t _____ y/n
BOOK POSS₂ BORROW

‘Will you lend me your book?’

(Quer & GRIN 2008: 40)

_____ wh hn
LANGUAGE OWN LSC

‘My own language is LSC.’

(Quer & GRIN 2008: 41)

In some cases it is also possible to use a personal pronoun instead of a possessive, namely when referring to possession of body parts or when the possessor belongs to the group of discourse participants.

_____ t
IX₃ FACE SCRATCH₁

‘They scratched his face.’

(Quer & GRIN 2008: 41)

_____ t _____ y/n
COMPUTER IX₂ IX₃ USE CAN

‘Can s/he use your computer?’

(Quer & GRIN 2008: 37)

In some contrastive contexts, POSS can co-appear with personal pronouns, as in the example below.

_____ t _____ t _____ t _____ t
CELL-PHONE POSS_{3a} IX_{3a} POSS_{3b} IX_{3b} POSS₁ IX₁ ALL BROKEN
'His cellphone, her cellphone and mine are all out of work.'

(Quer & GRIN 2008: 40)

As explained in the following subsection, both personal and possessive pronouns can also co-occur with the possessive marker OF.

4.2.1.2 Possessive markers

In LSC there are two linkers or possessive markers, OF and KINSHIP, that overtly express a possessive relation between possessum and possessor.

The possessive marker OF frequently appears between the possessor and the possessed noun.

BOOK OF TEACHER

'The teacher's book.'

(Quer & GRIN 2008: 36)



Possessive marker OF

(Quer & GRIN 2008: 36)

However, when referring to abstract possessive relations, belonging, or part-of relations, the possessor tends to occur after the linker OF.

_____ t

STUDENT OF UNIVERSITY STRIKE

‘The university students are on strike.’

_____ t

DIRECTOR OF COMPANY KILLED

‘The company director has been killed.’ (Quer & GRIN 2008: 43)

This is not always the case, though. In some occasions, it is possible to reverse the order of possessor and possessum within the noun phrase, as in the next example of a part-whole relation.

_____ t

CHALET OF ROOF BROKEN

‘The roof of the chalet is broken.’ (Quer & GRIN 2008: 44)

The possessive marker OF can appear either with nouns or with possessives (POSS and OWN). However, this strategy is more common in the case of POSS than with the possessive OWN.

_____ t

COUNTRY OF POSS FLAG COLOUR RED

‘The colour of that country’s flag is red.’

_____ t

IX₂ COMPUTER OF POSS₂ IX₃ STEAL

‘He stole your computer.’ (Quer & GRIN 2008: 40)

wh

LSC OF OWN WHO

‘Whose own language is LSC?’ (Quer & GRIN 2008: 41)

When personal pronouns are used to refer to possessors, they can also co-appear with the construction marker OF.

_____ t
HISTORY OF IX_{1p1} LITTLE DIFFERENT
'Our history is a bit different.'

_____ t
IX₃ ANDRÉS IX₁ OF TEACHER
'Andrés is my teacher.'

(Quer & GRIN 2008: 38)

The construction marker KINSHIP presents a more restricted distribution, since it is only used to express kin relationships.



KINSHIP marker (Quer & GRIN 2008: 44)

The construction marker appears before the kin expression and the noun phrase denoting the possessor usually occurs in the first position.

_____ t _____ t
WOMAN NEIGHBOUR IX₃ KINSHIP DAUGHTER IX₂₋₃ MARRY DAY SAME
'The two daughters of the neighbour got married on the same day.'

_____ t
SISTER-IN-LAW KINSHIP DAUGHTER OPERATE-ON-NOSE
'(My) sister-in-law's daughter had her nose operated.'

(Quer & GRIN 2008: 44)

The very same device is used to denote analogous relations between humans, such worker-boss, professor-student or colleague-colleague.

_____ t
IX, PROFESSOR KINSHIP STUDENT LEAVE TRAVEL U.S. E-E-U-U
'That professor's student has left for a trip to the US.'

_____ t
FRANCISCO KINSHIP COLLEAGUE ARRIVE++ ON-TIME++
'Francisco's colleague always arrives on time.'

(Quer & GRIN 2008: 44)

4.2.1.3 Juxtaposition

Juxtaposition is a frequent device in LSC possessive noun phrases and it is the default strategy in possessive noun phrases that express part-whole relations. Structurally, the element referring to the whole tends to appear first, followed by the possessed part noun.

_____ t _____ t
BIKER LEG HAIR EMPTY-ON-ARM
'Bikers' legs don't have hair.'

(Quer & GRIN 2008: 36)

_____ t
MOTORBIKE HEADLIGHT IX₃ WORK BAD
'The headlight of the motorbike is not working properly.'

_____ t

CHALET ROOF BROKEN

‘The roof of the chalet is broken.’

(Quer & GRIN 2008: 42)

The same order is commonly used in case of more abstract possessive relations.

_____ t

UNIVERSITY STUDENT STRIKE

‘The university students are on strike.’

_____ t

COMPANY DIRECTOR DEAD

‘The company director is dead.’

(Quer & GRIN 2008: 42)

Nevertheless, the inverse structure (possessed noun followed by the noun that refers to the whole) is also possible in LSC.

_____ t

STUDENT UNIVERSITY STRIKE

‘The university students are on strike.’

_____ t

DIRECTOR COMPANY DEAD

‘The company director is dead.’

(Quer & GRIN 2008: 42)

4.2.2. The position of the possessive pronoun

As explained above, LSC has two possessive pronouns: POSS and OWN. When POSS is used, it always appears after the possessed noun.

_____ t _____ y/n

BOOK POSS₂ BORROW

‘Will you lend me your book?’

_____ wh

GROUP 1A TUTOR POSS WHO

‘Who is the tutor of class 1A?’

CAR POSS₂ POSS₁ USE SEPARATE

‘We have to use our own cars separately.’

(Quer & GRIN 2008: 40)

Similarly, the most natural possession of OWN in the noun phrase is after the possessed noun.

_____ wh hn

LANGUAGE OWN LSC

‘My own language is LSC.’

_____ t

FEDERATION OWN CATALAN

‘My own Federation is the Catalan one.’

(Quer & GRIN 2008: 41)

When the possessor is referred to by a personal pronoun instead of a possessive pronoun, it can appear either before or after the possessed noun. However, when the pronoun occurs after the noun, it is interpreted as being more marked:

_____ t _____ y/n

IX₂ COMPUTER IX₃ TYPE CAN

‘Can s/he type on your computer?’

_____ t _____ y/n

COMPUTER IX₂ IX₃ USE CAN

‘Can s/he use your computer?’

(Quer & GRIN 2008: 37)

In some cases, the personal pronoun can be doubled within the noun phrase, appearing both before and after the noun, but it receives an emphatic interpretation of the possessor.

_____ t _____ y/n

IX₂ COMPUTER IX₂ IX₃ USE CAN

‘Can s/he use your computer?’

(Quer & GRIN 2008: 38)

There exists also the option of doubling the possessor using signs of different lexical categories, namely by using a noun and a personal pronoun:

_____ t

PILAR IX₃ BOOK INTERESTING

‘Pilar’s book is interesting.’

(Quer & GRIN 2008: 38)

When the linker OF is used with personal pronouns, the order of possessum and possessor is flexible. Besides, the pronouns can also be duplicated when co-appear with the possessive marker, occurring both before and after it.

_____ t

BERTA IX₁-OF-IX₁ NAMESIGN

‘Berta is my name sign.’

(Quer & GRIN 2008: 39)

4.2.3. Agreement with the possessor

Primarily in the case of contrastive contexts, nominal signs that are not body-anchored can be marked spatially. Since the sign can be articulated at different spatial locations associated with different possessors, it can incorporate different person values. In these cases, the articulation of the possessor can be omitted:

BOOK₂ EASY, BOOK₁ DIFFICULT

‘Your book is easy, but mine is difficult.’

(Quer & GRIN 2008: 45)

4.2.4. Agreement with the possessed

4.2.5. Possessive phrases with the possessed elided

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Information on data and consultants

See references below for information on data and consultants

Authorship information

Raquel Veiga

References

Quer, J. & GRIN. 2008. Structures of possession and existence in Catalan Sign Language. *Possessive and existential constructions in sign languages*. Nijmegen: Ishara Press. 978-90-8656-004-2, p. 33-53

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Pragmatics

Chapter 1. Reference

1.1. Deixis

Deictic expressions have an interpretation related to the location and identification of persons, objects, events, processes and activities being talked about, or referred to, in relation to the spatiotemporal context involved in an act of utterance and with the participation of one sender and at least one addressee. In Catalan Sign Language (LSC), deictic referring expressions generally consist of an index handshape directed to a present object or person, to the body of the signer or to some location previously established in the signing space which is associated to a discourse referent. This ‘pointing’ may be used for many different functions, as described below. The hand configuration may show some variation. One reason for variation is the assimilation process where the handshape of the pointing sign takes over the handshape of neighboring signs. Deixis is thus understood in relation with the canonical situation of utterance in which the communication occurs in face-to-face interaction. Because of their inherent use in face-to-face interaction, LSC makes a great use of deictic elements.

1.1.1. Pointing

In LSC pointing is expressed with manual signs directed to an area in signing space. A pointing sign may co-occur with a noun or rather be alone. It may be directed to a present object or referent, and it may also be directed to a non-present referent. In the first case it has a deictic use, while in the second it has an anaphoric use, because it is therefore associated with an area in signing space previously established for a discourse referent.

Pointings may undertake different functions. In the first sentence below, the pointing co-occurs with a noun and therefore functions as a determiner. In the second sentence the pointing occurs alone and functions as a pronoun.

- a. IX_{3A} MAN SMART
‘The/that man is smart.’
- b. IX_{3a} BRAVE
‘He is brave.’

Moreover, LSC has the potential of also directing eye gaze to a spatial location. Eye gaze may co-occur with the manual sign in both anaphoric and deictic reference. Only in deictic uses, eye gaze may occur alone.

1.1.2. Social deixis

In LSC, a frequent alternate form to the index handshape, which in this case is not due to phonological assimilation but rather to social considerations, is the -handshape in contexts of formal deixis. The use of the -handshape in personal pronouns encodes honorific treatment.

PLEASE IX-B-HAND₂ SEAT.

‘Please, have a seat.’

An alternate use of the sign PERSON used deictically is with -handshape and articulated bimanually. This alternate use also encodes honorific treatment.

NOW IX₁ PRESENT PERSON-B-HAND₂-BI.

‘Let me introduce the next presenter.’

High loci established on the frontal plane may be used to refer to social hierarchical relations, and more specifically superiority. The contrast between high and low loci on the frontal plane is associated with asymmetrical relations such as parents-child, boss-worker, professor-student, etc. Within this use only definite noun phrases referred by pronouns and name signs (i.e. signs used as proper names within the deaf community) are associated with high loci. Definite noun phrases formed by common nouns such as MINISTRY, GOVERNMENT, BOOS, DEAN, FATHER^MOTHER and UNIVERSITY are in most contexts associated with high loci. Also name signs referring to someone higher in the social hierarchy are localised towards an upper spatial location. Depending on whether they have contact with the signer’s body, they are localised with an index sign co-occurring with them (a). Non-body anchored nouns may be spatially modified and thus articulated at a higher spatial location (b).



a. IX₃ GOVERNMENT



b. UNIVERSITY

Expression of hierarchical relations

Associations of discourse referents with high loci form a system of honorific speech, which are a morphological way of encoding the relative social status of the discourse referents. They express social characteristic distinctions among the entities the discourse is about. What is important to note is that, in contrast with other Indo-European languages where honorific pronouns are encoded through second person pronouns, in LSC honorificity is only marked on personal pronouns (first, second and third) with a flat handshape (B) and also by spatially associating the signs with high loci (third person).

1.1.3. Lack of deixis

In LSC the use of signing space plays a crucial role in representing the referential status of discourse referents. Determiners and the lack of them have an impact in the interpretation of the co-occurring noun. LSC generally does not make use of determiners in generic noun phrases. Since the expression of pointing signs attributes some referential properties to the noun phrase, generic statements do not co-occur with an index sign, and hence the noun phrase is not localised in space.

In LSC, bare nouns may assume a generic interpretation if they are not localised in space. As shown in the minimal pair below, when the noun phrase is localised in signing space it is understood as referential (i.e., as denoting a specific dog, (a)), rather than generic (b).

- a. **DOG_a** CHARACTER OBEDIENT++.
'That dog is obedient.'

- b. **DOG** CHARACTER OBEDIENT++.
'Dogs are obedient.'

This does not imply that bare nouns in sign language only have a generic reading, but rather that this is one possible reading which contrasts with a full noun phrase (IX+noun), which always has a referential reading. In fact, bare nouns may also have a definite reading in LSC when have been already introduced and are repeated along a discourse.

1.2. Definiteness

Definiteness encodes the information that the sender attributes that the addressee has. A definite noun phrase therefore encodes that both sender and addressee may identify the discourse referent being talked about.

1.2.1. Manual marking

Pointing signs co-occurring with a noun in LSC are not a crucial marking for definiteness. Both noun phrases with an index sign directed to the horizontal plane (a) or without it (b) are ambiguous between a definite and an indefinite reading.

- a. TODAY IX₁ INTERVIEW **IX₃ WOMAN**.
'Today I have an interview with a/the woman.'

- b. TODAY IX₁ INTERVIEW **WOMAN**.
'Today I have an interview with a/the woman.'

As the previous minimal pair shows, in LSC a noun co-occurring with an index sign may trigger a definite interpretation, although this is not a necessary condition. Moreover, in many contexts first mention unfamiliar discourse referents are marked with an index sign in LSC. This fact shows that the index sign *per se* is not a marker of definiteness. Instead, LSC includes particular manual and nonmanual elements that trigger a definite reading.

LSC has a definite particle, which is glossed as SAME because of the mouthing that it is co-articulated with (the corresponding Catalan word can be roughly translated as ‘same/itself’). SAME is a mono-manual sign articulated with a -handshape and with body contact on the ipsilateral shoulder, with a downward movement (Figure below).



SAME sign

The sign SAME is related to a nominal element, in such a way that it either co-occurs with it or anaphorically substitutes it. The relation between the two elements is established through signing space. Because the sign is body-anchored, and thus cannot be localized in space, body lean and eye gaze are used to localize the co-occurring nominal sign. Considering that definiteness encodes familiarity of the discourse referent, some particular contexts trigger a definite reading, and these are precisely the ones where SAME is found. Therefore, SAME always occurs in a noun phrase referring to a familiar discourse referent. It may be used in contexts where the object referred to is present (a), with entities belonging to the common ground (b), and with previously mentioned entities (c).

- _____ br
- a. **SAME** TABLE IX IX₁ CLEAN.
‘I will clean that table there.’
 - b. IX₃ FOUND ORGANIZE **SAME** PERSON₃ HITLER.
‘This (organization) was founded by Hitler himself.’
 - c. IX BOOK ADAPT SIGN. IX₁ FEEL HAPPY. **SAME** BOOK SELL+++.
‘This book has been adapted into sign language and I feel very happy. This (same) book has been sold a lot.’

These examples show the different interpretive properties attributed to definite noun phrases. Examples (a) and (c) are instances of not novel and discourse-addressee familiar discourse referents. Example (b) is an instance of both a unique and an addressee familiar discourse referent. More evidence indicating that SAME is a marker of definiteness comes from the fact that in sentences in which the noun phrase is ambiguous between a definite and an indefinite interpretation, the introduction of SAME forces a definite reading. In LSC, a first-mention bare noun (a) is ambiguous between an indefinite and a definite reading. However, the insertion of SAME forces a familiar, and thus definite, interpretation (b).

- a. CLASS STUDENT COME.
'A/the student came to class.'
- b. CLASS SAME STUDENT COME.
'The student came to class.'

SAME may co-occur with both common nouns and proper names not previously mentioned. In (a), an instance of associative anaphora associated with definite noun phrases is shown. In this context, an implicit link or anchor between two elements is established during the process of interpretation. Cases of associative anaphora are formed by pairs like school-teacher/nun, car-wheel, library-book, among others, in which the second element of the pair inherits the familiarity condition from the first element, and is therefore marked with a first-mention definite marker. When SAME co-occurs with a proper name (b), an emphatic meaning arises.

Context: The signer is explaining how was the first day she went to school.

- a. SCHOOL CL-☞: door-opens CL-☞: person-walks NUN IX₃ SAME OF TUTOR IX_{1pl}.
'The door of the school opened and the nun, who was our teacher, entered.'

Context: Two work colleagues (A and B) are waiting outside the office, because the third one (C), named David, still hasn't arrived. A doesn't know who is in charge of the keys. Without a previous question, B utters:

- b. SAME DAVID KEYS BRING.
'David will bring the keys (not someone else)!'

1.2.2. Non-manual marking

In LSC definiteness may also be expressed nonmanually. This particular nonmanual consists in squinted eyes. Importantly, the shared information quinted eyes can co-occur

with does not need to be explicitly mentioned in previous discourse, but it can perfectly be accommodated or be part of the shared knowledge from the common ground. It also indicates that the addressee may retrieve the discourse referent from memory in a long run and serves as a signal to indicate the low accessibility status of the linguistic material that it is aligned with.



Squinted eyes

Referring to a particular student that the conversation participants may identify, both (a) and (b) are instances of not novel, unique, and addressee-familiar discourse referents. In a sentence where the sign SAME is not overt, squinted eyes having scope over the noun phrase suffice to refer to a familiar discourse referent (b).

Context for (a) and (b): You tell your work colleague that today you have an interview with the LSC student you both met yesterday.

a. TODAY IX₁ INTERVIEW ^{_____sq} **SAME** STUDENT LSC.
 ‘Today I have an interview with the LSC student.’

b. TODAY IX₁ INTERVIEW ^{_____sq} STUDENT LSC.
 ‘Today I have an interview with the LSC student.’

Moreover, when a determinerless noun phrase is not accompanied by squinted eyes in a context where the discourse referent has not been previously mentioned only the indefinite reading is available.

TODAY IX₁ INTERVIEW STUDENT LSC.
 ‘Today I have an interview with an LSC student.’

1.3. Indefiniteness

While definite noun phrases are used in cases where both the signer and the addressee

know and may identify the discourse referent, indefinite noun phrases refer to discourse referents that are not identifiable by the addressee. The main function of indefinite noun phrases is to introduce new discourse referents into the discourse, and they cannot be used to refer back to already introduced discourse referents. In LSC indefiniteness may be marked with both manual and non-manual strategies.

1.3.1. Manual marking

LSC has a rich array of lexical signs that encode an indefinite reading. One of the most frequent strategies to express an indefinite NP is the use of determiners (a) and pronouns (b). The examples shown below are articulated with an index handshape performing an arc-shaped movement, but for the indefinite reading to arise this is not obligatory: the singular form of a pointing sign can also yield an indefinite interpretation.

Context: You are telling a friend of yours that you went to a kennel because you want to buy a cat. You describe the behavior of the cats there.

- a. CAT **IX**_{3pl-1o} OBEDIENT.
'Some of the cats are obedient.'
- b. **IX**_{3pl-1o} OBEDIENT.
'Some of them are obedient.'

Another manual strategy is the determiner PERSON, used as an indefinite pronoun, which derives from the lexical noun PERSON. This sign may be used in some contexts as a co-referential pronoun and in others as an impersonal pronoun with an indefinite reading (a). For the indefinite reading to arise, the pronoun is articulated towards a high spatial location. It may also have a reduplicated form resulting in a plural interpretation (b). Both (a) and (b) are instances of generic uses of the pronouns, where the individual denoted is not tied to any particular spatiotemporal context. The discourse referents are not identifiable by the signer.

- a. $\overline{\text{RS}}$
PERSON_{up}++ OWN ERROR RECOGNIZE NEVER. SAME **IX**_{3pl-1o} FRIEND
 $\overline{\text{RS}}$
₃WARN₃ LOOK COUNT-1-2-3.
'One never realizes his own faults. It is his friends who have to warn him.'
- b. **IX** BALEAR **PERSON**_{up}+++ SPEAK CATALAN.
'In the Balearic Islands, they speak Catalan.'

Another lexical functional element that expresses indefiniteness is a compound sign. This pronominal sign is formed by the interrogative wh-sign WHO concatenated with either the 3rd person plural pronominal form (Figure a) or with the determiner SOME (Figure b). In both cases, the order of the signs is irrelevant. Interestingly, the mouthing accompanying this compound sign is always the Spanish word *alguien* ‘someone’, which has scope over the two signs. This pronoun has the semantic feature [+animate], as it only refers to human and animal discourse referents.



Figure a. Sign ‘someone’ formed with WHO^IX3pl_{up}



Figure b. Sign ‘someone’ formed with WHO^SOME_{up}

The use of the indefinite pronoun WHO^SOME allows wide scope reading with respect to the adverb TWO TIMES. This means that in this context, there is a particular individual who stole my bike at two different moments.

WHO^SOME_{up} BICYCLE₁STEAL_{3up++} TWO TIMES.
 ‘Someone stole my bicycle twice.’

Another very frequent indefinite lexical sign consists in an index finger pointing upwards and directed towards a high location on the frontal plane. It is very similar to the numeral ONE, but, unlike the numeral, the indefinite determiner ONE_{up} is articulated at an upper location on the frontal plane and combined with characteristic nonmanual marking typical for indefinite contexts, namely sucked-in cheeks, shrug and non-fixed eye gaze towards a spatial location. This indefinite determiner/pronoun has been shown to be specialized to contexts of impersonal reference [[Pragmatics – section 1.5](#)],

although it shares the same semantic properties as indefinite pronouns. The indefinite determiner ONE_{up} may function as a pronoun in a generic context (a) and as a determiner preceding or following a noun in an episodic context (b).

- a. ONE_{up} MOMENT HOSPITAL GO, ALWAYS THINK RESULT WORST.
‘When one is admitted to the hospital, always fears the worst results.’
- b. ONE_{up} PERSON DOOR KNOCK.
‘Someone is knocking at the door.’

Finally, there are two additional signs conveying indefiniteness that may also function as determiners and pronouns: $SOME$ and ANY . Similar to the sign ONE_{up} , $SOME$ and ANY are not semantically restricted to a particular type of entity. When signed in a low spatial location, $SOME$ (a) and ANY (b) provide a partitive interpretation once the restricted set has been uttered. When localized at a high locus, the interpretation is not restricted to a particular set. When used in an interrogative context, the sign $SOME$ may be translated also as ‘how many’.

- a. $\overbrace{\hspace{10em}}^{br}$
 IX_1 BOOK CL-: row of books $SOME_{lo}$ OLD.
‘Some of the books from my shelf are old.’

- b. $\overbrace{\hspace{10em}}^{br}$
 IX_1 BOOK CL-: row of books IX_2 TAKE ANY_{lo} .
‘Take any book from my shelf.’

The determiners and pronouns just mentioned are syntactically in complementary distribution and are used in similar contexts. However, semantically they differ in that the pronoun $WHO^{IX_{3pl}}$ refers to [+animate] entities, $PERSON_{up}$ refers to [+human] entities, and ONE_{up} does not have a semantic restriction.

1.3.2. Non-manual marking

In LSC, non-manuals also play a role in the encoding of referential status, with indefiniteness being expressed by a particular non-manual marker that involves the lower part of the face and consists of sucking in the cheeks and pulling the corners of the mouth down. This is sometimes combined with a shrug. This facial expression, which is shown below, is aligned with indefinite noun phrases that are not novel, non-unique, and not familiar.



Non-manual associated with indefiniteness

1.4. Specificity

Indefinite noun phrases can further be subdivided into specific and non-specific ones. Specific indefinites indicate that the signer, but not the addressee, knows the discourse referent. Non-specific indefinites are used when neither the signer nor the addressee know the discourse referent.

1.4.1. Manual marking

The (non-)specificity distinction is overtly expressed in the use of signing space in LSC. Discourse referents that are specific, that is, have a wide scope reading, are identifiable by the sender, and are part of a restricted set, are associated with a low spatial location. In contrast, discourse referents that are non-specific, that is, have a narrow scope reading, are unidentifiable by the sender, and are not part of a restricted set, are associated with a high spatial location. This is shown in the semi-minimal pair found below (this minimal pair comes from the semi-spontaneous, not the elicited data; this is why the minimal pair is not exact). While in (a) the discourse referent corresponds to a particular individual, which is identifiable by the signer, in (b) the discourse referent does not correspond to a particular individual, and it is therefore not identifiable by the signer. Each one is graphically shown in the corresponding figures, where the specific discourse referent in (a) is associated with a low location (Figure a), while the non-specific discourse referent in (b) is associated with a high location (Figure b).

_____ eg:cl-lo

- a. IX₁ CAT IX_{3cl-lo} WANT BUY. IX_{3cl-lo} CHARACTER OBEDIENT.
 ‘I want to buy a cat. It is very obedient.’



Figure a. NP associated with a low spatial location

- _____ eg:ipsi-up
 b. CAT $IX_{3pl-ip-up}$ IX_1 WANT BUY. MUST CHARACTER OBEDIENT.
 ‘I want to buy a cat. It must be obedient.’



Figure b. NP associated with a high spatial location

The articulation of signs directed to signing space also varies depending on the direction and, more specifically, on the interpretation they receive. Signs directed towards low spatial locations have a tense realization and are directed towards a concrete point in space. In such cases, a specific reading arises. Signs directed to high spatial locations, which correspond to a non-specific interpretation, are non-tense, have a vague realization, and are directed towards a more widespread area rather than a particular spatial location.

Many of the LSC indefinite lexical signs mentioned in the previous section may be associated with a low spatial location and also with a high spatial location (except for $PERSON_{up}$ and ONE_{up} , which only trigger an indefinite reading when they are associated with a high spatial location). When the particles are associated with a low spatial location, a specific reading arises, which may have a partitive interpretation, where the discourse referents belong to a restricted set. The interpretation of the discourse referents conveyed below is restricted by a particular domain of reference.

- a. HOUSE $SOME_{lo}$
 ‘some of the houses’
 b. HOUSE ONE_{lo}

- ‘one of the houses’
- c. HOUSE ANY_{lo}
‘any of the houses’

In contrast, when the indefinite particles are associated with high spatial locations and thus establish the NP in a higher and upper area, a non-specific and non-partitive interpretation arises.

- a. HOUSE SOME_{up}
‘some houses’
- b. HOUSE ONE_{up}
‘one house’
- c. HOUSE ANY_{up}
‘any house’

One of the grammatical tests to distinguish between specific and non-specific readings is based on the possibility of having a co-referential pronoun. Only specific noun phrases establish a discourse referent, and once a discourse referent has been established, it can be referred back to by an anaphoric pronoun in subsequent discourse. In contrast, when talking about a non-specific discourse referent, a co-referential anaphoric pronoun is only felicitous when it is embedded under an operator. For the LSC case, noun phrases associated with a low spatial location may have a co-referential pronoun in further discourse, corresponding to a specific interpretation.

- CAT IX_{3-lo}, IX₁ WANT BUY. IX_{3-lo} LEG BIG CL-_{lo}: big-legs.
‘I want to buy a certain cat_{spec}. It has long legs.’

When the noun phrase is associated with a high spatial location, the co-referential pronoun alone is not felicitous (a), as it needs to be embedded under a modal verb, like MUST, and expressed as a null pronoun (b).

- a. CAT IX_{3-up}, IX₁ WANT BUY. #IX_{3-up} LEG BIG CL-_{up}: big-legs.
‘I want to buy a cat_{non-spec}. #It has long legs.’
- b. CAT IX_{3-up}, IX₁ WANT BUY. MUST LEG BIG CL-_{up}: big-legs.
‘I want to buy a cat_{non-spec}. It must have long legs.’

The use of some determiners may force a specific or a non-specific reading. LSC features a sign that can only occur in non-specific contexts, namely the sign glossed as CONCRETE. Therefore, the use of the sign CONCRETE positively identifies a non-specific discourse referent. The sign restricts the domain of interpretation of the discourse referent referred to but always with a kind interpretation.



Two instances of the sign CONCRETE

As shown in the example below, a noun phrase with the sign CONCRETE is used to refer to a discourse referent that has the property of being a tool, and more concretely the property of being a screwdriver, but the signer does not know the exact identity of this entity. Among all the possible tools available, the one the signer is referring to needs to be of a screwdriver nature, although she does not have a particular one in mind. Non-specific contexts are felicitous with a sluicing context. This is shown in the felicitous continuation in (a) below, which indicates that the sender does not know the exact identity of the tool. In contrast, a continuation with a context showing that the identity is known is not felicitous (b). Therefore, the sign CONCRETE as a marker of non-specificity is compatible with sluicing contexts.

- _____ eg:up
- CARLOS WANT TAKE ONE_{up} ANY_{up} TOOL CONCRETE FOR CL-~~ϕ~~: screwdriver OUT.
 ‘Carlos is looking for a tool, which serves as a screwdriver.’
- a. IX₁ KNOW-NOT WHICH.
 ‘I don’t know which one.’
 - b. #IX COLOR BLUE.
 ‘It is the blue one.’

1.4.2. Non-manual marking

In LSC, specificity is marked with eyes wide open, sucking the cheeks in, pulling the mouth ends down, and sometimes in combination with a shrug. When the indefinite noun phrase corresponds to a non-specific discourse referent, which is therefore not identifiable by the signer and does not belong to a restricted set, the articulation of the non-manual is aligned with a particular eye gaze. A non-fixed eye gaze towards a high locus is used (see figure below), and a corresponding darting eye gaze is aligned with the noun phrase.



Non-fixed eye gaze

1.5. Impersonal reference

Impersonal reference consists of reference to human entities whose identity is not clear or whose degree of referentiality in the discourse is very low. One of the most common strategies to express impersonal reference in LSC is by means of the non-overt marking, but also with indefinite elements. As for non-overt marking, null pronouns are a frequent strategy to express impersonality in LSC

CHINA AREA EAT CAT.
 ‘In China they eat cats.’

(Barberà & Costello, 2017: 53)

As for indefinite elements, the indefinite pronoun formed by a compound sign is a very frequent strategy. This pronominal sign is formed by the interrogative wh-sign WHO concatenated with the 3rd person plural pronominal form (Figure a) or with the determiner SOME as well (Figure b). The mouthing accompanying this sign is the Spanish word *alguien* ‘someone’.



Figure a. WHO^IX_{3pl-u} ‘Someone’



Figure b. WHO^SOME_u ‘Someone’

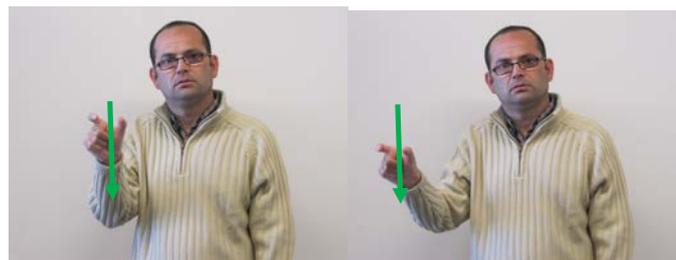
(Barberà & Quer, 2013: 245)

When the referent is a non-specific indefinite, the 3rd person plural pronoun or the determiner are associated with the upper part of the frontal plane. It is important to note that independently of the plural form of the pronoun, this functional element may refer both to a single and to a plural discourse referent.

WHO^{IX}_{3pl-u} MONEY ₃STEAL_{3u}.
'Someone stole the money.'

(Barberà & Quer, 2013: 245)

Other pronominal forms are also used when denoting impersonal reference. For instance, the 3rd person plural pronoun alone may be used when referring to an impersonal argument. This pronominal form directed to the upper frontal plane is realised with an index finger and a circling movement. Besides pronominal index signs, localisation of impersonal reference in LSC can also be expressed with the sign that consists of a derived form of the lexical noun PERSON. This sign is articulated with a ✋handshape and a vertical downward movement. It functions as a pronominal index which can be coreferentially used for the three person distinctions and which may have a singular or a plural form.



Plural form of the pronominal PERSON sign

The determiner glossed as ONE directed to an upper location may function as a determiner co-occurring with a noun, but it may also function pronominally as exemplified below. The upper direction towards the frontal plane of this determiner is combined with concrete non-manuals which play a role in the encoding of indefiniteness. ONE_u is co-articulated with a non-manual which consists in sucking the cheeks in and pulling the mouth ends down. This is sometimes combined with a shrug.

ONE_u MOMENT HOSPITAL GO, ALWAYS THINK RESULT WORST.

'When one is admitted to the hospital, always fears the worst results.'



Pronominal ONE localised on the upper frontal plane

(Barberà & Quer, 2013: 246)

Impersonal reference is also overtly marked with verb inflection [Morphology – Chapter 3]. Agreement verbs denote the impersonality of the subject argument when the manual verb is articulated towards certain spatial locations. With respect to agreement, different forms have been found in our LSC data, which we detail in what follows. The most noticeable marking found in the LSC data is the use of an axis going from a location established amidst the 1st and 3rd person to a location established amidst the 2nd and 3rd person location. This impersonal axis marks the lack of referential encoding of a discourse referent through locations established in signing space.



Verb INSULT with agreement in the impersonal axis

As already mentioned, agreement verbs may also localise the subject argument of the sentence in an upper location on the frontal plane. When the argument is established in this upper location the interpretation corresponds to a non-identifiable discourse referent. The instance illustrated below may be paraphrased as “someone_{nonspec} explains me”.



3-uEXPLAIN₁

Impersonal subjects are also realised in a neuter form. In such instances, verb inflection is not marked in signing space and no location is established. The verb TELL is not inflected for the subject argument and it is realized as a neutral form.

_____ br _____ br _____

HERE FACULTY UNIVERSITY THEME STRIKE TELL₁₊₊₊ NOTHING
'At the faculty, they didn't tell me anything about the strike.'



Verb TELL in a neutral subject agreement form

(Barberà & Quer, 2013: 248)

In some other cases, verb agreement is realised with a neutral articulation and neither the subject nor the object are localised in sign space. Thus, verbal inflection is neutrally realised for both arguments.



Verb PUNISH in a neutral agreement form for subject and object

Moreover, it is also possible to find a combination of different markings in the same sentence. The verb in the first clause shows agreement expressed with the impersonal axis. The verb in the second clause is realised as a neuter form.

IF _{1/3}INSULT_{2/3}, IGNORE.

‘If they insult you, you’d better ignore them.’

(Barberà & Quer, 2013: 249)

Finally, it should be added that a marking for plural indefinite NPs can be expressed with the bimanual form of the verb. As indicated in the glosses, in the following example the verb is articulated both with the active and the passive hands denoting the plurality of the subject.

_____ br
 IX₃ FACULTY ₁UNDERSTAND_{3bim++} NOONE
 ‘In the faculty, no one understands me.’

(Barberà & Quer, 2013: 249)

In LSC, conditional contexts license the use of first person pronouns with an impersonal value. As shown in the example below, the first person pronoun does not have deictic reference but rather a low referential value with a quasi-universal meaning.

IF IX₁ PROBLEM APPEAR FRIEND₃HELP₁ NOTHING, BETTER₁CHOOSE₃ NOT.
'When you have problems, if your friend does not help you, better not choose him/her as a friend.'



(Barberà & Costello, 2017: 54)

Information on Data and Consultants

See the references below for information on data and consultants.

Authorship Information

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References

Barberà, G. (to appear) Specificity and definiteness. In J. Quer, R. Pfau & A. Herrmann (eds.) *Routledge Handbook of Theoretical and Experimental Sign Language Research*. Routledge – Taylor and Francis Group.

Barberà, G. 2012. *The meaning of space in Catalan Sign Language (LSC). Reference, specificity and structure in signed discourse*. PhD dissertation, Universitat Pompeu Fabra [Published as a monograph in 2015, Berlin and Nijmegen: De Gruyter Mouton and Ishara Press].

Barberà, G. 2014. Use and functions of spatial planes in Catalan Sign Language (LSC) discourse. *Sign Language Studies* 14 (2): 147-174.

- Barberà, G. 2016. Indefiniteness and specificity marking in Catalan Sign Language (LSC). *Sign Language and Linguistics* 19 (1): 1-36.
- Barberà, G. and P. Cabredo Hofherr. 2017. Two indefinite pronouns in Catalan Sign Language (LSC). Proceedings of Sinn und Bedeutung 21 2016, University of Edinburgh.
- Barberà, G. and B. Costello. 2017. ¿Cómo se expresa la referencia impersonal? Análisis contrastivo entre lengua de signos catalana (LSC) y lengua de signos española (LSE). Actas del Congreso CNLSE de la Lengua de Signos Española: Madrid, 24 y 25 de septiembre de 2015. Madrid: Real Patronato sobre Discapacidad, 49-63.
- Barberà, G. and J. Quer. 2015. Genericity in Catalan Sign Language (LSC). Workshop on Sign languages and R-impersonal pronouns. Université Paris 8, February 6.
- Barberà, G. and J. Quer. 2013. Impersonal reference in Catalan Sign Language (LSC). In: L. Meurant, A. Sinte, M. van Herreweghe and M. Vermeerbergen (eds), *Sign language research, uses and practices: Crossing views on theoretical and applied sign language linguistics*, 237-258. Berlin and Nijmegen: De Gruyter Mouton and Ishara Press.
- Barberà, G. and J. Quer. 2018. Nominal referential values of semantic classifiers and role shift in signed narratives. In A. Hübl & M. Steinbach (eds), *Linguistic Foundations of Narration in Spoken and Sign Languages*. Amsterdam: Benjamins.
- Quer, Josep. 2012. Quantificational strategies across language modalities. In Maria Aloni, Floris Roelofsen, Galit Weidman Sassoon, Katrin Schulz, Vadim Kimmelman & Matthijs Westera (eds.), *Proceedings of 18th Amsterdam Colloquium, LNCS 7218*, 82-91. Berlin, Heidelberg: Springer-Verlag.
- Morales-López, Esperanza, Rosa Maria Boldu-Menasanch, Jesus Amador Alonso-Rodriguez, Victoria Gras-Ferrer & Maria Angeles Rodriguez-Gonzalez. 2005. The Verbal System of Catalan Sign Language (LSC). *Sign Language Studies* 5(4). 441-496.

Chapter 2. Reference tracking

2.1. Pronouns

Pronominal expressions [Lexicon – section 3.7] are the main means of expressing co-reference in Catalan Sign Language (LSC). Discourse referents are localized in signing space, that is, they are associated with certain spatial locations. Such a spatial location is called “referential locus” or “r-locus” and it may be established across sentence boundaries. In coreferential contexts, these areas can be later pointed to or referred to through verbal agreement. Pointing to a particular area activates the discourse referent associated with this area. For instance, in the following example the referent “son” is associated with the locus *a*. In the second clause, two index signs are directed to the same locus and the coincidence of the direction triggers a coreferential interpretation. Several sentences later the signer uses index signs and agreement verbs directed to the same locus *a* to refer back to the son.

IX_{3c} LAPTOP₁ OFFER₃ SON IX_{3a} FOR NEW₃ SELECT₃ WORK IX_{3a} NEED LAPTOP IX_{3a}.
'I will offer this laptop to my son, because he has been selected for a new job and he needs one.'

(Barberà 2014: 150)

2.2. Other means

2.2.1. Agreement

Verbal agreement is used for reference tracking in LSC, because when arguments are associated with certain locations in the signing space, the verb can unambiguously show coreference or non-coreference through spatial agreement. A verb agreeing with subject and object is directed towards the spatial location established with these referential functions ([Lexicon – Section 3.2.2]; [Morphology - Section 3.1.1]; [Syntax – Section 2.1.2.3]). Agreement is marked with the direction of the movement, palm or fingers orientation and, according to some studies, with non-manual markers. The direction of these mechanisms indicates coreferential binding with the arguments of the predicate established in that particular spatial location.

In the following example the antecedent ‘brother’ is established in location *a* in the first sentence. In the second sentence the agreeing verb ‘teach’ in LSC is articulated the spatial location *a* for the subject (3rd person) and the tips of the finger are directed to the object (1st person).

IX₁ BROTHER MALE SMALL IX_{3a}. LANGUAGE SIGN_{3a} TEACH₁.
'I have a younger brother. He teaches me sign language.'

2.2.2. Classifier handshapes

As in the case of agreement verbs, verbs of motion or location incorporating classifiers (see the section on [Lexicon – Section 1.2.1]) can be used for reference tracking, as classifiers help identifying the referent, which is one of the arguments of the verb. Semantic classifiers (entity and limb) are dependent on the antecedent previously introduced; that is, the handshape is coreferential with a previously introduced discourse referent. In this fragment, for instance, the discourse referent for “rabbit” is referred to through the bare noun at the beginning and later it is coreferred to via two classifier handshapes (the thumb-handshape entity classifier and the Q-handshape limb classifier). The turtle is referred back to via de entity classifier (B handshape).

RABBIT TURTLE CL-👉: entity-standing / CL-👉:entity-standing
 _____ rs:rabbit _____ rs:rabbit
 CL-👉: run-forward / CL-👉: move-slow SPEED CL-👉:legs-moving
 ‘There was a rabbit and a turtle. The rabbit started to run forward fast, very fast, and moving its legs, while the turtle advanced very slowly.’
 (Barberà & Quer 2018)

Note finally that unlike predicate classifiers, Size-and-Shape Specifiers are not used for reference tracking.

2.2.3. Buoys

Sometimes the handshape of a sign is held on the non-dominant hand, while the other hand continues to articulate several separate signs. This phenomenon is called “weak hand hold”. Sometimes these holds occur in order to express discourse relations, which often involve reference tracking. Such meaningful discourse-level holds are often called “buoys” (see the section on [Lexicon, 1.2.3]).

One common type of buoys is the list buoy, where the signer holds a handshape with outstretched fingers in order to track a certain number of referents. Each time the signer refers to one of the entities, the dominant hand points towards the corresponding digit. It is an anaphoric device because the signer can refer back to one of the entities later in the discourse. For instance, the signer may hold the non-dominant handshape with three outstretched fingers, while telling about how difficult each subject is. The three fingers ensure the presence of the three referents in discourse; the signer may also point towards the fingers in order to express co-reference with each subject.

H dom: THEME THERE-IS THREE. START IX₃ DIFFICULT BUT FIRST IX₁TURN IX₁
 IX₂ IX₃ EASY
 H non-dom: THREE -----

Information on Data and Consultants

See the references below for information on data and consultants.

Authorship Information

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References

- Barberà, G. 2007. La cohesió discursiva i l'espai en llengua de signes catalana (LSC). MA thesis, Universitat Pompeu Fabra. (55-56) – [2.2.3]
- Barberà, G. 2014. Use and functions of spatial planes in Catalan Sign Language (LSC) discourse. *Sign Language Studies* 14 (2): 147-174. (150-151) – [2.1]
- Barberà, G. 2015. *The Meaning of Space in Sign Language. Reference, Specificity and Structure in Catalan Sign Language Discourse*. Berlin/Boston: De Gruyter Mouton and Ishara Press. (57-58) – [2.2.1]
- Barberà, G. & J. Quer. 2018. Nominal referential values of semantic classifiers and role shift in signed narratives. In A. Hübl & M. Steinbach (eds), *Linguistic Foundations of Narration in Spoken and Sign Languages*. Amsterdam: Benjamins. (XX) – [2.2.2]
- Gabarró-López, S. 2017. Discourse markers in French Belgian Sign Language (LSFB) and Catalan Sign Language (LSC): BUOYS, PALM UP and SAME. Variation, functions and position in discourse. PhD dissertation, Université de Namur. (288-289) – [2.2.3]
- Quer, J. et al. 2005. Gramàtica bàsica LSC. Universitat de Barcelona & FESOCA: Barcelona. [2.2.3]

Chapter 3. Speech acts

3.1. Assertions

3.2. Questions

3.3. Commands and requests

3.4. Exclamatives

Chapter 4. Information structure

4.1. Focus

As in any other language, focus in Catalan Sign Language (LSC) is an obligatory part of a sentence. Taking into account an information structural perspective all sentences contribute to building discourse by introducing new information, and thus by updating the common ground of the participants in the discourse.

In the following subsections, we will look at different types of focus and its expression in LSC. Namely we will describe **all-new focus**, **new information focus**, **contrastive focus**, **emphatic focus**, and **focus doubling**.

4.1.1. All-new focus

All-new focus sentences in LSC (also calledthetic sentences) are usually expressed with the basic word order (SOV).

‘What’s happening in the picture?’
[MAN COKE DRINK-WITH-STRAW]_F
‘A man is drinking a coke with a straw.’

Moreover, LSC can emphasize a part of the all-new focus sentence by doubling an item [Pragmatics – Section 4.1.5]:

[OBSESSION WHERE FROG WHERE]_F
‘(He) was OBSESSED ABOUT WHERE THE FROG WAS.’

However, the basic word order can be sometimes altered in this type of sentences by different factors unrelated to information structure (IS) [Syntax – Section 2.3.3.6].

4.1.2. New information focus

In LSC, new information focus is sometimes placed at the end of the sentence, where the pitch accent is more prominent. This placement occurs mainly when the focus is narrow, as in examples (a) and (b) below. In example (a) the subject is placed at the end of the sentence, and in example (b) the object is placed again in this position. In both examples, the basic word order (SOV) [Syntax – Section 2.3.1] is altered to express focus.

a. CLOTHES T-SHIRT ₃GIVE₁ [FATHER]_F
‘FATHER gave me the shirt.’

b. EAT [BREAD]_F

‘(I) eat BREAD.’

(Navarrete-González, 2016: 28)

However, this syntactic movement does not always happen and we can find some instances of narrow information focus placed in situ. In these cases, focus is marked by prosody [Pragmatics – Section 4.3.1]. This is also the case for broad information focus (VP and all-new focus), which does not feature any syntactic movement in LSC. In broad information focus, all the elements of the sentence usually present the basic word order SOV, except in the cases where the basic word order is altered by other factors than IS, such as the type of verb [Syntax – Section 2.3.3.6].

In some cases, new information focus can also be expressed by question-answer pairs (also known as wh-clefts or rhetorical questions):

_____rb
TITLE WHAT, FROG WHERE ARE YOU
‘The title is “Frog, where are you?”’

However, this construction seems not to be very productive in LSC. Its use is restricted to some specific contexts, such as conferences, teaching, and interpreting.

4.1.3. Contrastive focus

In general, contrastive focus instances in LSC can appear in the same position of the sentence as new information focus: they can be placed at the end of the sentence, as illustrated in the example below. The difference between them is that for the expression of contrastive focus different non-manual markers are used [Pragmatics – Section 4.3.1].

What do you like more: skiing or snowboarding?
_____nb
LIKE MORE [SKI]_F
‘I like more SKIING’

However, in some narrow contrastive focus instances the focused item may be placed at the beginning of the sentence, as well, as illustrated below.

What do you like more: skiing or snowboarding?
_____rb
[SKI]_F LIKE MORE
‘SKIING I like more.’

Moreover, in LSC the two manual articulators (dominant and non-dominant hand) can be used in order to express contrast [Lexicon – Section 1.3.3]. Also, both sides of the

signing space can be used to localize two entities, which are under a contrastive relation [Pragmatics – Section 8.1].

Dominant hand: CANDY GIORGIA [PERSON IX₃ LIST-3]_x
Non-dominant hand: RAQUEL [PERSON IX₃ LIST-4]_y
'As for candies, Giorgia has three (candies), and Raquel has four (candies).'

These strategies are also found in the expression of contrastive topics [Pragmatics – Section 4.3.2].

4.1.4. Emphatic focus

Emphatic focus is used in LSC for intensifying an item. The item that is under emphatic focus scope is part of a broad focus, and it is usually doubled in order to emphasize it. The element doubled is placed in final position, as illustrated in the examples below.

- a. FROG [ESCAPE WANT ESCAPE]_F
'Frog WANTS TO ESCAPE.'
- b. [OBSESSION WHERE FROG WHERE]_F
'(He) was OBSESSED ABOUT WHERE THE FROG WAS.'

(examples from the LSC corpus, cited in Navarrete-González, 2016: 28)

In example (a) the verb ESCAPE is part of a VP-focus, and it is doubled in final position. In example (b) the wh-particle WHERE is part of an all-new focus sentence and it is also doubled at the end of the sentence.

4.1.5. Focus doubling

As we have seen in the previous section, focus doubling is used in LSC in order to mark emphasis [Pragmatics – Section 4.1.4]:

- a. [GO TOGETHER CINEMA GO]_F
'(We) WENT TO THE CINEMA TOGETHER.'
- b. IX₁ SAVE, [NOT WANT FINE WRITE WANT-NOT]_F
'I was safe, (the policeman) DIDN'T WANT TO WRITE THE FINE.'
- c. DRINK [WATER ONE RESPONSIBLE WATER]_F
'A RESPONSIBLE PERSON drinks WATER.'
- d. [OBSESSION WHERE FROG WHERE]_F
'(He) was OBSESSED ABOUT WHERE THE FROG WAS.'

(examples from the LSC corpus, cited in Navarrete-González, 2016: 28)

This type of construction can occur with modals, verbs, temporal signs, negative signs, quantifiers, nouns, and wh-elements, as shown in the examples above.

4.2. Topic

In LSC topics are also expressed through syntax and prosody. The topicalized constituent is placed at the beginning of the sentence, changing the basic word order [Syntax – Section 2.3.3.3]:

- _____ t
a. ONION, INDEX₁ HATE

‘Onions, I hate.’

- _____ t _____ t
b. INDEX₁ BROTHER INDEX₃, TOMORROW MORNING, INDEX₃ CAR BUY

‘As for my brother, tomorrow morning he will buy a car.’

(Pfau & Quer, 2010)

In example (a), the direct object is placed at the beginning of the sentence, and it is also marked by specific non-manual marking (raised eyebrows). In example (b), we can observe two topicalized elements: the first one, is related to the subject position, and the second one, is a temporal adjunct. In this example, both topics are also marked with raised eyebrows, and there is also topic stacking involved in the sentence.

4.3. Morphological and prosodic markers of topic and focus

LSC uses different prosodic manual and non-manual strategies in order to mark focused elements. These strategies can vary depending on the type of focus we find: new information focus, contrastive focus, emphatic focus or parallel focus. Moreover, some morphological strategies are found regarding focus particles. In the next subsections, these prosodic and morphological strategies will be explained.

4.3.1. Focus

Prosodic manual markers are used in Catalan Sign Language (LSC) in the expression of focus. Focused signs in LSC are longer in duration, have a higher velocity of the movement, and display more repetitions than their non-focused counterparts. For instance, in the example below, the sign HORSE is repeated five times, and is articulated with a higher velocity of the movement, whereas its unfocused counterpart is repeated only two times.

HORSE+++++ RIDE

New information focus is marked mainly by raised eyebrows. These strategy is only found when no syntactic movement takes place and the focus is found in situ.



What is doing the neighbor with the car?

rb
IX₃ PUSH
'He is pushing (it).'

(Navarrete-González, 2016: 37)

Another NMM used in the expression of new information focus is a forward head tilt accompanied by a chin down movement, as shown in the example below.



What is the girl doing now?

forward-hd
NOW [EAT SNACK]_F IX₃
'She is EATING A SNACK now.'

(Navarrete-González, 2016: 43)

Moreover, mouthing is also a very systematic non-manual marker found in the expression of this type of focus. However, this NMM is not only found in new information focus, but it also appears systematically in all the other focus types.

Contrastive focus in LSC is expressed through a combination of NMMs: rightward and leftward body leans and head movements. In the example below, the two contrasted elements are articulated in both sides of the signer's body. A leftward and a rightward body lean for each contrasted element is clearly distinguished, as well as left and right head tilts.



Who finished the BA this year, you or your brother?

 left-bl right-bl

IX₁ MAN SIBLING IX₃ BA FINISH IX₁ MASTER

‘My brother finished the BA, I finished the MASTER.’

(Navarrete-González, 2016: 41)

Furrowed eyebrows are also found in the expression of contrastive focus. However, this marking appears only if there is a correction involved, as shown in the example below.



The neighbor is cleaning the car, right?

 fb

NO, PUSH

‘No, he is pushing (it).’

(Navarrete-González, 2016: 37)

Another NMM found in corrective focus is a strong head thrust sometimes accompanied by a head tilt, as illustrated in the example below.



IX₁



NOTHING



WOMAN



IX₃

You ate an apple, right?

hth+ht

IX₁ NOTHING [WOMAN]_F IX₃

‘I didn’t, the woman did.’

(Navarrete-González, 2016: 44)

Moreover, the sign LIST is used when more than two alternatives are explicitly contrasted without being accompanied by the non-manual markers mentioned before.

‘What did you buy at the supermarket?’

LIST-1 POTATOES, LIST-2 EGGPLANT, LIST-3 TOMATOES, LIST-4 FISH, LIST-5 MEAT, ETC.

‘Potatoes, eggplant, tomatoes, fish, meat, and other things.’

Nonetheless, this sign (LIST) can also be uttered along with the non-manual markers for contrast:

left-bl right-bl left-bl
LIST-1 CANDY, LIST-2 MONEY, LIST-3 TEDDY BEAR.
‘Candy, money, a teddy bear.’

Focus particles are used in LSC as in many other languages. Until date, two different focus particles have been described to be productive in LSC: the restrictive focus particle ‘only’, and the scalar additive focus particle ‘even’.

In LSC there are two different signs that refer to the restrictive focus particle ‘only’. The first one, THAT’S-IT, is placed right after the focused item, as shown in example (a) below. The second one, UNIQUE, has the same restrictive meaning, and it is always placed right before the focused item, as illustrated in example (b).

- a. CAKE ONE, THAT’S-IT
‘Only one cake.’
- b. UNIQUE CAKE ONE

‘Only one cake.’

By contrast, the focus particle ‘even’ is mainly expressed through non-manual marking (raised eyebrows) without any overt lexical sign.

_____rb

ONE TWO DISHES THAT’S-IT. [STILL DIRTY]_F.

‘Only one or two dishes. And even they are still dirty.’

Parallel focus is expressed by placing the two contrasted items or constituents in the opposite sides of the signing space. Moreover, leftward and rightward body leans accompany each contrasted item, as shown in the example below.

_____bl-right _____bl-left

[WOMAN BIKE RIDE]_x [MAN HORSE]_y

‘The woman is riding the bike and the man (is riding) the horse.’

4.3.2. Topic

As we have seen in previous [Pragmatics – Section 4.2] topics in LSC are placed at the beginning of the sentence. These topicalized elements are usually followed by an intonational break, which is marked by a simultaneous change in the non-manual markers and also (possibly) an eye blink.

_____t

ONION, INDEX₁ HATE

‘Onions, I hate.’

(Pfau & Quer, 2010)

In the example above (repeated from [Pragmatics – Section 4.]), *onion* is the topicalized element and it is marked by raised eyebrows. As can be observed, raised eyebrows can also be used in the expression of focus.

Information on data and consultants

See the references below for information on data and consultants.

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References

- Jarque, M.J., Pascual, E & M. Bosch-Baliarda. 2014. Estructuras de foco en la lengua de signos catalana (LSC): cohesión y estructura discursiva esquelética. IX Congreso Internacional de la Asociación Española de Lingüística Cognitiva (AELCO). Badajoz.
- Navarrete, A. 2016. Focus constructions in Catalan Sign Language. MA thesis, Universitat Pompeu Fabra
- Pfau, R. & Quer, J. 2010. Nonmanuals: their grammatical and prosodic roles. In D. Brentari (ed.), *Cambridge Language Surveys: Sign Languages*, 381-402. Cambridge University Press.

Chapter 5. Discourse structure

5.1. Coherence and discourse markers

5.1.1. Manual discourse markers

5.1.2. Non-manual discourse markers

5.1.3. Strategies using signing space

5.2. Cohesion

5.2.1. Manual strategies

Pronouns ([[Lexicon – Section 3.7](#)] / Pronouns and determiners [[Lexicon – Section 3.6](#)]) and determiners are one of the main means to refer back to already introduced discourse referents in previous utterances. In LSC, pronouns and determiners are directed towards locations in space and the consistency in the direction towards space previously associated with referents contributes to building up connected and cohesive discourse and to ensuring reference tracking [[Pragmatics – Chapter 2](#)]. This is shown in the following BSL example.

MAN IX_a WOMAN IX_b [...] _{3a}LOOK_{3b}

‘There is a man and there is a woman [...]. He looks at her.’

Classifier handshapes [[Morphology – Chapter 5](#)] denoting entities also add to the overall cohesion of the discourse. The three major groups of predicate classifiers contributing to discourse cohesion are (whole) entity classifiers [[Morphology – Section 5.1.1](#)], bodypart classifiers [[Morphology – Section 5.1.2](#)], and handle classifiers [[Morphology – Section 5.1.3](#)]. The former two are used to represent (body parts of) referents that move or are located somewhere, while the latter represent objects that are being moved or handled. Classifier handshapes are anaphorically connected to a previously introduced antecedent. The following excerpt is an instance of the discourse referent for RABBIT referred back to by two handshape classifiers denoting the whole entity: the -handshape and the -handshape.

COINCIDE DAY HEAT STRONG SUN RABBIT FEEL START TIRED

_____ rs:rabbit

_____ rs:rabbit

CL-: entity-moving SEARCH SEE TREE SMALL CL-: entity-moving

CL-: lie-down.

‘It was a very hot and sunny day. The rabbit was running and he lay down next to a small tree.’

(Barberà & Quer, 2018)



CL-✌️: limb-3 legs



dom. STOP

non-dom. CL-✌️: limb-3 legs



dom. BEAUTIFUL

non-dom. CL-✌️: limb-3 legs



dom. NOT, BUT

non-dom. CL-✌️: limb-3 legs



dom. YES BUT

non-dom. CL-✌️: limb-3 legs



dom. BUT

(Barberà 2007: 59)

Another strategy providing discourse cohesion consists in switching hands (from dominant to non-dominant) in order to articulate the sign with the hand on the side nearest the established spatial location. This is known as dominance reversal. Dominance reversals are found to be a productive strategy contributing to discourse cohesion in LSC.

5.2.2. Non-manual strategies

Role shift [[Pragmatics – Chapter 6](#)] is another important strategy of referential cohesion. Role shift is used to indicate the part of the discourse presented from the point of view of a particular participant. The participant referred to may be some other person (or animal) or the signer himself or herself at some time other than the present. The non-manuals indicate that a referential shift is taking place. The referential shift is enough for reference tracking and no repetition of the full noun phrase to identify the signer of the utterance in the scope of role shift is needed.

Topic marking [[Pragmatics – Section 4.2](#)] and squinted eyes also mark discourse referents previously introduced. While the former neutrally refers to an antecedent already introduced, the latter refers back to an antecedent already introduced but not very salient in discourse (i.e., an antecedent that is still retrievable, although far away in the discourse or belonging to the common ground).

5.2.3. Strategies using signing space

Besides pronouns and determiners, articulating the sign for the discourse referent in a particular location in signing space (that is, spatially modifying a manual sign in a previously established location) also contributes to providing the discourse with cohesion. This spatial modification may also co-occur with body lean towards the targeted location.

As shown in the example below, nouns can be directly articulated at a spatial location.

STUDENTS GROUP GROUP TWO GROUP-SEPARATE A_a B_b. STUDY_a HARD_a STUDY_a.
STUDY_b FEW. IX₁ THINK ABANDON_b.

‘There are two groups of students, group A and group B. [group A] study hard while [group B] do not study much. I think that [group B] will abandon [the studies].’

5.3. Foregrounding and backgrounding

LSC uses specific spatial means to identify foreground and background information. Foregrounding information refers to highlighting the most salient piece of discourse. The less-salient stretch of discourse, which does not make the discourse advance, is considered backgrounded. The foreground is also known as ‘figure’ and background as ‘ground’. In most cases, the background provides the necessary context for the foreground. LSC classifiers show the possibility of overtly codifying backgrounding strategies in a unique way because of the availability of an ‘extra’, relatively independent articulator – the non-dominant hand – and the simultaneity afforded by the manual-visual system. Therefore, in LSC grounding dependencies may be expressed with bimanual structures. Moreover, the dominant hand is typically specialized in referring to the foreground information, while the non-dominant hand is typically specialized in the background one, though dominance reversals are also possible, as illustrated above. Foregrounding and backgrounding may have a short or a long scope in the particular stretch of discourse. In the following English translation of an LSC fragment of discourse, the signer keeps the classifier handshape for a slice of bread in the non-dominant hand all along the underlined part thus keeping this backgrounded information present in the fragment for as long as it is relevant.

(To prepare bread with tomato...) Take the bread, spread the tomato, pour some olive oil and add some salt. Then, leave it aside for a while so it can be absorbed by the bread. After that, you can eat it.

(Frigola, Aliaga, Barberà & Gil, to appear)

Information on Data and Consultants

See the references below for information on data and consultants.

Authorship Information

Gemma Barberà

References

Barberà, G. 2007. La cohesió discursiva i l'espai en llengua de signes catalana (LSC). MA thesis, Universitat Pompeu Fabra.

Barberà, G. & J. Quer. 2018. Nominal referential values of semantic classifiers and role shift in signed narratives. In A. Hübl & M. Steinbach (eds), *Linguistic Foundations of Narration in Spoken and Sign Languages*. Amsterdam: Benjamins.

Frigola, S.; D. Aliaga, G. Barberà & J. Gil. To appear. Gramàtica bàsica LSC: material d'activitats.

Gabarró-López, S. 2017. Discourse markers in French Belgian Sign Language (LSFB) and Catalan Sign Language (LSC): BUOYS, PALM UP and SAME. Variation, functions and position in discourse. PhD dissertation, Université de Namur.

Chapter 6. Reporting and role shift

6.1. Attitude role shift and (in)direct speech

6.2. Action role shift

Chapter 7. Expressive meaning

7.1. Conversational implicature

7.2. Conventional implicature

7.3. Presupposition

Chapter 8. Signing space

8.1. Uses of signing space

Signing space in Catalan Sign Language (LSC) may be used abstractly and topographically. Some contexts combine both uses of signing space.

8.1.1. Abstract use

Abstract use of signing space in LSC may be based on syntactic, semantic and discourse motivations. The syntactic function is used when discourse referents are arbitrarily associated with a locus to identify the arguments of the verb. Discourse referents are assigned a particular location, which is movable, as it can be shifted without affecting the meaningful content of the sentence.

In a sentence like (a) below, the locus of the subject is established in the ipsilateral area *a* of signing space, while the locus of the object is in the contralateral area *b*. The agreeing verb SEE then moves from the ipsilateral locus of the subject to the contralateral locus of the object. Importantly, these spatial locations are localised abstractly and without a motivated reason. This means that the subject could have been localised in the contralateral area *b* and the object in the ipsilateral area *a* without affecting the meaning of the sentence, as shown in the second example.

- a. JOANA_a MARIA_b 3_aSEE_{3b}.
'Joana saw Maria.'
- b. JOANA_b MARIA_a 3_bSEE_{3a}.
'Joana saw Maria.'

As the following figure shows, the signer has arbitrarily localised an entity on his contralateral side for the discourse referent “son” (a). Afterwards, the signer co-referentially picks up the non-descriptive location previously established (b).



a. SON IX₃

b. IX₃

First and further mention of a localised discourse referent

From what is known so far, whether a spatial location is precisely established on the ipsilateral or on the contralateral part does not make any difference in the grammar of LSC. The interpretation of sentences (a) and (b) below is equivalent regardless of the lateral area where each noun phrase is localised. As the translation shows, the meaning of the noun phrase is not affected by the localisation side.

a. YESTERDAY JOAN_{ip} 3-ip TELL₁ PILAR IX_{3-cl} SICK.

b. YESTERDAY JOAN_{cl} 3-cl TELL₁ PILAR IX_{3-ip} SICK.

‘Yesterday Joan told me that Pilar was sick.’

In LSC the main motivations forcing the localisation of a discourse referent on the two lateral areas of the horizontal plane are due to assimilation processes and economy reasons, which escape the grammatical restrictions of the language. However, when both the ipsilateral and the contralateral parts are used in the same fragment of discourse to localise two discourse referents, a contrastive relation arises. This is an overt marking of the expression of contrastive topics. That is, two clause discourses in which two discourse referents are introduced in each clause and their respective verbs predicate two different, contrasting actions. The opposed spatial locations distinguish the two discourse referents and are interpreted as contrastive topics.



a. Contralateral spatial location for referent_x



b. Ipsilateral spatial location for referent_y

Example of contrastive spatial locations

Such an example is shown below where the two discourse referents, ‘Francesc’ and ‘Joana’ are localised in the ipsilateral and the contralateral part, respectively. For each one a different predicate is expressed and the double contrast is overtly expressed with the establishment of the two spatial locations.

br
IX_{3-ip} FRANCESC TWO-IX_{1-ip} WORK TOGETHER SEE_{ip} EVERY-DAY.

br
IX_{3-cl} JOANA WORK SCHOOL ANOTHER_{cl}, TWO-IX_{1-cl} SEE_{cl} ONE_u.

‘As for Francesc, we work together and we see each other every day.
But Joana works at another school and we only see each other once in a while.’

Unless the discourse referent is reintroduced by the nominal, the association with spatial locations is kept throughout the discourse as long as there is no shift in the frame of reference.

As for the localisations on the frontal plane, different functions may be distinguished in the grammar of LSC discourse. High loci established on the frontal plane are used to refer to social hierarchical relations [Pragmatics – Section 1.1.2]. The contrast between high and low loci is associated with asymmetrical relations such as parents-children, boss-worker, professor-student, etc. In such contexts, an spatial location established on the upper part of the frontal plane denotes the individual who is higher in the social hierarchy. Definite NPs formed by common nouns such as MINISTRY, GOVERNMENT, BOSS, DEAN, FATHER^MOTHER and UNIVERSITY are generally associated with the upper part of the frontal plane. Also name signs referring to someone higher in the social hierarchy are also associated with a high spatial location. This hierarchical use is an instance of social deixis.



IX₃ GOVERNMENT

Denotation of hierarchical relations

Another abstract use of the frontal plane is that of locatives. Locative noun phrases refer to spatial locations, such as places, cities, regions and physical locations. In LSC they are usually accompanied with an index sign. This index sign tends to be localised on the upper frontal plane when denoting countries and bigger regions. Locative noun phrases are thus generally directed to an upper part of the frontal plane, both for singular (a) and for plural (b). It is interesting to note that plural indexes functioning as locatives mark correlative points in space, rather than arc-shaped movements, which are characteristic

of pronominal forms. In some contexts denoting areas within a small region or a city, the imaginary map can be extended on the horizontal plane too.



a. Singular locative



b. Plural locative

Locative signs directed towards the upper frontal plane

When more than one locative is used in a discourse fragment, they are localised on the frontal plane, which is used as if it were a map, and the distance between the places and the location is considered to be at a certain scale on the plane. This use is reminiscent of the absolute localisation where real-world locations are transferred to signing space.

The frontal plane is also used when the signer wants to convey the specificity of the discourse referent [Pragmatic – Section 1.4]. The reference of the same nominal localised on the upper and the lower frontal plane results in different interpretations, showing that specificity is overtly marked in LSC. A noun phrase localised on the lower part of the frontal plane is interpreted as specific (a), which means that the sender has a particular woman in mind while uttering it. The discourse referent is known by the sender but not by the addressee. In contrast, the nominal localised on the upper part is understood as non-specific (b), which means that neither the sender nor the addressee have a particular woman in mind while uttering the sentence. A subsequent utterance with a resumptive pronoun is infelicitous as shown with the symbol # in (b) below.

a. IX_1 INTERVIEW IX_{3-l} WOMAN. IX_{3-l} SMART.

‘I have an interview with a woman_{spec.} She is smart.’

b. IX_1 INTERVIEW IX_{3-u} WOMAN. # IX_{3-l} SMART.

‘I have an interview with a woman_{nonspec.} #She is smart.’

Another example is shown in the LSC minimal pair below. While (a) refers to a specific referent, (b) refers to a non-specific, non-identifiable one. The sentences below are graphically represented with the stills corresponding to the determiners. When the spatial location is established on the lower part of the frontal plane, it overtly expresses a specific discourse referent, while a spatial location established on the upper part is circumscribed to non-specific discourse referents.

a. $GROUP_{ip-l}$ FRIEND **SOME**_{ip-l} INSIDE IX_{3-c} HIDE DURING YEAR-TWO.

‘Some of the friends were hidden there for two years.’



Lower spatial location denoting specificity

b. IX_{3pl-ip-u} SOME₁ DENOUNCE_{3-ip-u} IX_{3-c} THERE-IS.
 ‘Someone denounced they were there.’



Upper spatial location denoting non-specificity

Importantly, the non-specific use is distinguished from the hierarchical use presented previously, since only noun phrases which are interpreted as indefinite (i.e., not being part of the common ground) are marked for non-specificity. In contrast, when denoting hierarchical relations, definite noun phrases such as name signs, pronouns and definite descriptions are used to localise the corresponding entity. The difference between these two denotations is marked with non-manuals co-articulated in non-specific contexts.

A final use of the frontal plane is the one that refers to absence of the discourse referent within the immediate physical context. This is especially notorious in LSC when the [+human] entity is a discourse referent not present in the conversation environment. Name signs, but also common nouns used to refer to someone who is not around, co-occur with an index sign pointing towards the upper part of the frontal plane. In the case of common nouns, the index sign co-occurring with the noun is not articulated with the characteristic non-manuals denoting indefiniteness. The lack of this non-manual articulation disambiguates the upper localisation denoting absence in the immediate physical context, rather than non-specificity.



a. Reference to absent discourse referent



b. Reference to present discourse referent

As shown so far, the uses of the upper part of the frontal plane in LSC split into four main functions. First, it is the area where hierarchical relations are distinguished. Second, it is the place where locative signs are mainly directed. Third, non-specificity marking is overtly expressed when discourse referents are established in this area. And fourth, non-presence in the immediate physical context, especially when denoting human individuals, is also marked with an index sign towards the upper part. Importantly, it has been shown that spatial locations established on the upper frontal plane may refer to four different meanings.

8.1.2. Topographic use

The topographic function, in contrast, is used to express spatial relations among objects and it is represented by meaningful locations that exploit the iconic properties of the visual-spatial modality. Topographic locations are meaningful by themselves, so a small change in the location affects its interpretation. In this latter case, space is used to represent spatial arrangements via signed descriptions, and thus the actual spatial relations of signs are significant. In these descriptive localisations the relations among spatial locations become significant because they represent actual spatial relations topographically. The descriptive location in (a) represents a bike leaning against a tree; and in (b), a person seated on a tree. In both cases the location of the manual articulators is meaningful.



a. Bike leaning against a tree



b. Person seated on a tree

8.2. Temporal expressions

Temporal reference in Catalan Sign Language is located on a number of temporal axes, according to the type of information to be conveyed [[Morphology – Section 3.2](#)].

Absolute time axis

For the expression of chronological time, for instance, by which we place the sentence in the present, future or past, a basic axis is used starting behind the dominant shoulder of the signer and ending in the signing space in front of the signer. Along this axis, signs referring to the past are articulated over the shoulder, and signs relating to the future are signed within the space in front of the signer. See in the following examples the articulation site for the sign YEAR referred to the past, present and future:

"Two years ago I went to Greece on holiday."

"This year I am going to buy a car."

"Next year will be the year of the Olympic Games."

When expressing a process that started in the past and still continues in the present, LSC uses the time line with the thumb of the dominant hand going from behind the shoulder to the neutral space, in which the location of the present may be marked by the thumb of the non-dominant hand: "to have been doing something for a long time", or without explicit indication of the present: "up till now".

"I have been working in the same company for 7 years."

"I have been living in Vilafranca for a long time."

But, if the process does not continue in the present, or a change has taken place in the situation mentioned, the movement of the hand will be the contrary: from the neutral space going backwards towards the shoulder, as is the case of, for example, "previously".

"Previously, I always came to work on the bus, but now I take the car."

The past is always indicated over the shoulder of the dominant hand; if recent, on the shoulder itself - as is the case of the "recently" sign. The sign moves back away from the shoulder, the further, the longer the time that passed, and repetitions will also be more frequent the longer ago the action took place, such as in "a long time ago".

"My sister-in-law recently had a baby."

"Dubbed films have been shown in this cinema for quite some time."

"A long, long time ago people lived in caves."

The past can be marked by temporal signs such as "yesterday", "the day before yesterday", "last week", "last month"...

"Last week I completely forgot to call you."

"The day before yesterday a new library was opened in my neighbourhood."

In order to refer to a process started in the present that will continue in the future, the dominant hand moves from the neutral space going forward, as in "from now on", for instance.

"From now on it will get colder, the heat is over."

In order to indicate the future, we place temporal signs along the line leaving the body and moving forward, articulating the sign closer to the body or further away according to how distant the future may be.

"We shall talk about the price later on."

"A long time from now the environment of planet Earth will be very different."

Anaphoric axis

When we refer to a series of events, we often mark the anterior and posterior time to some of these. Such anaphoric temporal reference goes along the diagonal configured by the signer's non-dominant arm within the signing space. See how the "before that" and "after that" signs are articulated.

"I want to move to my new flat before Christmas."

"After finishing all the work you can do what you please."

Sequential axis

Temporal information can also be expressed through a third axis which moves from left to right within the signer's neutral space. This is the space in which the sequences of temporal units such as hours, weekdays, months, years and periods are articulated.

"I have an exam on Tuesday, Thursday and Friday."

"The information office is open Monday to Saturday."

"From three to six years of age children are given different vaccinations."

In order to indicate hour sequences LSC uses the vertical plane in an alternate manner, and there is where the units corresponding to an imaginary clock are placed.

"I must take a pill at 3, at 6 and at 9 o'clock."

All day long...

[Check overlap with Morphology 3.2]

8.3. Perspective

Information on Data and Consultants

See the references below for information on data and consultants.

Authorship Information

Gemma Barberà

References

Barberà, G. 2014. Use and functions of spatial planes in Catalan Sign Language (LSC) discourse. *Sign Language Studies* 14 (2): 147-174.

Barberà, G. 2015. *The Meaning of Space in Sign Language. Reference, Specificity and Structure in Catalan Sign Language Discourse*. Berlin/Boston: De Gruyter Mouton and Ishara Press.

Quer, J. et al. 2005. *Gramàtica bàsica LSC*. Universitat de Barcelona & FESOCA: Barcelona.

Chapter 9. Figurative meaning

9.1. Metaphor

Metaphor has traditionally been analyzed as a poetic device: it is a linguistic expression in which words are used not in their literal meaning, but to refer to some other concepts. In a metaphor, two different concepts can be mapped on each other. In such a mapping usually a more abstract concept is mapped to and understood through a more concrete concept. Therefore, the term 'metaphor' is used to refer to such mappings, while the linguistic instantiations of metaphors are referred to as 'metaphorical expressions'.

The names of metaphors are often formulated in the form of X IS Y. Three mappings that are common in LSC are the following:

- a. Ideas are objects
- b. The mind is a container
- c. Communication is sending
- d. Ideas are liquid

The two domains mapped in metaphor (a) are ideas and objects. The concrete domain 'object' is used to express the abstract domain 'ideas.' In metaphor (b), the concrete domain 'container' is used to express the abstract domain 'mind'. In metaphor (c), the concrete domain 'sending' is used to refer to the abstract domain 'communication'.

In what follows, some signs in LSC that instantiate metaphors belonging to the three mappings are listed.

“Ideas are objects” metaphor:

-LEARN

Here the process of learning is conceptualized as putting objects in the mind, while having knowledge and being intelligent are conceptually interpreted as having a container (the mind) full of ideas. Metaphoricity is revealed in the articulators: The hand reproduces the action of physically grasping objects and putting them in the forehead.

-ADD-INFORMATION

It refers to the action of including information to complete a text (e.g., adding new data or aspects), describing a text containing ideas supposed not to be completely true (e.g., exaggerating), or retelling a text. The sign is produced with the same handshape configuration as is used while putting objects in a pile, but it uses two hands exhibiting an upward movement

-NOTICE

-LET-SOMETHING-SLIP-OUT

-KEEP

-FIGURE-OUT

-NOT-TO-ASSIMILATE

“The mind is the body” metaphor:

-EXPRESS

The sign for EXPRESS is conceptualized as the signer transferring information to the addressee. The form of the sign resembles the way in which we throw objects.

-GET-EXCITED

-LEARN-FROM-OTHERS

-ACQUIRE

-WELL-ACQUIRED

-ENOUGH

-KNOW1

-KNOW2

-LEARNING PROCESS

-FEEL-SATISFIED

-BE-CALM

-OPEN-ONSELF-UP

-INFORM

-SPILL-OUT

9.1.1. Cognitive basis of metaphors

9.1.2. Types and combinations of metaphors

9.1.3. Metaphors in grammar

9.2. Metonymy

Simple lexical metonymies in which a prototypical physical characteristic is used to represent the whole entity are common in LSC. For example, the signs for ‘bird’, ‘horse’, and ‘cow’ depict prototypical physical properties of these animals: the beak, the ears, and horns, respectively.

The different types of metonymies found in LSC are presented below.

Action for instrument:

In these types of metonymies, the action of the hands in interaction with some object represents the instrument of action. Examples include signs in LSC meaning TYPEWRITER, GUITAR, TOOTHBRUSH.

Prototypical action for activity:

The hands and their movement may also be used to represent some prototypical action

taken with some object; this in turn may come to metonymically express the general activity. In LSC, the signs DRIVE-CAR, EAT, and BATHE exemplify this.

Salient characteristic of a person for a quality:

A number of signs in LSC rely on a type of iconic, gestural metonymy in which a salient characteristic of a well-known person is extended to stand for a more general quality. These metonymies also typically involve metonymic chains. For example, the LSC sign CHARLIE-CHAPLIN is a compound that iconically depicts Chaplin's moustache and the movement of holding the cane and moving it in circles as Chapin did, thus relying on a PHYSICAL CHARACTERISTIC FOR PERSON (in this case two characteristics) metonymy.

Deviant behavioral effect for intensity of experience:

A related set of metonymies occurs in LSC in which a visible, behavioural response to some experience stands not for the causing experience itself but for the intensity of the causing experience. The LSC sign glossed as CRAZY-EYES (an iconic sign depicting the eyes open wide and moving in wild circles) means 'really good'; the sign could be used, for example, to describe delicious food. Similarly, OPEN-MOUTH means 'astonishment'.

Metonymy and name signs:

Name signs form a distinct subsystem of words in LSC, and most signed languages. Name signs function much like proper names in that they refer to a particular person instead of an object or concept common to the experience of all users of the language: TWO-FRECKLES, BIG-NOSE, SHORT-FRIDGE.

9.2.1. Metonymy vs. metaphor

9.2.2. Body as metonymy

Information on Data and Consultants

See the references below for information on data and consultants.

Authorship Information

Gemma Barberà

References

Jarque, M.J. 2005. Double mapping in metaphorical expressions of thought and communication in Catalan Sign Language. *Sign Language Studies* 5 (3): 292-316.

Jarque, M. J, I. Codorniu, M. Bosch, P. Fernández-Viader, C. García, E. Serrano & J. Segimon. 2012. Procesos de lexicalización en la LSC: Procedimientos de combinación. *Anuari de Filologia. Estudis de lingüística*. 2 : 141-176.

Wilcox, S.; P. P. Wilcox, M. J. Jarque. 2003. Mappings in conceptual space: Metonymy, metaphor, and iconicity in two signed languages. *Jezikoslovlje* 4.1: 139-156.

Chapter 10. Communicative interaction

10.1. Discourse markers

10.2. Turn taking

10.2.1. Types of turn taking constructions

10.2.1.1. Smooth turn taking

10.2.1.2. Turn taking with pause

10.2.1.3. Overlapping turns

10.2.2. Turn taking signals

10.2.2.1. Different turn taking signals

10.2.2.2. Turn-yielding signals

10.2.2.3. Turn taking signals

10.3. Back-channeling

10.4. Repairs

Chapter 11. Register and politeness

11.1. Register

11.2. Politeness

Annex 4. NGT (Sign Language of the Netherlands)

Grammar

A Reference Grammar
of
Sign Language of the
Netherlands (NGT)

Socio-Historical background

Chapter 1. History

In this chapter, the historical background of Sign Language of the Netherlands (*Nederlandse Gebarentaal*, NGT) is addressed. Three events take a central place in this history: first, the establishment of the first school for the deaf in 1790. Second, the period from 1880 to 1980 in which sign language was forbidden, or at least was hardly used in schools for the deaf (note, however, that deaf education is further discussed in **SOCIO-HISTORICAL BACKGROUND 2.4**). Third, the pioneering research of Bernard Tervoort, which showed that the signs used by deaf children were part of a real, natural language. The current chapter describes these events and ends with a state-of-the-art description on recent NGT research in the Netherlands.

For the period preceding the establishment of the first school for the deaf, i.e. up to the 18th century, hardly any documentation on deaf people in the Netherlands or on their language is available. We start, therefore, with the year 1750, around which the Frenchman Charles Michel de l'Épée (1712–1789) started teaching deaf children in Paris. He used a self-developed sign system, which closely followed the French spoken language. Henri Daniel Guyot (1753–1828) was a Dutchman who visited the lessons of de l'Épée in 1784. He was impressed by de l'Épée's methods and therefore stayed in Paris for a while to learn the sign system. Back in the Netherlands, Guyot founded the first Dutch school for the deaf in Groningen in 1790. Here, deaf children were educated through the sign system, which Guyot had adapted to the Dutch language.

During the 19th century, an international discussion evolved around the question whether deaf children should be educated through the oral or the manual method. The former, often associated with the Dutch Johann Conrad Amman (1669–1724) and the German Samuel Heinicke (1727–1790), focused strictly on education through spoken language and on speech itself, while the latter, mainly initiated and spread by de l'Épée, focused on education through a sign system. In 1880, at the Second International Congress on Education of the Deaf in Milan, it was decided that every deaf school should henceforth use the oral method. Initially, it seemed that the influence of this congress did not reach the Netherlands, since not all deaf schools immediately deferred to the oral method. But eventually, in 1906, all deaf schools – four at that time – used the oral method, and the manual method was said to be banned. Still, there are accounts indicating that some schools never completely abandoned the use of signs. For example, anecdotes and Tervoort's research (discussed later in this chapter) show that children in residential schools were certainly signing, for example during the breaks or in the dormitories. Other anecdotes further suggest that the strictness of this matter depended heavily on the school or even individual teachers: some allowed a few signs during class, others only during the breaks. Again other teachers were very strict and made sure children held each other's hands during the breaks, so that the children were completely prevented from signing. However, one conclusion that can be drawn is that the use of signs was bound to specific groups of children as well as to specific situations (e.g. breaks); it was not fully part of the daily life. Often, it was not until children left school and joined Deaf Associations that they could really acquire sign language. Taken together with the fact that adult deaf

people often felt ashamed of using sign language, due to its low social status compared to Dutch, we assume that there was little chance for NGT to develop into a national language at the time.

Because of the historical relation between the first deaf school in Paris and the first deaf school in Groningen, we would expect some similarities in the lexicons of French Sign Language and NGT. However, this has not been studied yet, and it might also be difficult to determine, as both languages have probably undergone significant changes since 1790. Looking at the current situation, there is no region in the Netherlands where we expect influence of a neighboring sign language.

The Dutchman Bernard Tervoort was the first linguist worldwide to offer a thorough linguistic description of a sign language. In the 1950's, he investigated the signs children used together at the *Instituut voor Doven* (Institute for the Deaf), the deaf school in Sint-Michielsgestel (see also **SOCIO-HISTORICAL BACKGROUND 2.4**). His original goal was to describe the influence of the “esoteric language” of the children (i.e. their signs) on the “exoteric language” of the hearing society (i.e. Dutch), but in order to do so, a thorough analysis of the signs was required first. His analytical approach included the following five steps: first, he made video recordings of two deaf girls engaging in a regular signed conversation for about 30 minutes. Second, he had the girls have another conversation, but with their mouths covered by a cloak. This was done to make sure that the girls could only rely on the signs in their communication, without articulated words. Third, he described and translated both conversations in Dutch by asking these same girls, one of their classmates, and two older deaf girls for translations. Fourth, he gave the five pupils a Dutch-to-signs-translation task in order to check his translations, after which he would ask “so this is the sign for...?”. Finally, he signed the signs himself and asked for their meanings to make sure he described and translated them correctly.

Based on his analysis, Tervoort drew a number of inferences. First of all, he concluded that the signs were part of a language: many signs had a fixed form-meaning relationship, and he saw indications of morphological and syntactic categorization. He noted that the girls had no difficulty communicating with signs, and their classmates hardly had any difficulty understanding them in the first recorded conversation. However, the second conversation was more difficult to interpret for the children, because the articulated words and facial expressions were not visible. From this, the second aspect that became clear was the importance of non-manual elements, though at the time, Tervoort considered these non-linguistic.

Because of the great share of “mimicking” and “depicting” (Tervoort 1953:100, translations by the author) in his data, and because of his observation that the language seemed to be bound to specific groups of children, he labeled it a “primitive” language (Tervoort 1953:289). Nevertheless, he had no doubts that this primitiveness was not due to the visual character of the language. Moreover, he stated that manual signs and acoustic signals are equally suitable as linguistic symbols – an extremely modern claim at the time.

After William Stokoe had offered a first analysis of the structure of American Sign Language in the 1960's, the general view on sign languages shifted. The fact that sign

languages are real, natural languages became established, and more linguists started researching sign languages. NGT also benefitted from this, and since the 1980's, NGT and other sign languages are being studied in several places in the Netherlands (see **SOCIO-HISTORICAL BACKGROUND 4.1**). Locations where sign languages are currently researched are the following: the University of Amsterdam, the University of Applied Sciences Utrecht, the Max Planck Institute for Psycholinguistics Nijmegen, the Radboud University Nijmegen, and the Leiden University.

Information on Data and Consultants

The information in this chapter is based on the references below.

Authorship Information

Ulrika Klomp

References

- Stokoe, William C. 1960 [2005]. Sign language structure: an outline of the visual communication systems of the American deaf. *Studies in Linguistics Occasional Papers* 8. Buffalo: University of Buffalo Press [*Journal of Deaf Studies and Deaf Education* 10(1). 3-37.]
- Tervoort, Bernard T. 1953. *Structurele analyse van visueel taalgebruik binnen een groep dove kinderen*. University of Amsterdam.
- Tijsseling, Corrie. 2014. "School, waar?" *Een onderzoek naar de betekenis van het Nederlandse dovenonderwijs voor de Nederlandse dovensamenleving, 1790-1990*. PhD dissertation, University of Utrecht.
- Veen, Peter van. 2012. *Verhaal halen bij doven: een geschiedenis*. Deventer: Van Tricht.

Chapter 2. The sign language community

2.1. Community characteristics

The foundation of the first school for the deaf in Groningen was the start of a (still existent) Deaf community in that region. The first Deaf Association of the Netherlands also originated in Groningen. It was named after Guyot and was founded in 1884. In 1828, a second school opened in Gemert, which later moved to Sint-Michiëlsgestel (in 1840). There has been a school for the deaf in Rotterdam since 1853. In 1888, a fourth one opened in Leiden, though education did not start until 1891; later it moved to Voorburg. The last school was founded in 1911 in Amsterdam. Consequently, Deaf people met and came together in the regions around these schools, as has been described for other Deaf communities as well. See the figure below for the locations of the schools and **SOCIO-HISTORICAL BACKGROUND 2.4** for more information on the subsequent history of the deaf schools.



The locations of the five schools for the deaf in the early 20th century.

(© Nederlands Gebarententrum)

It is important to distinguish between the Deaf community and the sign language community. The former usually only includes Deaf people who are fluent, and often native, users of NGT. In contrast, the latter refers to a broader group that does not only include mainly prelingually Deaf people who use NGT, but also deafblind people using tactile sign language as well as hearing sign language users, such as hearing parents of deaf children and hearing children of Deaf adults (CODAs), interpreters, and other second language learners. In this chapter, we focus on the latter category and address characteristics of its members.

Prelingually Deaf people constitute the core of the sign language community in the Netherlands. Especially the generation raised with NGT (during the 1990's) typically has a strong Deaf identity and feels culturally connected with other Deaf people, both within the Netherlands and abroad. However, this does not mean that all prelingually deaf people identify with the sign language community. Some members of the older generation of deaf people, who hardly had any access to sign language in school, are an example of this. At the other end of the age-spectrum, it also goes for the most recent generation of deaf-born children, of whom 95% receives a cochlear implant. Currently (2018), most deaf children attend mainstream education with no education in sign language. For these children, the use of NGT depends on the choice of their (mostly hearing) parents concerning sign language usage.

2.2. Sign language users

It is hard to provide concrete numbers on deaf people, heard-of-hearing people, and sign language users in the Netherlands since various sources provide different numbers. The National Hearing Foundation reports that there are about 1.6 million people with a hearing loss (varying from mild to very severe) in the Netherlands (in 2017). For most hard-of-hearing people, the connection to and involvement with the sign language community depends on the degree of hearing loss, the age of onset of hearing loss, their (primary) education, the language they use most, and which community they identify with. Some feel part of the sign language community and stimulate other hard-of-hearing people to sign as well; others consider themselves as part of the hearing, speaking community and do not use sign language. There is also an intermediate group which uses Sign-Supported Dutch (SSD), a manual communication system based (to some degree) on spoken Dutch, mostly with people close to them. Usually, this group is not considered a part of the sign language community.

In their extensive study on deaf adults, Breed & Swaans-Joha looked into the number of prelingually deaf adults in the Netherlands in 1986 and estimated this number at 4,000, based on old school archives (assuming every deaf person went to a deaf school). In 1997, the committee *Meer dan een gebaar* ('More than a sign', a committee established to look into (implementations of) official recognition of NGT) reports numbers derived from a population examination in 1986/1988 and 1990, in which the number of all people with a severe hearing loss was estimated to be 24,000 (CBS/NIMAWO 1986/1988, 1990). Of these 24,000 people, 7,500 people were prelingually deaf, 1,000 were sudden-deaf, and 6,000 were deaf as a consequence of age. Since 2005, the National Hearing Foundation assumes that about 45,000 people in the Netherlands have a highly severe hearing loss.

Based on more recent numbers, it can be said that 0.1% of the children in the Netherlands is born with a hearing loss of at least 40 dB in both ears. Currently, in 2018, the total population in the Netherlands is set at about 17 million people, which means we can expect that about 17,000 people from the current population were born with at least a moderate hearing loss. This group is most likely to become sign language users, but the exact

current number of sign language users is unknown. Taking all these numbers in consideration, we estimate that at most 7,500 people in the Netherlands are Deaf NGT users.

Regarding deaf people with a cochlear implant, it is known that up until 2015, 5,805 people received one or two implants in the Netherlands. However, the actual number of people still using it is probably lower, since not everyone continues using it. Note that this number includes deafblind, sudden and late deafened people.

Most people who become deaf at a later age have no intention of involvement in the sign language community. However, there is a foundation which specifically aims at providing communication courses to individuals experiencing sudden or late deafness, for example courses in SSD or NGT. This way, people belonging to this group gain access to signs or sign language, may get in contact with the sign language community, and may eventually become involved. To our knowledge, no recent numbers are available.

Concerning the number of deafblind people in the Netherlands, the estimations vary greatly: whereas the committee *Meer dan een gebaar* estimated this number at 5,000 in 1997 (of whom a subgroup overlaps with the number of deaf-born children), the foundation Bartiméus (specialist in low vision and blindness) estimates that there are currently between 33,000 and 38,000 deafblind people. According to Bartiméus, this number is composed of the following groups: about 2,000 people who were born deafblind, about 1,000 people who became deafblind at a later age but before the age of 55, and between 30,000 and 35,000 people who became deafblind as a consequence of aging and at an advanced age (55+).

This means that the majority of deafblind people in the Netherlands became deafblind at a later age, and this group usually does not learn NGT. Also for this group, the use of signs depends on various factors, such as the degree of hearing loss, the age at which they became deaf, whether the hearing loss followed the loss of sight or vice versa, etcetera. Importantly, however, deafblind people who do use (tactile) NGT are usually considered a sub-community within the sign language community.

The last group we would like to discuss here is the group of hearing signers. The role of hearing signers within the sign language community has always been a point of debate. On the one hand, many Deaf signers are open to hearing signers in general and family members of deaf children and Deaf adults in particular. This is exemplified by the current policy of the Foundation for the Well-Being of the Deaf in Amsterdam (*Stichting Welzijn Doven Amsterdam*, SWDA), as their website explicitly states that their meeting center is a place for both deaf and hearing people. Similarly, in a short movie clip about the Deaf community, made by two Dutch Deaf people, hearing people are included and labeled “culturally Deaf”. Hearing parents of deaf children are encouraged by the sign language community to learn NGT and to raise their child bilingually. On the other hand, some Deaf signers are critical towards hearing signers, specifically if they are non-fluent signers but still work with deaf children or as a sign language teacher.

A specific group of hearing signers are hearing children of Deaf adults (CODAs). Some CODAs report that they feel as if they belong to two worlds: the deaf and the hearing world. If so, they can feel part of the sign language community, although they not always feel accepted by the sign language community.

Another specific group are hearing sign language interpreters and teachers. On October 25, 2016, there were 508 interpreters registered in the Dutch Register of Sign Language Interpreters and Speech-to-text Interpreters (*Register Tolken Gebarentaal en Schrijftolken*, RTGS). We assume that every active interpreter is registered here, since users of interpreters can consult this overview to find an interpreter. In addition, there is an educational program to become a sign language teacher; this program is open to both deaf and hearing students. However, it is not clear how many NGT teachers are active at the moment. We do know that currently (August, 2016) 47 NGT teachers are a member of the Foundation for Teachers of Living Languages (*Vereniging van Leraren in Levende Talen*, VLLT). Furthermore, an estimate of this foundation is that there are less than 200 active NGT teachers.

Considering all hearing sign language users together, *Meer dan een gebaar* estimated that this group consisted of 5.500 people in 1997; this number was partly based on the assumption that 300 people per year learn NGT. Since many of the organizations that used to offer sign language courses to family members of deaf children switched to offering mainly SSD courses, one could assume that this number is in decline; on the other hand, there are more interpreters now than there were at the time (see below), and a training to become an NGT teacher has been established. In addition, there are regular courses on NGT for the general public, provided for instance by Deaf Associations.

Regarding the relationship of the sign language community to the hearing majority in the Netherlands, we can state that many hearing people in the Netherlands have no knowledge of the sign language community and that quite a few misconceptions about deafness and sign language still exist. Although most Dutch people have some notion of concepts such as deafness, sign language, schools for the deaf, hearing aids and interpreters, knowledge on these topics is generally limited and biased. Most people tend to be surprised when they are told about Deaf people constituting linguistic and cultural minority, about that fact that sign language is not international, or about the prevalence of deafness.

Regarding NGT, the attitude seems to be mixed; whereas some hearing people are highly interested in NGT and would like to learn it, others feel uncomfortable when they see signing and the accompanying non-manual elements. This latter unease could be attributed to a cultural difference; according to some Deaf people, Dutch hearing people can be quite stiff and therefore show little non-manual expression.

2.3. Deaf culture

The first question Deaf people ask each other, when they meet for the first time, is commonly about education: Where did you go to school? The answer to this simple question is often sufficient to tell whether the interlocutor has had sign language education or oral education, and, in case of the first option, which variants of signs were used. In this section, we address specific aspects of the Dutch Deaf culture, like the above-mentioned communicative ritual, but also cultural expressions such as theatre and storytelling. This overview shows that involvement in the Deaf culture and cultural expressions are valued in the Dutch Deaf community.

Theatre. Within the Deaf Associations, people regularly played amateur theatre together. One of the early highlights of Deaf theatre in the Netherlands was the performance of the play *Marie Jeanne of de Vrouw uit de Volksklasse* (Marie Jeanne or The Woman of the Lower Class), played by the Deaf Association Guyot in 1898, in a sold-out theatre (see figure below).

De Algemeene Nederlandsche Doofstommen-Vereeniging »Guyot», zal eene tooneelvoorstelling in Gebarentaal geven op Dinsdag 15 Maart a.s. in de Schouwburg Franschelaan, dir. Stoel en Spree ten tooneele zal opgevoerd worden *Marie Jeanne, de Vrouw uit de Volksklasse*. Regie van den heer Jb. Salomons, doofstom.

Announcement in the *Amsterdammer* of the play *Marie Jeanne, de Vrouw uit de Volksklasse*, performed in sign language, 1898 (archive Groene Amsterdammer).

In the 1970's, key figures Jean Couprie and Wim Emmerik started their acting career as mime players, performing also internationally. In 1988, Jean Couprie was the first Deaf person to graduate as a drama teacher. In 1990, Jean and Wim founded the *Handtheater* (Hand Theatre), together with John van Gelder, Mieke Julien and Gert-Jan de Kleer. The main goal of the *Handtheater* was to provide both theatre and cultural education in sign language. Unfortunately, in 2015, the organizing committee had to stop due to a lack of funding, but in their 25 years of existence, the *Handtheater* not only produced about 50 performances but also organized acting classes and developed educational material on deafness and sign language. Many performances were bilingual (NGT and Dutch), and all of their work is archived at www.handtheater.nl (in Dutch). Furthermore, Jean devoted his whole career to developing theatre for the Deaf, nationally and internationally. The Jean Couprie foundation continues in this spirit by organizing theatre camps for children and youth that use sign language and by stimulating young Deaf and hard-of-hearing actors.

Poetry. Wim Emmerik (1940–015) is the best-known Dutch Deaf poet. In 1993, he published a video tape with various poems on all kinds of subjects and with a diversity of styles. He performed at Poetry International and other festivals around the world. In 2005, a DVD with video poems came out, performed by him and Giselle Meyer, all with translations in Dutch and English. In 2017, a website was developed in remembrance of him and his poetry: www.wimemmerik.nl. Furthermore, one of his poems got honored by being permanently displayed in the *Hortus Botanicus* in Leiden.

Storytelling. The foundation Vi-taal, established by Ruud Janssen and Tony Bloem in 1985, has as its main goal to develop sign language products. They focus especially on cultural products like short stories in NGT, translations of theatre plays in NGT, bilingual (NGT and Dutch) children's books, and informative stories on famous artists in NGT. Along

with the foundation came the *Gebarenwinkel* (Sign Shop), which still exists and sells products that have to do with NGT. The work of Vi-taal can be found online at www.haagsekunstgrepen.nl and www.vitaaldenhaag.org.

Leesvertelwedstrijd (Read & Narrate Contest). From 1998 onwards, an annual storytelling contest is organized for all deaf schoolchildren in the Netherlands: the *Leesvertelwedstrijd*. This is one of the few national events for children in which sign language use is stimulated and promoted. One of the organizers is the *Stichting Woord & Gebaar* (Foundation Word & Sign).

MuteSounds. This is a festival for Deaf, hard-of-hearing and hearing people and takes place in The Hague and/or Scheveningen, focusing on translating music into an experience for all senses. What started as a graduation project with a one-evening party has now turned into a very popular annual whole-day festival.

Sencity. Another festival for a broad public that aims at multi-sensory experiences is Sencity. It was organized for the first time in 2003 (then called Deaf Valley) and since then has been organized twice a year. Often, there are performances of music artists with sign/music interpreters, international deaf artists, sign language workshops, ‘aroma jockeys’, and floors vibrating to the music.

Sign restaurant and sign café. Several Deaf Associations organize ‘sign restaurants’ or ‘sign cafés’, which means that dinner or drinks, respectively, are served in an environment where everyone uses sign language.

World Deaf Day. Since 2003, World Deaf Day (*Werelddovendag*) is annually being celebrated in the Netherlands. From 2003 to 2015 it was organized around the fourth Saturday of September at various locations. In 2016, a small, more local variant took place in Rotterdam. The day is mostly organized around a theme and hosts several activities, information stands and workshops. Most of all, it functions as a forum to meet Deaf people from all over the country.

Media. The earlier-mentioned foundation *Woord & Gebaar* distributes a unique, independent and nationally known magazine (also named *Woord & Gebaar*) which includes news relating to the Deaf community and NGT, subscribing to a positive perspective on deafness. Another foundation, DoofCentraal, aims at making Deaf culture more visible in the Netherlands, and providing short news items (called *Duo Tres*) in NGT. They publish their news items on Facebook: <https://www.facebook.com/DoofCentraal/>. Other important websites are the following:

- i) www.doof.nl, with news on all topics related to hearing-issues;
- ii) www.doofgewoon.nl (lit. Deaf normal), “aims to inform parents of deaf children about what else there is in the lives of deaf children and deaf adults aside from the hearing loss. The site presents information about deaf culture, multilingualism, and sign language, and lets parents and deaf people speak out themselves. Being deaf turns out to be rather normal”.
- iii) Facebook groups, where Deaf people (and sometimes hearing signers) provide and exchange information about a wide range of topics. One example of such a group is the group *Visuele discussie in gebarentaal* (Visual discussion in sign language): here, information about important national topics (e.g. elections) is exchanged, people share experiences regarding

their deafness, ask others for opinions on cochlear implants, or ask for specific signs. It is the group's intention to communicate primarily in NGT.

List of active associations for the Deaf and hard-of-hearing in the Netherlands (as of 2018):

Divers Doof

Dordtse Stichting Welzijn Doven (Dorswedo)

Dovenschap

Dovenshoah

FODOK

Hoor Friesland

Nederlandse dove jongeren

Het Roze Gebaar

Stichting Clubhuis voor Doven Groningen

Stichting Flevoland Doven (Flevodo)

Stichting Hoormij

Stichting Nederlandse Doven Jongeren (NDJ)

Stichting Plots- en laatdoven

Stichting Samenwerkende Utrechtse Doven Organisaties (SUDO)

Stichting Sociaal Cultureel & Recreatief Centrum voor Doven (SSCRCvD)

Stichting Welzijn & Zorg Doven Zuid Holland (WeZoDo)

Stichting Welzijn Doven Amsterdam (SWDA)

Stichting Welzijn Doven Drenthe (SWDD)

Gelderse Welzijnsstichting Doven (GeWeDo)

Nijmeegs Welzijn Doven (NijWeDo)

Stichting Welzijn Doven Rotterdam (SweDoRo)

Stichting Zo Hoort Het

Zeeuwse Stichting Welzijn Doven (Zeedo)

2.4. Deaf education

In 1755, Charles Michel de l'Épée (1712–1789) founded the first school with classroom-based education for the deaf in Paris. When he observed his first deaf pupils, he noted that they used signs and in his view, sign language was the most natural way of communication for deaf people. Therefore, he implemented these 'natural signs' in his teaching method. His goal was to teach the children to read and write French and therefore, he also developed signs that depicted elements of the French grammar (e.g. signs for plural affixes). The Dutchmen Henri Daniel Guyot visited the lessons of l'Épée in 1784, learned his method, and took the newly gained experience back with him to the Netherlands. He founded the first school for the deaf in Groningen in 1790 and also used the manual method, adapted to the Dutch language. Initially, children that came from outside Groningen stayed with foster families but later, the school became a boarding school with separate houses for boys and girls. The institute was not linked to a specific religion, although Guyot was a Christian preacher and maintained

Christian values at his institute. In the weekends, children could attend catechism of various religions, and they had to take a confession of faith when they finished school.

The second school for the deaf was a Catholic one and was opened in 1840 in Sint-Michielsgestel. It was initiated by a pastor, Henricus den Dubbelden (1769–1851) but the children were taught by chaplain Martinus van Beek (1790–1872). Religion played a large role in the curriculum. It was a boarding school as well, with complete separation of boys and girls. Like de l'Épée, van Beek developed a sign system based on the surrounding spoken language that was used as a teaching method.

In the Western part of the Netherlands, a third institute opened in 1853, which took a different approach: it used spoken language only, and children were placed with foster families. The reason for this was due to the strong belief of founder Hirsch (1813–1895) that deaf children should merge in with society by living with hearing families. At the same time, probably partly due to the choice of the school in Rotterdam to teach through the oral method, the discussion on the use of signs in education for the deaf revived. This debate was not unique in the Netherlands, as can be seen from the international congress on deaf education in 1880 (see [SOCIO-HISTORICAL BACKGROUND 1.2](#)). This bookmarked a century-long period in which spoken language was the absolute norm and in which also the last school that was still using signs after the conference, Sint-Michielsgestel's school, switched to the oral method. The Groningen school already changed their ways in 1864.

The Effatha institute was the fourth school to be established, and it opened its doors in 1891 in Leiden. It used the oral method from the start and aimed specifically at a Reformed approach in education and upbringing. Originally, it was planned to host the children with foster families and not use a boarding house, but since the first group of registered children was rather small, it was decided differently: the first four children would live with the head teacher and his wife, who were asked to be guiding parents for these children. Later, they kept with this approach so they became a residential school after all. In 1899, the school moved to Dordrecht and later to Voorburg.

The fifth school was founded in Amsterdam in 1910 by an ear-doctor named Hendrik Burger (1864–1957). He noticed that the other schools only educated children from 6 years and older, whereas other countries started with younger children, and he wanted to follow this latter approach. This was an important reason to make this school a day school and not a residential one; if the children could still live at home, the parents would be motivated to bring them in at a younger age. At that time, deaf children registered in the other schools usually started coming in at the age of 6, whereas this school eventually enrolled children from the age of 3. It was a public school and children from all religious backgrounds were welcome.

Information on Data and Consultants

The information in this chapter is based on the references below.

Authorship Information

Ulrika Klomp

References

- Balder, Anneke, Irma Bosman, Rick van Dijk, Lieve Roets, Trude Schermer & Ton Stiekema. 2000. *Over doofblindheid: communicatie en omgang*. Utrecht: Agiel.
- Breed, Petrus C.M. & Bernardine C. Swaans-Joha. 1986. *Doven in Nederland: een exploratief onderzoek naar de leefsituatie van volwassen dove mensen in relatie tot opvoeding en onderwijs*. PhD dissertation, University of Amsterdam.
- Commissie Erkenning Nederlandse Gebarentaal. 1997. *Méér dan een gebaar*. Den Haag: Sdu.
- Handtheater. 1997. Ooggetuigenverslag 2: horenden in de dovenwereld, zegen of ramp? http://www.handtheater.nl/downloads/E_1997_OOGgetuigen_Verslag%202.pdf
- Handtheater. 1998. Ooggetuigenverslag 3: dove ouders en horende kinderen. http://www.handtheater.nl/downloads/E_1997_OOGgetuigen_Verslag%203.pdf
- Johnston, Trevor A. 2004. W(h)ither the Deaf Community? Population, genetics, and the future of Australian Sign Language. *American Annals of the Deaf* 148(5). 358–375.
- Rietveld-van Wingerden, Marjoke. 2003. Educating the deaf in the Netherlands: A methodological controversy in historical perspective. *History of Education* 32(4). 401–416.
- Tijsseling, Corrie. 2014. “School, waar?” *Een onderzoek naar de betekenis van het Nederlandse dovenonderwijs voor de Nederlandse dovensamenleving, 1790-1990*. PhD dissertation, University of Utrecht.
- Wheatley, Mark & Annika Pabsch. 2012. *Sign language legislation in the European Union* (2nd ed.). Brussels: EUD.

Websites:

www.bartimeus.nl

www.codanederland.nl

www.diversdoof.nl

www.doof.amsterdam

www.doofcentraal.nl

www.doofgewoon.nl

www.dorswedo.nl

www.dovejongeren.nl

www.dovejongeren.nl

www.dovenclubhuis.nl

www.dovenschap.nl/

www.dovenshoah.nl

www.flevodo.nl

www.fodok.nl

www.groene.nl

www.haagsekunstgrepen.nl
www.handtheater.nl
www.hoorfriesland.nl
www.hoorstichting.nl
<http://www.jctfonds.nl/>
www.nijwedo.nl
www.opciweb.nl
www.rozegebaar.coc.nl/
www.stichtinghoormij.nl
www.stichtingplotsdoven.nl
www.stichtingrtgs.nl
www.sudo-utrecht.nl
www.swdd.nl
www.swedoro.nl
www.vitaaldenhaag.org
www.wezodo.nl
www.wimemmerik.nl
www.woordengebaar.nl
<https://www.youtube.com/watch?v=a1giDMZ5D8c>
www.zeedo.nl
www.zohoorthet.nl

Chapter 3. Status

3.1. Current legislation

Despite repeated efforts, NGT is not officially recognized as a minority language in the Netherlands. In October 2016, a private members bill was submitted to change this, but at the moment of writing (February 2018), the Lower House has not voted on the bill yet.

3.2. Language policy

There are two trends in language policies that we would like to pay attention to here. First, the language policies in the education of the deaf; second, the language policy regarding NGT in general.

After the period of oppression of sign language at the deaf schools (see **SOCIO-HISTORICAL BACKGROUND 1**), a period of Total Communication began (1980–1995). Total Communication simply meant that every means of communication was now allowed, i.e. through speech, signs, images, etcetera. In practice, it meant that hearing teachers learned signs and started to use Sign Supported Dutch (SSD) in their classrooms. In 1995, the Guyot school in Groningen was the first school to adapt a fully NGT & Dutch bilingual approach. However, the bilingual policy did not last very long, which has several probable causes. First of all, there has been an increase of deaf children with a cochlear implant, roughly since the 2000's, and most of the parents of these children prefer the use of Dutch and/or SSD instead of NGT. In addition, the educational system recently started to implement a strategy called *passend onderwijs* (fitting education), which means that, whenever possible, children should attend mainstream education, and it is the schools responsibility to make it fit for every child. As a consequence, schools for the deaf are closing down or are facing a different target group, e.g. children with multiple disabilities. This has an effect on the characteristics of the schools and language policy, and on the qualities of the teachers. At the moment, there are a few still fully bilingual schools for the deaf in the Netherlands, but the number of children that is going there, i.e. receiving bilingual education, is definitely decreasing.

Regarding policies for NGT in general, it is important to address the STABOL (standardization of basic lexicon) project, that was carried out between 1999 and 2011. This project was aimed at standardizing and modernizing part of the NGT lexicon, and was done specifically to meet requirements of the government to standardize part of the lexicon so that NGT could be recognized as an official language in the Netherlands. Since the idea of standardization met with opposition from linguists and the Deaf community, it was decided that only signs that were new and/or used at Deaf schools would be standardized, i.e. a lexicon of about five thousand signs. The project group responsible for this task developed a set of guidelines, which can be found in Schermer (2003). Unfortunately, after the project was finished, the government still did not recognize NGT as an official language (see **SOCIO-HISTORICAL BACKGROUND 3.1**).

3.3. Language attitudes

No recent research has been done on the current language attitudes towards NGT, but informal conversations and sources show that Dutch signing Deaf people are generally proud of 'their' NGT. In 2016, prior to the submission of the private members bill on official recognition of NGT, there was a trend on social media in which Dutch signers posted a video in which they declared that NGT was their native language, and asked for support of this law. In the same period, another trend was going on in which Dutch signers posted videos with their favourite NGT sign. Both movements show a positive attitude towards NGT.

Information on Data and Consultants

The information in this chapter is based on the references below.

Authorship Information

Ulrika Klomp

References

Schermer, Trude. 2003. From variant to standard: An overview of the standardization process of the lexicon of Sign Language of the Netherlands over two decades. *Sign Language Studies* 3(4). 469–486.

Schermer, Trude. 2012. Sign language planning in the Netherlands between 1980 and 2010. *Sign Language Studies* 12(4). 467–493.

Websites:

www.passendonderwijs.nl

<https://www.tweedekamer.nl/kamerstukken/wetsvoorstellen/detail?cfg=wetsvoorsteldetails&qry=wetsvoorstel%3A34562>

Chapter 4. Linguistic study

4.1. Grammatical description

After the pioneering research of Tervoort (1953), research on NGT really got started in the 1980's. Tervoort and others published a book on “new insights into the communication of the deaf” (Tervoort (ed.) 1983). Subsequently, a first phonological analysis of handshapes was conducted by Harder & Schermer (1986). Schermer's dissertation on mouthings/oral components in NGT, came out in 1990. The research on morpho-syntactic aspects of NGT started with Bos et al. (1988) with a small report on person and location marking. Bos (1990) continues to focus on this topic, and on agreement in general (1993). Syntactic aspects were investigated by Coerts (1990, 1992), and Knoors studied acquisition of agreement and of the signing space (1992). In 1991, a first book was written on the grammar of NGT (Schermer et al. 1991).

Since 2000, several scholars have focused on the phonology and phonetics of NGT (Crasborn, van der Kooij, van der Hulst), mainly in Nijmegen and Leiden. In Amsterdam, the focus lies with morphology and syntax (Pfau). The Dutch Sign Centre (Gebarententrum) tends to focus on lexicographic work (see **SOCIO-HISTORICAL BACKGROUND 4.2**) but also performs grammatical studies (Cokart, Schermer).

4.2. Lexicographic work

During the 1980's, a first inventarisation of the signs used in the Netherlands was done. This was done in the light of the *KOMVA* (*Kommunikatieve Vaardigheden*, communicative competences) project (1982–1990) and resulted in the description of 15.000 signs. Currently, the most lexicographic work is done by the Dutch Sign Centre, which develop theme-centred dvd-roms and books. On the dvd-roms, clips of signs are provided, sometimes with example sentences. The books have drawings with symbols to account for movement. Furthermore, they developed and host a large online NGT dictionary, of which a small part is freely available. Based on this, a print dictionary with over 3.000 lexemes was published in 2009 in cooperation with a large national publisher that publishes dictionaries in print form.

4.3. Corpora

The largest corpus of NGT is the one developed by Onno Crasborn, Inge Zwitserlood & Johan Ros, published in 2008. In this first release, 92 signers from the whole Netherlands participated. At the moment, work is done on expansion of this corpus. In addition, there are three small-scale corpora developed in Amsterdam and Nijmegen, of which two are meant for studies on mother-child interaction and sign language acquisition, and the third for general signer interaction.

4.4. Sociolinguistic variation

It is known that there is lexical variation in NGT, which originated from the several deaf schools in the Netherlands. Specifically signs from the Southern region used to be significantly different from signs in the rest of the Netherlands. This might have been the result of the fact that a different sign system was used at the school in Sint-Michielsgestel than in Groningen, and of the different policies at the schools regarding the use of signs (SOCIO-HISTORICAL BACKGROUND 2.4). There was regular contact between Deaf people in the North and in the West of the Netherlands, which explained why they found quite some similarities in the signs from these regions. However, nowadays, specifically the signs from these regions are considered to be quite different.

We know very little of variation that is related to other sociolinguistic factors. In addition, little research has been done on grammatical differences.

Information on Data and Consultants

The information in this chapter is based on the references below.

Authorship Information

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References

- Bos, Heleen, Lies Alons, Wim Emmerik, Beppie Hulst, Petra Kern, Mari-Janne Padmos & Debora Timmerman. 1988. *Persoons- en locatiemarkering: een onderzoek naar acht directionele werkwoorden in de Nederlandse Gebarentaal*. Eindverslag van de onderzoeksgroep gebarentaal. Unpublished manuscript.
- Bos, Heleen. 1990. Person and location marking in Sign Language of the Netherlands: Some implications of a spatially expressed syntactic system. In Prillwitz, Siegmund & Tomas Vollhaber (eds.), *Current trends in European Sign Language Research: Proceedings of the Third European Congress on Sign Language Research*, 231-246. Hamburg: Signum.
- Bos, Heleen. 1993. Agreement and prodrop in Sign Language of the Netherlands. *Linguistics in the Netherlands* 10. 37–47.
- Coerts, Jane. 1990. The analysis of interrogatives and negations in Sign Language of the Netherlands. In Prillwitz, Siegmund & Tomas Vollhaber (eds.), *Current trends in European Sign Language Research: Proceedings of the Third European Congress on Sign Language Research*, 265-277. Hamburg: Signum.
- Coerts, Jane. 1992. *Nonmanual grammatical markers: An analysis of interrogatives, negations and topicalisations in Sign Language of the Netherlands*. PhD dissertation, University of Amsterdam.

- Gijn, Ingeborg van. 2004. *The quest for syntactic dependency. Sentential complementation in Sign Language of the Netherlands*. Utrecht: LOT.
- Harder, Rita & Trude Schermer. 1986. A first phonological analysis of handshapes in the Sign Language of the Netherlands (SLN). In Bernard T. Tervoort (ed.), *Signs of life: Proceedings of the Second European congress on sign language research (Amsterdam July 14-18, 1985)*, 47–51. Amsterdam: NSDSK.
- Knoors, H. 1992. *Exploratie van de gebarenruimte. Een onderzoek naar de verwerving van ruimtelijke morfosyntactische gebarentaalstructuren door dove kinderen met horende ouders*. PhD dissertation, University of Amsterdam. Delft: Eburon.
- Schermer, Trude. 1990. *In search of a language. Influences from spoken Dutch on Sign Language of the Netherlands*. PhD dissertation, University of Amsterdam. Delft: Eburon.
- Schermer, Trude, Connie Fortgens, Rita Harder & Esther de Nobel (eds.). 1991. *De Nederlandse Gebarentaal*. Twello: NSDSK / Van Tricht.
- Tervoort, Bernard T. 1953. *Structurele analyse van visueel taalgebruik binnen een groep dove kinderen*. PhD dissertation, University of Amsterdam.
- Tervoort, Bernard T. (ed.). 1983. *Hand over hand, Nieuwe inzichten in de communicatie van doven*. Muiderberg: Coutinho.

Corpora and websites:

www.gebarententrum.nl

Baker, Anne & Beppie van den Bogaerde (1988–1996). *IPROSLA*. University of Amsterdam. URL:

<https://corpus1.mpi.nl/ds/asv/?jsessionid=815E5651A5A8EE9D8253C90ADFA2E952?0&openpath=node:1457373>

Crasborn, Onno, Inge Zwitterlood & Johan Ros (2008). *Het Corpus NGT. Een digitaal open accesscorpus van filmpjes en annotaties van de Nederlandse Gebarentaal*. Centre for Language Studies, Radboud Universiteit Nijmegen. URL: <http://www.ru.nl/corpusngt/>.

Fikkert, Paula, Onno Crasborn & Merel van Zuilen (2008–2012). *IPROSLA*. Radboud University Nijmegen. URL:

<https://corpus1.mpi.nl/ds/asv/?jsessionid=815E5651A5A8EE9D8253C90ADFA2E952?0&openpath=node:1457373>

Syntax

Chapter 1. Sentence types

1.1 Declaratives

Declaratives are the most unmarked and thus most frequent sentence type. They are used to express statements, to make something known, to explain or to describe. We will briefly describe their properties here, as they will serve as point of reference for the subsequent description of other sentence types. Details of their structure, most importantly word order, will be discussed in subsequent chapters. When it comes to declaratives, an important distinction concerns regular declaratives versus locative sentences (e.g. ‘The book lies on the table’); only the former type will be addressed in this section.

NGT does not have a specific (manual or non-manual) strategy of marking declaratives. Two word orders are attested for declaratives in NGT: SVO (see example (a)) and SOV (see example (b)). Furthermore, declaratives can be simple – as is true for the two examples below – or complex. In the latter case, we mean constructions involving coordination or embedding (see [SYNTAX 3.1](#) and [SYNTAX 3.2](#), respectively).

- a. MARIJKE BUY BOOK
 ‘Marijke buys a book.’

- b. MARIJKE CAPPUCCINO DRINK
 ‘Marijke drinks a cappuccino.’

Declaratives can be further subdivided into affirmatives and negatives. An affirmative (or positive) sentence is used to express the validity or truth of a basic assertion, while a negative sentence expresses its falsity. The examples above are affirmative, while the example below is negative.

_____ neg
MARIJKE PRESENT
‘Marijke is not present.’

1.2 Interrogatives

Interrogatives are generally used to realize a question. There are different types of interrogatives, namely polar interrogatives, alternative interrogatives, and content interrogatives. Polar interrogatives (or yes/no questions) can generally be answered by ‘yes’ or ‘no’, since they ask whether a certain state of affairs holds or not. Content interrogatives (or open questions) ask for specific missing information and elicit a more elaborate answer. They are often marked by a specific group of words/signs, so-called wh-elements that refer to the missing part of information, such as *what*, *who*, etc. Alternative interrogatives, finally, present two or more options for the addressee to reply.

Furthermore, a distinction is made between direct and indirect interrogatives. Below, example (a) provides a direct polar interrogative, while (b) shows an indirect content interrogative.

- _____ y/n
a. MARLOES ILL
'Is Marloes ill?'
- b. TESSA ₃ASK₁ IX₁ DRINK WHAT
'Tessa asked me what I would like to drink.'

1.2.1. Polar interrogatives

1.2.1.1. Non-manual markers in polar interrogatives

Polar interrogatives (or yes/no questions) are marked by:

- (i) Raised eyebrows
- (ii) Head movement forward

The forward head movement often occurs with other head movements such as a head turn or tilt. The non-manual marking is obligatory and is generally expressed simultaneously with the manual part of the interrogative.

_____ y/n
TOMORROW PRESENT_{3a}
'Is he present tomorrow?' (Coerts 1992: 191)

1.2.1.2. Word order changes between declaratives and polar interrogatives

Polar interrogatives are not characterized by a specific word order; the word order is the same as in a declarative clause.

1.2.1.3. Interrogative particles

NGT has an interrogative particle that is generally glossed as PALM-UP, see the figure below. The particle occurs sentence-finally in polar questions (and, as we shall see later, also in content interrogatives).



PALM-UP

The PALM-UP particle is not used exclusively for interrogatives, as it also serves several other grammatical and discourse functions (see e.g. [PRAGMATICS 10.1](#)).

1.2.2. Alternative interrogatives

1.2.3. Content interrogatives

1.2.3.1. Non-manual markers in content interrogatives

Content interrogatives (or: *wh*-questions) are marked by:

- (i) Furrowed or raised eyebrows
- (ii) Chin up

Whether the eyebrows are furrowed or raised is generally dependent on the context (NGC). The non-manual marking is obligatory and generally expressed simultaneously with the manual part of the interrogative.

 wh
WHERE FOUND IX_{3b}
'Where did you find it (the dog)?' (Coerts 1992: 204)

1.2.3.2. List of *wh*-signs

The following signs can be used in *wh*-questions:



WHAT



WHO



WHEN



WHERE



WHY



HOW



HOW-MANY



General interrogative sign

Furthermore, NGT has a general interrogative sign that can be accompanied by a specifying mouthing (see the last figure above). This sign can also function as an interrogative particle, when it is used in combination with a specific *wh*-sign (see [SYNTAX 1.2.3.9](#)).

1.2.3.3. Content interrogatives without *wh*-signs

In certain contexts, the *wh*-sign can be left out, but note that the non-manual marking is still present:

wh
IX₁ SUITCASE
'Where is my suitcase?' (Coert 1992: 135)

1.2.3.4. Non-interrogative uses of *wh*-signs

1.2.3.5. Position of *wh*-signs

The *wh*-sign can appear in sentence-initial position and in sentence-final position.

- a. VADIM CALL WHO
'Who is Vadim calling?'
- b. WHERE MARIJKE LIVE
'Where does Marijke live?'

1.2.3.6. Split between the *wh*-sign and its restriction

1.2.3.7. Doubling of the *wh*-sign

The *wh*-sign can be doubled and appear both in sentence-initial and sentence-final position.

wh
WHERE KEEP PALM-UP AIRPLANE WHERE
'What's keeping the airplane?' (Coerts 1992: 203)

1.2.3.8. Multiple *wh*-signs in interrogatives

1.2.3.9. Interrogative particles

NGT has an interrogative particle that is generally glossed as PALM-UP. It occurs sentence-finally, in both polar and content interrogatives. See [SYNTAX 1.2.1.3](#) for a picture of the sign.

MEAN WHAT FOR CHILD WANT IX_{parents} PALM-UP

'I mean what do the parents want for their child?' (van Loon 2012: 85)

The sign PALM-UP can also function as a general interrogative sign, i.e. it can appear without a *wh*-sign in a *wh*-question. In these cases, the accompanying mouthing specifies the meaning of the sign. However, the sign is not used exclusively for interrogatives, as it also serves several other discourse functions (see e.g. **PRAGMATICS 10.1**).

1.3. Imperatives

1.3.1. Subtypes of imperatives

1.3.1.1. Orders

1.3.1.2. Invitations

1.3.1.3. Suggestions/advice

1.3.1.4. Permissions

1.3.1.5. Instructions

1.3.1.6. Recommendations

1.3.2. Imperative markers

1.3.2.1. Manual signs

1.3.2.2. Non-manual markers

1.3.3. Imperatives and verb classes

1.3.4. Word order in imperatives

1.3.5. Attention callers

1.3.6. Negation in imperatives

1.3.6.1. Manual negation

1.3.6.2. Non-manual negation

1.3.7. Subjects in imperatives

1.3.7.1. Null and/or overt subject

1.3.7.2. The person of the subject

1.3.7.3. Anaphoric properties

1.3.8. Embedding imperatives

1.3.9. Special constructions: imperative-and-declaratives (IaD)

1.3.10. Exhortative constructions

1.4. Exclamatives

1.4.1. Total exclamatives

1.4.1.1. Non-manual marking

1.4.1.2. Manual signs

1.4.2. Partial exclamatives

1.4.2.1. Non-manual marking

1.4.2.2. *Wh*-signs

1.4.2.3. Other structures

1.4.3. Negation in exclamatives

1.5. Negatives

In NGT, just as in every natural language, all sentence types can be negated, that is, the polarity of a clause can be changed from affirmative to negative by dedicated elements. In NGT, these elements can be a manual sign and/or non-manual markers. Typologically, it is considered a non-manual-dominant language. We will address manual markers first.

1.5.1. Manual marking of negation

NGT has several strategies of marking negation manually, which will be discussed below.

1.5.1.1. Manual negative elements

1.5.1.1.1. Negative particles

NGT has the negative particle NOT, which consists of an extended index-finger moving sideward:



NOT

The particle can be used to express standard negation, but it is not obligatory.

In addition, a sign that is frequently observed in negative clauses is the sign PALM-UP. However, it is never used to negate a proposition by itself, and is therefore not classified as a negative particle. See e.g. SYNTAX 1.2.1.3 for other uses of this sign.

1.5.1.1.2. Irregular negatives

NGT has a group of negative modals, which are described in MORPHOLOGY 3.5.2.

1.5.1.1.3. Negative determiners and adverbials

1.5.1.2. Syntax of negative clauses

1.5.1.2.1. Position of negative elements

The most common position of negative elements is post-verbal:

- _____ hs
- a. IX₁ POINT UNDERSTAND NOT
'I don't understand/get the point.' (Oomen & Pfau 2017: 21)

However, pre-verbal expression of negation is possible as well:

- _____ hs
- b. IX₁ ACTUALLY NOT LEARN
'I'm not going to learn (it).'

The data available to date strongly suggest that the position of the negative particle has no influence on the scope of the negation, i.e. there is no difference in meaning, whether the particle is post- or pre-verbal.

1.5.1.2.2. Doubling

1.5.1.2.3. Negative concord

Negative concord is a phenomenon whereby two negations that co-occur in a sentence are interpreted as a single negation. For sign languages, two types of negative concord are distinguished: one where both manual and non-manual negation co-occur, which seems to be quite common, and one where two manual components co-occur. In NGT, both types are encountered, although the first type is more frequent. The examples in [SYNTAX 1.5.1.2.1](#) can be considered negative concord of this type. The following example is one of the second type:

_____ hs
DUTCH SPEAK LANGUAGE ALSO NOT STANDARD NOTHING PALM-UP
'Dutch people also do not all speak the same language'. (Oomen & Pfau 2017: 37)

In this example, the signs NOT and NOTHING co-occur, while the utterance is still negated (i.e. the two negators do not cancel each other out).

1.5.2. Non-manual marking of negation

1.5.2.1. Head movements

Negated sentences are always accompanied by a side-to-side headshake. The presence of a manual marker does not affect the occurrence of the headshake.

_____ neg
{3a}COME₁ IX₁ ₁COLLECT{3a} PU
'Nobody collected us.' (Coerts 1992: 210)

If a manual negator is present, it is always accompanied by the headshake. Furthermore, the head movement generally spreads over the verb (see [SYNTAX 1.5.2.4](#)).

1.5.2.2. Facial expressions

Negation is not associated with specific facial expressions.

1.5.2.3. Body posture

Negation is not associated with a specific body posture.

1.5.2.4. Spreading domain

The headshake always accompanies at least the verb. If a manual negator is present, this sign is also accompanied by the headshake:

- _____ hs
- a. MANY DOCTOR DO NOT
'Many doctors don't do that.' (Oomen & Pfau 2017: 25)

When there is no manual negator, the headshake frequently also spreads over the object of the sentence, specifically when it is in post-verbal position. In (b) we provide an example with an object in pre-verbal position.

- _____ hs
- b. CHILD THINK CHANCE GET
'This way a child, I think, does not get a chance.' (Oomen & Pfau 2017: 27)

The subject generally is not marked by a headshake; however, when the subject is pronominal, the headshake may spread over it.

Information on Data and Consultants

The information in this chapter is based on the references below.

Authorship Information

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References

- Coerts, Jane. 1992. *Nonmanual grammatical markers: An analysis of interrogatives, negations and topicalisations in Sign Language of the Netherlands*. PhD dissertation, University of Amsterdam.
- Loon, Esther van. 2012. *What's in the palm of your hands?* MA thesis, University of Amsterdam. <http://dare.uva.nl/cgi/arno/show.cgi?fid=448566> (16 August, 2016).
- Oomen, Marloes & Roland Pfau. 2017. Signing NOT (or not): A typological perspective on standard negation in Sign Language of the Netherlands. *Linguistic Typology* 21(1). 1–51.

Chapter 2. Clause structure

2.1. The syntactic realization of argument structure

2.1.1 Types of predicates

2.1.1.1. Transitive and ditransitive predicates

2.1.1.2. Intransitive predicates: unergatives and unaccusatives

2.1.1.3. Psychological predicates

2.1.1.4. Meteorological predicates

2.1.1.5. Argument structure alternations

2.1.2. Argument realization

2.1.2.1. Overt noun phrases

2.1.2.2. Pronouns

Pronouns do not need to be overtly expressed (see SYNTAX 2.2.1.4 and SYNTAX 2.4.1).

2.1.2.3. Verb agreement

2.1.2.3.1. Manual verb agreement

General verb agreement is discussed in MORPHOLOGY 3.1. It is furthermore possible to use a serial verb construction, in which one of the verb stays uninflected (the ‘free’ verb) while the other one takes agreement (the ‘fixed’ verb). In NGT, fixed verb always concerns the verb CALL, GIVE, TAKE or GO. The free verb is semantically related. The two verbs are combined in one clause and, importantly, they express only one event. In the following example, PAY is the free verb and GIVE is the fixed verb:

/be- ta- len/
PLEASE IX₁ PAY IX₁ ₁GIVE₂ IX₂ PU
‘I want to pay you (for it).’ (Bos 1996 [2016]: 238)

The order of the two verbs is flexible; the preference for the fixed – free or free – fixed order may depend on which fixed verb is used.

As can be seen in the example above, the mouthing of the free verb can spread over both signs. In addition, the serial verbs do not need to be adjacent; it is possible that another sign, most frequently a subject pronoun, is produced in between the two verbs.

2.1.2.3.2. Non-manual verb agreement

2.1.2.4. Classifier handshape

2.1.2.5. Argument clauses

2.1.3. Argument structure changes

2.1.3.1. Extension of argument structures

2.1.3.2. Passive

2.1.3.3. Reflexivity

2.1.3.4. Reciprocity

2.1.4. Non-verbal predication

2.1.4.1. Copular constructions

2.1.4.2. Secondary predication

2.1.5. Existentials and possessives

2.1.5.1. Possessives

2.1.5.2. Existentials

2.2. Grammatical functions

2.2.1. Subject and object identification

2.2.1.1. Specific position(s) for subject and object

2.2.1.2. Special anaphoric properties for subject and object

2.2.1.3. Strategies of pronoun copying for subject and object

NGT employs topic copying (**PRAGMATICS 4.2**), of which subject-topic copying is the most frequent type. The antecedent most frequently consists of a pronoun (i.e. IX), but can also be a null argument or a noun phrase. The copy is always a pronoun and occurs generally in sentence-final position, or at least after the verb. The subject copy is more likely to occur in clauses where the verb is not marked for subject agreement, compared to sentences where verbal subject agreement is present. Two examples are provided below:

- a. IX₁ EVERYBODY TELL IX₁
'I have told everybody (what I just said).' (Bos 1995: 122)
- b. IX_{3b} COFFEE₁ ORDER_{3a} IX_{3b}
'He orders coffee (from someone).' (Bos 1995: 122)

In both examples the antecedent consists of a pronoun (for 1st and 3rd person, respectively) and the copied pronoun occurs sentence-finally.

2.2.1.4. Null arguments for subject and object

2.2.2. Other grammatical functions: arguments vs. adjuncts

2.2.3. Types of adjuncts

2.3. Word order

2.3.1. Identification of the basic order of constituents in the main declarative clause

2.3.1.1. Order of subject, object and verb

2.3.1.2. Order of auxiliaries (i.e. agreement, tense and aspectual markers) with respect to the verb

The auxiliary OP (or 'ACT-ON') usually appears adjacent to the verb. Most often OP follows the verb, but it can also precede the verb.

2.3.1.3. Order of modals with respect to the verb

2.3.1.4. Order of negation with respect to verb, modals and auxiliaries

2.3.1.5. Order of arguments of ditransitive verbs

2.3.1.6. Position for different types of adverbs and adjuncts

2.3.2. Basic order of constituents in other clauses

2.3.2.1. Basic order in the different types of sentence

2.3.2.2. Basic order in the different types of subordinate clauses

2.3.3. Deviations from the basic order of constituents

2.3.3.1. List of attested and unattested permutations

2.3.3.2. Non-manuals accompanying the deviations from the basic word order

2.3.3.3. Specific order for topicalized elements

2.3.3.4. Specific order for focused elements

2.3.3.5. Word order variations according to the different types of verbs (plain, agreeing)

2.3.3.6. Word order variations according to the different types of predicates (reversible/irreversible)

Declarative sentences have SOV constituent order (**SYNTAX 2.3.1.1**). For sentences with an irreversible verb in which a classifier construction is used, the verb and object are (naturally) expressed simultaneously. This simultaneous expression also occurs in locative sentences (in which the location functions as an object).

2.4. Null arguments

2.4.1. Subject and object null arguments

2.4.1.1. Null subjects

2.4.1.2. Null objects

2.4.2. Types of verbs that can license null subjects

2.4.3. Null subjects in main clauses

2.4.4. Null arguments in embedded clauses

2.4.5. Pragmatic and semantic conditions licensing null arguments

2.4.6. Referential properties of null arguments

2.5. Clausal ellipsis

2.6. Pronoun copying

2.6.1. Personal Pronoun copying

2.6.2. Syntactic properties of pronoun copying

2.6.2.1. Possible subject-object asymmetry in pronoun copying

2.6.2.2. Position of the copying pronoun

2.6.3. Prosodic features of pronoun copying

2.6.4. Functions of pronoun copying

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Authorship Information

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References

- Bos, Heleen. 1994. An auxiliary verb in Sign Language of the Netherlands. In Ahlgren, Inger, Brita Bergman & Mary Brennan (eds.). *Perspectives on sign language structure. Papers from the Fifth International Symposium on Sign Language Research*. Durham: International Sign Linguistics Association. 37-53.
- Bos, Heleen. 1995. Pronoun copy in Sign Language of the Netherlands. In Bos, Heleen & Trude Schermer (eds.). *Sign language research 1994: Proceedings of the Fourth European Congress on Sign Language Research*. Hamburg: Signum. 121-147
- Bos, Heleen. 1996 [2016]. Serial verb constructions in Sign Language of the Netherlands. *Paper presented at Theoretical Issues in Sign Language Research (TISLR 5)*. [*Sign language & linguistics* 19(2). 238-251]
- Coerts, Jane. 1994. Constituent order in Sign Language of the Netherlands and the functions of orientations. *Perspectives on sign language structure. Papers from the Fifth International Symposium on Sign Language Research*. Durham: International Sign Linguistics Association. 69–88.
- Crasborn, Onno, Els van der Kooij, Johan Ros & Helen de Hoop. 2009. Topic agreement in NGT (Sign Language of the Netherlands). *The Linguistic Review* 26(2–3). 355–370.

Chapter 3. Coordination and subordination

3.1. Coordination of clauses

3.1.1 Types of clausal coordination

3.1.2 Coordination by manual markers

3.1.2.1. Manual markers of coordination

3.1.2.1.1. Manual markers in conjoined coordination

There is one manual marker for conjoined coordination. This sign resembles the + symbol and is glossed as PLUS. It can be found to coordinate noun phrases and clauses.

PLEASE, SUITCASE PLUS BIRDCAGE PICK-UP

‘Please, pick up the suitcase and the birdcage.’ (Legeland 2017: 19)

In this example, the verb PICK-UP is left out in the first clause and only signed in the second clause. When both clauses share the same subject, the subject can be elided in the second clause.

3.1.2.1.2. Manual markers in adversative coordination

There is one manual marker for adversative coordination and it is glossed as BUT. It is specifically found in the coordination of clauses. When the subject of the two clauses is the same, it can be elided in the second clause.

3.1.2.1.3. Manual markers in disjunctive coordination

There is one manual marker for disjunctive coordination and it is glossed as OR. This sign is found in the coordination of predicative adjectives, noun phrases and clauses. In the following example, two predicative adjectives are coordinated:

CATERPILLAR LIVE OR DEAD?

‘Is the caterpillar alive or is it dead?’ (Legeland 2017: 18)

In this example, the subject of the adjectives is the same and can therefore be elided in the second clause.

3.1.2.2. Position of manual markers of coordination

Lexical conjunctions appear exactly between the two conjuncts, i.e. in conjunct-initial position.

- 3.1.2.2.1. Position of manual markers in conjoined coordination
- 3.1.2.2.2. Position of manual markers in adversative coordination
- 3.1.2.2.3. Position of manual markers in disjunctive coordination
- 3.1.2.3. Optionality or obligatoriness of manual markers of coordination
 - 3.1.2.3.1. Optionality/obligatoriness of manual markers in conjoined conjunctions
 - 3.1.2.3.2. Optionality/obligatoriness of manual markers in adversative conjunctions
 - 3.1.2.3.3. Optionality/obligatoriness of manual markers in disjunctive conjunctions
- 3.1.3 Coordination by non-manual markers
 - 3.1.3.1 List of non-manual markers of coordination
 - 3.1.3.1.1. Non-manual markers in conjunctive coordination
 - 3.1.3.1.2. Non-manual markers in disjunctive coordination
 - 3.1.3.1.3. Non-manual markers in adversative coordination
 - 3.1.3.2. The spreading domain of non-manual markers of coordination
 - 3.1.3.2.1. Spreading domain of non-manual markers in conjunctive coordination
 - 3.1.3.2.2. Spreading domain of non-manual markers in disjunctive coordination
 - 3.1.3.2.3. Spreading domain of non-manual markers in adversative coordination
- 3.1.4 Properties of coordination
 - 3.1.4.1. Extraction
 - 3.1.4.2. Gapping
 - 3.1.4.3. Scope
 - 3.1.4.3.1. Scope of negation
 - 3.1.4.3.2. Scope of yes/no questions
- 3.2. Subordination: distinctive properties
 - 3.2.1. Subject pronoun copy
 - 3.2.2. Position of question signs
 - 3.2.3. Spreading of non-manual markers

3.2.4. Interpretation of embedded negation in the matrix clause

3.3. Argument clauses

3.3.1. Subject clauses

3.3.1.1. Position(s) within the matrix clause

3.3.1.2. Special non-manual markers

3.3.1.3. Tense and aspectual marking

3.3.1.4. Anaphoric relations

3.3.1.5. Null arguments

3.3.2. Object clauses

3.3.2.1. Verbs taking object clauses

The verbs of which we know that can take object clauses are listed below, together with their semantic classification:

- (i) WANT (a desiderative predicate)
- (ii) SEE (a perception predicate)
- (iii) LIKE (a commentative predicate)
- (iv) PRETEND (a pretence predicate)
- (v) KNOW (a knowledge predicate)
- (vi) BELIEVE and DOUBT (attitude predicates)

Phasal verbs (e.g. BEGIN and BE-BUSY) do not take object clauses. In the following two examples, the verbs LIKE and PRETEND, respectively, are followed by an object clause. Both the matrix clauses cannot occur without an object, whereas both the object clauses can occur as independent sentences.

a. INGE IX_{3a} LIKE MAN _{3b}VISIT_{3a}
'Inge likes (the fact) that the man visits her.' (van Gijn 2004: 67)

b. INGE PRETEND MARIJKE HOUSE IX_{3a} GO-TO_{3a}
'Inge pretends that Marijke is going home.' (van Gijn 2004: 69)

3.3.2.2. Position(s) within the matrix clause

The object clause follows the matrix clause. The object clause itself can "only be followed by another argument clause that is coordinated with or embedded in the first argument clause" (van Gijn, Baker & Coerts 1998: 4).

3.3.2.3. Factivity

3.3.2.4. Special non-manual markers

There is no specific non-manual marker for object argument clauses.

3.3.2.5. Tense and aspectual marking

3.3.2.6. Anaphoric relations with the main clauses arguments

Main clause arguments can appear as overt pronouns or as null argument in the subordinate clause.

3.3.2.7. Occurrences of null arguments

3.3.3. Role shift

3.3.3.1. Markers of role shift

3.3.3.2. Integration of the role shifted clause into the main clause

3.3.3.3. Syntactic contexts introducing attitude role shift

3.3.3.4. Special signs introducing action role shift

3.3.3.5. Syntactic differences between action role shift and attitude role shift

3.4. Relative clauses

3.4.1. Types of relative clause

3.4.2. Presence or absence of a relativization sign

3.4.2.1. List of relativization signs

3.4.2.1.1. Human/non-human specificity of the relativization sign

3.4.2.1.2. Singular/plural specificity of the relativization sign

3.4.2.2. Position of the relativization sign

3.4.2.3. Optionality or obligatoriness of the relativization sign

3.4.3. Position of the noun phrase with the relative clause within the matrix clause

3.4.4. Subject vs. object relativization

3.4.5. Displacement of relative clauses

3.4.6. Special non-manual marking

3.4.6.1. List of non-manual markers

3.4.6.2. The spreading domain of each non-manual marker

3.4.7. Restrictive vs. non-restrictive relative clauses

3.5. Adverbial clauses

3.5.1. Conditional clauses

In conditional clauses, the outcome of the main clause (or consequent) is dependent on the truth in the conditional clause (or antecedent).

3.5.1.1. The role of non-manual markers in conditional sentences

3.5.1.2. Factual conditionals

3.5.1.2.1. Non-manual markers and their properties in factual clauses

Non-manual markers that can mark the antecedent are the following:

- (i) Raised eyebrows
- (ii) Head movement forward
- (iii) Chin down

The frequency of these markers is dependent on the presence of a manual marker. When a manual marker is present in the antecedent, non-manual marking is not obligatory. When a manual marker is not present, the antecedent is marked by at least one of the listed markers. Combinations of the listed non-manual markers are possible as well:

_____ cd
_____ re

- a. MUCH USE IX₃ / MUST₃INCORPORATE₁
'[If] it is used much, it must be incorporated.' (C0539, S26, 04:12.475)

All the markers listed above can mark the whole antecedent or a part of it. When a manual marker is present as well, the non-manual marking does not need to spread over the manual marker:

_____ hmf+cd
_____ re

- b. IF TURN-OUT PRESENT DEAF CHILDREN (...)
'If it turns out that deaf children are present (...)' (C0531, S25, 00:39.440)

The listed non-manual markers are not used exclusively for conditionals. Raised eyebrows are, for example, also used for topic marking (see [PRAGMATICS 4.2](#)), polar interrogatives ([SYNTAX 1.2.1.1](#)), and temporal clauses ([SYNTAX 3.5.2](#)). When a clause is ambiguous,

note that a manual conditional marker can be added to a conditional, but not to a topic. Temporal clauses can, however, take some of the same manual markers as conditionals; in these cases, the semantics are leading to differentiate between temporal and conditional clauses. There is no specific non-manual marker for the consequent.

3.5.1.2.2. Manual conditional signs in factual conditionals

There are seven different signs that can mark the antecedent. The use of a manual marker is, however, not obligatory. Five of the seven signs are generally glossed as IF, and two as SUPPOSE, based on their mouth actions and place of articulation. The markers that seem to be the most frequent are shown here:



IF-1



IF-2



SUPPOSE-1

The variation in manual markers can partly be explained by regional variation, as signs IF-1, IF-3, and IF-4 seem to be used mainly by signers from the Groningen region.

The conditional conjunction stands in sentence-initial position. The main clause can be manually marked as well, namely by the signs THEN (see below), CONSEQUENCE and MEAN.

_____ cd _____ hs
re
IF-2 IX₁ PARENTS HEARING, IX₁ ORAL, THEN CAN-NOT ADAPT SIGNS INTERNATIONAL
'If my parents had been hearing, and I had been [raised] orally, then I wouldn't have been able to adapt to international signs.' (C0014, S03, 00:09.020)

3.5.1.2.3. Order of the components of the factual conditional clause

Generally, the conditional clause precedes the main clause. Constructions in which the main clause precedes the conditional clause are observed, but they are generally considered sign-supported Dutch.

3.5.1.3. Counterfactual conditionals

3.5.1.3.1. Non-manual markers and their properties in counterfactual conditionals

There is no evidence that counterfactual conditionals are marked by different non-manual markers than factual conditionals.

3.5.1.3.2. Manual conditional signs in counterfactual conditionals

There is no evidence that counterfactual conditionals are marked by different manual markers than factual conditionals.

3.5.1.3.3. Order of the components of the counterfactual conditional clause

3.5.1.4. Concessive conditionals

3.5.1.4.1. Non-manual markers and their properties in concessive clauses

3.5.1.4.2. Manual conditional signs in concessive conditionals

3.5.1.4.3. Order of the components of the concessive conditional clause

3.5.1.5. Non-predictive/peripheral conditionals

3.5.1.5.1. Non-manual markers and their properties in non-predictive/peripheral conditionals

The non-manual markers of peripheral conditionals are found to be the same as of factual conditionals.

3.5.1.5.2. Manual conditional signs in non-predictive/peripheral conditionals

We are uncertain whether all manual markers found with factual conditionals can also be used with peripheral conditionals. At least the signs IF-1, IF-3, and IF-4 (see also [SYNTAX](#))

3.5.1.2.2) are encountered in peripheral conditionals. Furthermore, peripheral conditionals can be marked by non-manual signals only, meaning that the manual conjunction is optional. Regarding the main clause, the manual marker THEN is sometimes encountered.

3.5.1.5.3. Order of the components of the non-predictive/peripheral conditional clause

3.5.1.6. Other conditional constructions

3.5.2. Temporal clauses

3.5.2.1. Internal structure of temporal clauses

3.5.2.2. Manual signs marking subordination in temporal clauses

3.5.2.3. Other markers of subordination in temporal clauses

3.5.2.4. Non-manual markers in temporal clauses

3.5.2.5. Position of the temporal clause with respect to the main clause

3.5.2.6. Simultaneous expression of the main event and the adverbial clause

3.5.3. Locative clauses

3.5.3.1. Internal structure of locative clauses

3.5.3.2. Manual signs marking subordination in locative clauses

3.5.3.3. Other markers of subordination in locative clauses

3.5.3.4. Non-manual markers in locative clauses

3.5.3.5. Position of the locative clause with respect to the main clause

3.5.3.6. Simultaneous expression of the main event and the adverbial clause

3.5.4. Manner clauses

3.5.4.1. Internal structure of manner clauses

3.5.4.2. Manual signs marking subordination in manner clauses

3.5.4.3. Other markers of subordination in manner clauses

3.5.4.4. Non-manual markers in manner clauses

3.5.4.5. Position of the manner clause with respect to the main clause

3.5.4.6. Simultaneous expression of the main event and the adverbial clause

3.5.5. Reason clauses

3.5.5.1. Internal structure of reason clauses

3.5.5.2. Manual signs marking subordination in reason clauses

3.5.5.3. Other markers of subordination in reason clauses

3.5.5.4. Non-manual markers in reason clauses

3.5.5.5. Position of the reason clause with respect to the main clause

3.5.5.6. Simultaneous expression of the main event and the adverbial clause

3.5.6. Purpose clauses

3.5.6.1. Internal structure of purpose clauses

3.5.6.2. Manual signs marking subordination in purpose clauses

3.5.6.3. Other markers of subordination in purpose clauses

3.5.6.4. Non-manual markers in purpose clauses

3.5.6.5. Position of the purpose clause with respect to the main clause

3.5.6.6. Simultaneous expression of the main event and the adverbial clause

3.5.7. Concessive clauses

3.5.7.1. Internal structure of concessive clauses

3.5.7.2. Manual signs marking subordination in concessive clauses

3.5.7.3. Other markers of subordination in concessive clauses

3.5.7.4. Non-manual markers in concessive clauses

3.5.7.5. Position of the concessive clause with respect to the main clause

3.5.7.6. Simultaneous expression of the main event and the adverbial clause

3.5.8. Substitutive clauses

3.5.8.1. Internal structure of substitutive clauses

3.5.8.2. Manual signs marking subordination in substitutive clauses

3.5.8.3. Other markers of subordination in substitutive clauses

3.5.8.4. Non-manual markers in substitutive clauses

3.5.8.5. Position of the substitutive clause with respect to the main clause

3.5.8.6. Simultaneous expression of the main event and the adverbial clause

3.5.9. Additive clauses

3.5.9.1. Internal structure of additive clauses

3.5.9.2. Manual signs marking subordination in additive clauses

3.5.9.3. Other markers of subordination in additive clauses

3.5.9.4. Non-manual markers in additive clauses

3.5.9.5. Position of the additive clause with respect to the main clause

3.5.9.6. Simultaneous expression of the main event and the adverbial clause

3.5.10. Absolutive clauses

3.5.10.1. Markers of subordination in absolutive clauses

3.5.10.2. Non-manual markers in absolutive clauses

3.5.10.3. Position of the absolutive clause with respect to the main clause

3.5.10.4. Simultaneous expression of the main event and the adverbial clause

3.6. Comparative clauses

3.7. Comparative correlatives

Information on Data and Consultants

The information in this chapter is partly based on the references below. In addition, the information in Section 3.1 and Section 3.5.1 is based on corpus research for which the (annotated part of the) Corpus NGT is used. The Corpus NGT currently consists of 2375 videos (of which 380 videos are annotated with glosses and/or translation), and includes 92 signers of diverse backgrounds.

Authorship Information

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References

Gijn, Ingeborg van. 2004. *The quest for syntactic dependency. Sentential complementation in Sign Language of the Netherlands*. Utrecht: LOT

Gijn, Ingeborg van, Anne Baker & Jane Coerts. 1998. *Structure, position and function of complex constituents in Sign Language of the Netherlands: Preliminary results*. Poster session. Paper presented at the TISLR 6, Gallaudet University.

Legeland, Iris. 2017. *Coordination in Sign Language of the Netherlands (NGT): Manual conjunction markers, constituent types, and ellipsis: A corpus-based investigation*. Unpublished manuscript, University of Amsterdam.

Klomp, Ulrika. (in press). Conditional clauses in Sign Language of the Netherlands: A corpus-based study. *Sign Language Studies*.

Chapter 4. The noun phrase

4.1. Determiners

4.1.1. Articles

4.1.1.1. The position of the article

4.1.1.2. Simultaneous manual articulation

4.1.1.3. Non-manual marking

4.1.1.4. Articles expressed by non-manual marking only

4.1.2. Demonstratives

4.1.2.1. The position of the demonstrative

4.1.2.2. Demonstrative reinforcer construction

4.1.2.3. Non-manual marking

4.1.2.4. Anaphoric usage

4.2. Possessive phrases

4.2.1. Ways of expressing the possessive relation in the noun phrase

4.2.1.1. Attributive possessive pronouns

4.2.1.2. Possessive markers

4.2.1.3. Juxtaposition

4.2.2. The position of the possessive pronoun

4.2.3. Agreement with the possessor

4.2.4. Agreement with the possessed

4.2.5. Possessive phrases with the possessed elided

4.3. Numerals

4.3.1. The position of the numeral

4.3.2. Floating numerals

4.3.3. Definite and indefinite reading

4.3.4. Numeral incorporation

4.3.5. Measure phrases

4.4. Quantifiers

4.4.1 The position of the quantifier

4.4.2. Floating quantifiers

4.5. Adjectives

4.5.1. Prenominal vs. postnominal adjectives

4.5.2. Symmetric adjectives

4.5.3. Reduplicated adjectives

4.5.4. Ordering restrictions among adjectives

4.6. Multiple noun phrase constituents

4.6.1. Prenominal modifiers

4.6.2. Postnominal modifiers

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Chapter 5. The structure of adjectival phrase

5.1. Intensifiers and other modifiers

5.1.1 Manual modifiers

5.1.2. Modifications of manual signs and non-manual modifiers

5.1.3. Iteration and stacking

5.1.4. Degree comparatives

5.1.5. Superlatives

5.2. Arguments

5.3. Adjuncts

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Chapter 6. The structure of adverbial phrase

6.1. Independent manual signs

6.2. Modification of manual signs

6.3. Non-manual adverbs

6.4. Classes of adverbs

6.4.1. Sentential adverbs

6.4.2. VP-adverbs

6.4.2.1. Temporal adverbs

6.4.2.2. Manner adverbs

6.4.2.3. Locative adverbs

6.4.2.4. Adverbs conveying aspectual information

6.4.2.5. Adverbs conveying deontic modality

6.4.2.6. Adverbs conveying epistemic modality

6.4.2.7. Adverbs of degree

6.4.2.8. Adverbs of frequency

6.5. Adverbial phrase modifiers

6.5.1. Adverbs modified by degree words expressing intensity

6.5.2. Adverbs modified by degree words expressing comparison

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Annex 5. TiD (Turkish Sign Language) Grammar

A Reference Grammar
of
Turkish Sign Language (TİD)

Socio-Historical Background

Chapter 1. History

The first records of deaf individuals or deaf communities in Anatolia date back three millennia to the time of the Hittites. It is known that at a later time, starting in the 15th century and continuing until the mid 19th century, there was a sign language used in the Ottoman court by ‘mutes’, which even became popular among the hearing people in the Royal Palace, most notably among the Sultans. Whether this sign language was an earlier form of contemporary TİD, or, for that matter, of any other sign language of a deaf community is unknown.

Turkish Sign Language (TİD), as far as the historical evidence suggests, dates back to the late Ottoman era. In 1889 during the reign of Abdülhamid II and at a time following educational reforms, an Austrian merchant of İstanbul (Constantinople at the time) named Ferdi Grati took it upon himself to establish a school for the deaf and blind. This was also the times during which a guild was established to train deaf people in practical skills to become craftsmen and traders. The Yıldız School for the Deaf and Blind, an annex to the Sultanahmet Business School, had a curriculum planned to cover Turkish (Ottoman), French, mathematics, geometry, drawing, calligraphy, geography, history, and art classes. In this school there were both oral education and a ‘manual department’ of instruction, and there was a deaf instructor, an art teacher called İstavraki Efendi. Fingerspelling was used, an adaptation of French fingerspelling to the Ottoman (Arabic) alphabet as shown in the photograph below. Here the students are each fingerspelling one letter of the mantra *Long Live the Sultan*.



Fingerspelling of “Long live the Sultan!” by students of the school for the deaf and blind.

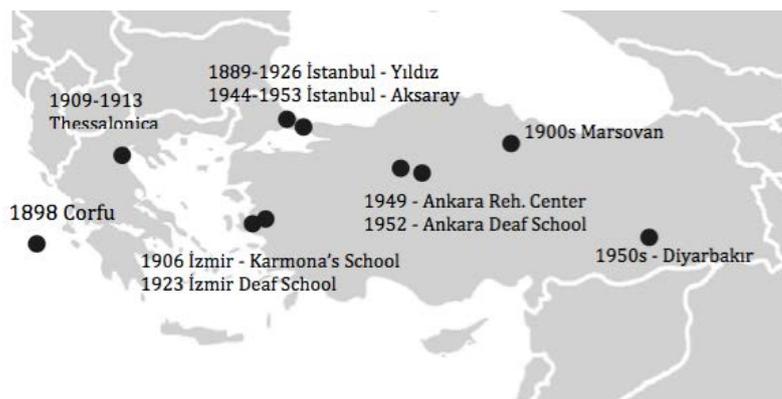
Original image from Journal of Servet-i Fünun; August 19, 1893, In Deringil, 2002, p.249

As the school had a ‘manual’ department and an ‘oral’ department, probably there was bilingual education in sign language and Turkish. A letter of complaint indicates that sign language may have been used. This was a letter sent by a student to the Ministry of Education for the lack of knowledge on the part of the instructors, of the language of the mutes,

The other important figure at the school was Pascal Pekmezian from Istanbul, a highly informed deaf educator and fund-raiser who was educated at the Paris School for the Deaf. However, the efforts to form a system with long lasting consequences were to be short-lived.

There were various setbacks resulting from the political turmoil and uncertainty of the late nineteenth, early twentieth centuries, and even by 1893 there were only 22 students and five teachers left at the Yıldız School for the Deaf and Blind. It was eventually closed down in 1926, six years after the Ottoman Empire dissolved, and the remaining students were moved to the İzmir School for the Deaf (*Sağır Dilsiz ve Körler Müessesesi* – the ‘Institution of Deaf, Mutes and Blind People’). It is not known whether TİD was used in this school as a medium of education, but it would be unlikely due to the oralist agenda of Necati Kemal, the head of the school. Still the teachers presumably had some autonomy, and they may have learned sign language from the students and used it. Teachers learning sign language (sometimes even the oralist teachers) is a recurrent theme in interviews with elderly deaf signers and current teachers in deaf schools. It is certain that TİD still existed as a language at the time among the students. One of Necati Kemal’s books published in 1926 describes the signs of a few students and these match contemporary TİD signs.

The İzmir School for the Deaf was established by another former pupil from the Paris School for the Deaf, Albert Karmona. This school seems to be privately funded and established in 1906 or 1910, but in 1923 or in 1926 – the dates vary between the sources- it was taken over by the Ministry of Public Health. In 1909, another short-lived school was founded in Thessaloniki by another one of the former pupils of the Paris School for the Deaf, Edgard Farragi. This school had around 50 students, but closed down in 1913 at the time of the Balkan wars. Another school for the Deaf was established in 1900 in Merzifon (Marsovan), but this school was also closed around 1913 due to the expulsion and forced relocation of the Armenian family that was running it.

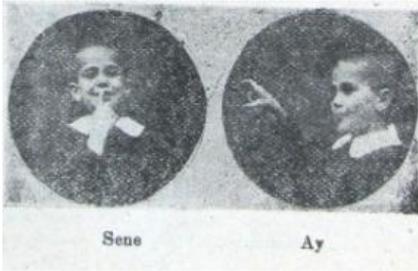


Deaf Schools in the late Ottoman period and in the Republic of Turkey
(from İlkbaşaran & Taşçı 2012)

In 1920, the Republic of Turkey was founded on the remains of the Ottoman Empire and the 1930s is marked by the rise of nationalism and the efforts to create a uniform and ideal Turkish citizen. The underlying factors in the policies concerning deaf (and other disabled) individuals were eugenic ideals, with disabled people being considered degenerates. Though, there was not a eugenic policy per se, it was one of the prominent topics among the medical

scientific community. It was in this climate that one of the most influential figures in deaf education, Süleyman Gök, took center stage, a pioneer in deaf education and in the rights of the Deaf. Gök, himself deaf since 6 years of age, was educated at the Yıldız School for the Deaf and Blind. He could both sign and speak. Gök, in his books, reconciles the discourse concerning the strong body with his inclusive vision of the rights of the Deaf to education: “It is the community that is at fault, since the deaf children are suitably intelligent for learning”. He gives examples of various ‘healthy’ Deaf families having healthy children and Deaf craftsmen, stating that Deaf citizens are valuable human resources for the economy and expressing the vision that Deaf people can go into any profession including medicine, philosophy, and diplomacy. As another attempt to persuade the eugenic climate, in his books Gök includes interviews with medical professionals who support his views.

Gök established in 1930 a deaf association, annulled within a few years, and in 1944 another one. In the same year, he opened the Aksaray School for the Deaf, with 38 students. In one of his books, *Dilsizliğin Telafisi: Sağır dilsizlerin tedris usulleri ve konuşma tarzları* (Compensation of muteness: Instruction and communication methods for deaf-mutes), published in 1940, he introduces TİD as an excellent means for communication among the deaf. In this book there are, for the first time, photographs of signs and a sentence in TİD.



YEAR, MONTH (Gök 1940: 13)

This book, together with the other two published in 1939 and 1958 (*Dilsizliğin Telafisi: Türkiye’de ve Avrupa’da Dilsizler* (Compensation of Muteness: Mutes in Turkey and Europe) and *Dünyada ve Türkiye’de Sağır, Dilsiz Okulları Tarihçesi ve Eğitim Sistemi* (Deaf –mute Schools in the World and in Turkey)) are the first books written by a deaf person about deafness and the Deaf.

The use of sign language was unofficially forbidden in Turkey in 1951, and Gök’s school was taken over by the state in 1953. According to the memories of elderly signers, Süleyman Gök was a fervent activist for sign language, yet his 1958 book looks like a change of heart on Gök’s side. Here he does not talk about sign language but refers to ‘mimics and movements’ instead, and advocates not using sign language during instruction in favour of lip-reading. One reason could be that he might not have wanted to undermine his own fund-raising activities by antagonizing sponsors in an oralist atmosphere. Because oralism had been getting increasingly popular since 1880 Milan Conference, and since Necati Kemal’s administration of the İzmir Deaf School in 1920s, in 1950s oralism was regarded to be the only existing method of education, yet it is not clear whether teachers at the time totally gave up instruction and practice in signing.

Authorship information

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References

- Akalın, Şükrü H. 2013. Türk İşaret Dili. *Yeni Türkiye* (55). 1496-1502.
- Alemdaroğlu, Ayça. 2005. Politics of the body and eugenic discourse in early Republican Turkey. *Body & Society*, 11(3). 61-76.
- Arıkanlı, Oğuz. 1973. *Tarihimizde ilk'ler* [Premieres in our history]. İstanbul: Milliyet Yayınları.
- Aslan Demir, Sema. 2010. Sessizliğin dili: Türk İşaret Diline dair gözlemler. *Bilig*, 54. 1-20.
- Aslan Demir, Sema. 2016. Sessizliğin Dili: Türk İşaret Dili'ne dair gözlemler. In E. Arık, *Ellerle Konuşmak: Türk İşaret Dili Araştırmaları*, 141-156. İstanbul: Koç Üniversitesi Yayınları.
- Atabay, Efe. 2009. Eugenics, Modernity and the Rationalization of Morality in Early Republican Turkey. Thesis Submitted at Institute of Islamic Studies, McGill University, Montreal
- Batır, Betül. 2008. An historical overview of development of the education of deaf, mute, and blind children in Turkey. *International Review of Turkology* 1(2). 17-24.
- De Grati, Ferdinand. 1898. [Report from] Turkey. In: *International Reports of Schools for the Deaf*, p. 27. Washington City: Volta Bureau.
- Demirtaş, Bahattin. 2008. Atatürk Döneminde Eğitim Alanında Yaşanan Gelişmeler. *Akademik Bakış*, 1(2). 157-176.
- Deringil, Selim. 2002. *Türkiye'nin Sembolleri ve Deolojisi*. Yapı Kredi Yayınları, İstanbul.
- Ergin, Osman Nuri. (1939). Dilsizler ve körler mektebi [Mutes and blinds School]. *Türk Maarif Tarihi* (Vol. 3, pp. 1165-1172). İstanbul: Osmanbey Matbaası.
- Faraggi, Jacques & Boudeville. 1886. [Devoirs d'élèves (non corrigés)] 'Compte-rendu de la journée.' *Revue internationale de l'Enseignement des Sourds-Muets* (deuxième année) No. 1 (Avril 1886), pp. 343-345.

- Fisher, Carol G. & Fisher, A.W. (1987). *Topkapı Sarayı in the mid-seventeenth century: Bobovi's description*, *Archivum Ottomanicum*, X (1985[1987]), 5-81.
- Gaillard, H. (1911) "The Failure of the Oral Method" translated from French by F.R.Gray. *The Silent Worker* (March, 1911), vol. 23, no.6, p. 15.
- Gök, S. (1940). Dilsizliğin telâfisi: Sağır dilsizlerin tedris usulleri ve konuşma tarzları [Compensation for muteness: Educational methods for Deaf-Mutes and ways of speaking]. *Dilsiz Neşriyat Yurdu*. İstanbul: Aydınlık Basımevi. 2, 1-32.
- Gök, S. (1958). Dünyada ve Türkiye'de Sağır, Dilsiz Okulları Tarihçesi ve Eğitim Sistemi [The history and education systems of Deaf, Mute Schools in the World and Turkey]. *Türkiye Sağır, Dilsiz ve Körler Tesanüt Cemiyeti Neşriyatı* Sayı 1. İstanbul: Hüsnütabiat Matbaası. 32 sayfa.
- Gök, Süleyman. 1939. Dilsizliğin Telâfisi: Türkiyede ve Avrupada Dilsizler [Compensation for muteness: Mutes in Turkey and Europe] *Dilsiz Neşriyat Yurdu* Sayı 1. İstanbul: Resimli Ay Matbaası. 40 sayfa.
- Haydar, Ali. 1925. Sağırlar ve dilsizler [Deafs and Mutes]. *Muallimler Mecmuası*, 29. 1237-1260. Available from: Hakkı Tarık Us Osmanlıca Süreli Yayınları, <http://www.tufs.ac.jp/common/fs/asw/tur/htu/data/HTU1558-03/index.djvu>
- İlkbaşaran, Deniz & Süleyman S Taşçı. 2012. Ideology and language in the early republic: A history of deaf education in Turkey. *Proceedings of the International Symposium on Language and Communication: Research Trends and Challenges (ISLC)*, 1767-1777. Erzurum: Mega Press.
- İlkbaşaran, Deniz. 2015. *Literacies, mobilities and agencies of deaf youth in Turkey: Constraints and opportunities in the 21st century*. San Diego, CA: University of California, San Diego PhD Dissertation.
- Karakaş, İzi. 2007. An analysis of policies towards the born disabled, victims of work accidents and natural disasters during the Hamidian Era (1876-1909). M.A. Thesis. Boğaziçi University, İstanbul.
- Kemaloğlu, Yusuf K. & Pınar Y. Kemaloğlu. 2012. The history of sign language and deaf education in Turkey. *Kulak Burun Bogaz İhtisas Dergisi*, 22(2), 65-76. doi: 10.5606/kbbihtisas.2012.013.

- Kemalođlu, Yusuf K. 2016. Türkiye’de Sađırların Grnrlđ ve Toplumsal ve Eđitimsel Sorunları rine Demografik Bir İnceleme. In E. Arık, *Ellerle Konuřmak: Trk t Dili Arařtırmaları*, 51-86. İstanbul: Koç rsitesi Yayınları.
- Miles, M. 2009b. Hittite Deaf Men in the 13th century BC: Introductory notes with annotated bibliography.
URL: <http://www.independentliving.org/docs7/miles200809.html>
- Miles, M. 2000. Signing in the Seraglio: mutes, dwarfs and jestures at the Ottoman court 1500-1700. *Disability & Society*, 15(1). 115-134 .
- Miles, M. 2009a. Deaf People, Sign Language and Communication, in Ottoman and Modern Turkey: Observations and Excerpts from 1300 to 2009. URL: www.independentliving.org/miles200907.html
- Özyrek, Aslı, Inge Zwitserlood & Pamela M. Perniss. 2010. Locative expressions in signed languages: A view from Turkish Sign Language (TID). *Linguistics*, 48(5), 1111-1145.
- Roe, William R. 1917. *Peeps into the Deaf World*. Derby: Bemrose.
- Schalenghe, Sara. 2005. The Deaf in Ottoman Syria, 16th - 18th centuries. *Arab Studies Journal* 12 (2) - 13 (1) pp. 10-25.
- Selim, Kumur. B. (2006) Deaf people at the Ottoman Court. In: G. Albrecht et al (eds) *Encyclopedia of Disability*, I: 353. Thousand Oaks, CA.: Sage.
- The Silent Worker. 1985. vol. 8 no. 3.
- Turgut, Kadir & Tařçı Sleyman S. 2011. A historical perspective on first deaf schools, Education Methods and Deafness in Turkey. *Conference of International Sign Language Users*. Gazi University, Ankara: October 21-23, 2011.
- Uđrařkan, Muzaffer. 1962. Rehabilitasyon hakkında etdlerimiz. Ankara Sađır, Dilsiz ve krler Derneđi, sayı 2. Ankara: zel Matbaası.
- Yıldırım, Nuran. 1997. İstanbul’da Sađır-Dilsiz ve mlaların Eđitimi. *Armađanı* c.3, Bykřehir Belediyesi Yayınları. Erkam Matbaası. 305-330.
- Zeshan, Ulrike. 2002. Sign Language in Turkey: The story of a hidden language. *Turkic Languages*, 6 (2). 229-274.

Zeshan, Ulrike. 2002. Sign Language in Turkey: The story of a hidden language. *Turkic Languages*, 6(2), 229-274.

Zeshan, Ulrike. 2003. Aspects of Türk Isaret Dili (Turkish Sign Language) *Sign Language & Linguistics* 6. 43- 75.

Chapter 2. The sign language community

2.1. Community characteristics

The unifying features of deaf communities are the mediums and settings of communication, i.e. the usage of sign language, and interaction in Deaf schools and Deaf associations. Since the majority of deaf children are born to hearing parents, Deaf individuals remain isolated in an urban context without an institutional convention platform such as Deaf schools or Deaf organizations. Thus we can trace the formation of the present day Deaf community in Turkey to the opening of deaf schools (earliest 1889 [Socio-Historical Background - Chapter 1]), and to the Deaf organisations, the first of which was established in 1923 in İstanbul.

Other than the TİD community that is wide-spread across Turkey, to our knowledge there are two rural village sign language communities which have their own sign languages. The two sign languages were born through generations as a result of the high density of Deaf population in a small area due to hereditary deafness. One of them is Central Taurus Sign Language (CTSL), which is currently used in a village in the province of Mersin in the eastern mediterranean (southern part of Turkey) and the other is Mardin Sign Language which is used in a town in southeastern Turkey. These languages are different from TİD. While CTSL still exists today with 30 deaf members, Mardin Sign Language is about to be extinct due to the migration of the young deaf members of the community to urban areas.

2.2. Sign language users

The reports on the deaf population in Turkey give disparate numbers. Moreover, the nature of the questions are influenced by different purposes which do not allow a coherent estimation of the sign language community. For example, the categories of hearing loss, and language-speech disorders include non-signer individuals as well, which complicates estimations. According to the Turkey Disability Survey that was carried out by the Prime Ministerial office in 2002, the occurrence of 'hearing disability' is 250.000 in the general population of 70 million. Taking into account the population increase reported and the prevalence of deafness at 0.37 percent, İlkbaşıaran estimates the figure to be 284.000 deaf people in 2013 (among 77 million).

Another estimate comes from a screening of newborns which indicates a 0.2% prevalence of deafness. If better healthcare leads to an increase in identifying hearing loss, the prevalence could be 0.5-0.6 percent. Based on this, İlkbaşıaran's alternative estimate of deaf population for 2013 is between 380.000 and 450.000. As for the number of sign language users, the only evidence comes from Gürboğa and Kargın's study with 100 deaf participants from Ankara above the age of 25. This study has found that 75% of deaf individuals identify TİD as their first language. Though this small sample collected from a single region is not representative of Turkey, we can roughly reckon that the number of sign language users in Turkey is between 187.500 to 337.500.

2.3. Deaf culture

Shared experiences among individuals create shared values and practices that maintain communication networks of values and people. Since there has been a continuous interaction among the Deaf community in Turkey for over a century in Deaf schools and organisations, it is most natural that Deaf signers as a linguistic minority group have specific values that are different from the hearing majority.

Cultural values and traditions

Deaf community members, deaf individuals or hearing members of the deaf community, have both a signed and a spoken name. The spoken name is given by the parents, which is not different from the naming custom in hearing individuals. Every individual has also a sign name (the word in TİD is homophonous with SIGN; in Turkish *lakap* ‘nickname’ as translated by CODAs). The sign name usually refers to a salient visual feature in the face or head (such as pointing to a birth scar) or a typical gesture made by that person. When two members of the community meet each other for the first time they do not immediately introduce themselves, rather, exchanging of the names happens at the end of the conversation if further communication is anticipated. Moreover, it seems that changing one’s sign name is relatively more acceptable in the Deaf community than in the hearing community.

For drawing the attention of a signer, one waves their hand or hits forcefully on the ground or on a table. One could also ask a third party to draw the attention of the person. When there is a big group of signers, one holds up hands and wiggles (which is the same sign for applause). Then, the other members of the group do the same until everyone stops signing and focuses their attention on the person. Another way to get attention is to switch the lights on and off a few times, when available. Breaking eye-contact is considered rude during conversation.

Cultural Activities

Across Turkey there are approximately 55 Deaf associations. The bulk of cultural activities in the Deaf community (theatre, folklore dancing, photography, story-telling, cinema) are carried out in Deaf associations which are run by Deaf individuals and a few CODAs. Moreover, deaf clubs organize occupational training such as tailoring, cookery, hairdressing, electricity, and wood painting.

Sports is a prominent aspect of the social life in the Deaf community. As of 2010, Turkey National Sports Federation of the Deaf (Türkiye İşitme Engelliler Spor Federasyonu) was active in 14 branches: soccer, basketball, volleyball, handball, table tennis, chess, wrestling, skiing, swimming, athleticism, bowling, badminton, folklore, and tennis. There are leagues with local teams in Turkey, and national teams who actively attend the World-Wide sports activities such as Deaflympics.

The majority of Deaf associations are connected to Turkey National Federation of the Deaf (Türkiye İşitme Engelliler Milli Federasyonu) that is recognized by the state. Two other

opponent federations exist. In addition, there is The Confederation of the Deaf (Sağrlar Konfederasyonu - turkdeafconf.com) which has three other federations under its umbrella.

2.4. Deaf education

Deaf schools are the main habitats of sign language and Deaf culture, alongside Deaf associations. The majority of Deaf children have non-signer hearing parents, thus Deaf schools accommodate children's needs for socialization with other Deaf peers. Though bringing together Deaf children spontaneously meets the need of communication, since 1950's oralism has been the dominant method of education for Deaf children. However, from interviews with elderly signers and teachers we know that there have been sporadic autonomous and pro-sign teachers who learn sign language from the children and use it in instruction, some even at near-native fluency.

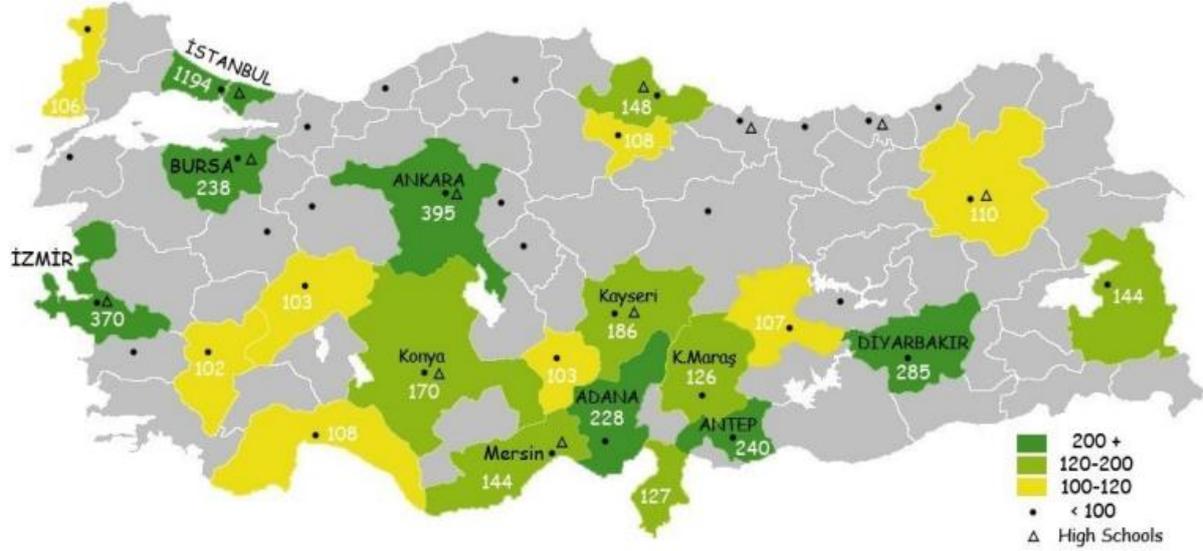
Sign language had no place in the curriculum until recent attempts starting around 2005. The Disability Law put pressure on the state to implement new language and education rights. Before the 2000s when scientific TİD research began, signing was regarded by most educationalists and medical professionals to be a primitive and simple means of communication, hardly at the expressive level of spoken languages.

Before being placed at an educational institution, Deaf and hard of hearing children go into an assessment procedure in Counseling and Research Centers (Rehberlik ve Araştırma Merkezi - RAM) and are accordingly placed at a Deaf school or a regular school with mainstreaming methods. In its current problematic implementation of mainstreaming, a few Deaf students study in classes with hearing peers. Besides school education, the students can get financial support from the state for additional language and speech therapy or other individualized education programs (Bireyselleştirilmiş Eğitim Programı – BEP) in private rehabilitation centers. Unfortunately, most private rehabilitation centers prioritize commercial values rather than good quality education. Moreover, the teachers working in rehabilitation centers generally do not have a background in special education specialized for different disability groups. The formal education in its current form does not bring Deaf students even close to their hearing peers in literacy and higher education.

The late-coming prestige of sign language has had a positive influence regarding the inclusion of sign language in classes. There are currently two schools that aim at bilingual (TİD and Turkish) education for children of 0-6 years of age. One of them is Child Education Association (Çocuk Eğitim Derneği - ÇED), and the other one is Dosteller Special Education School for the Hearing Impaired (Dosteller Özel Eğitim İşitme Engelliler Anaokulu). In addition, the Ministry of Education published a TİD education program in 2015 and an expanded version in 2017 for 1st, 2nd, and 3rd grades in deaf elementary schools: “Türk İşaret Dili Dersi Etkinlik Kitabı (1, 2, 3. Sınıflar)” to be implemented 2 hours a week in Deaf schools. Although this indicates a respect for language rights to a certain extent, the program advises a method that is reminiscent of ‘total communication’ rather than bilingual education. According to the program's advice, TİD and spoken Turkish should be used at the same time, yet each language should be produced in its own natural grammar rules, which is an almost

impossible cognitive challenge even for experienced interpreters. Thus, the program that is prepared with good intentions is not realistic for implementation considering the lack of TID education for teachers and interpreters.

According to the reports of the Ministry of Education in 2015, there are 45 Deaf elementary schools (3003 students) and 19 Deaf vocational high schools (2066 students). The participation rate is estimated to be only 10% among Deaf students at schooling age. The reports of the Ministry of Education in 2005-2006 on the distribution of students in Deaf elementary schools and Deaf vocational schools according to cities is presented below:



The numbers of Deaf students in Deaf elementary and vocational schools by city (2005-2006) (with the courtesy of Deniz İlkbařaran, 2015: 64)

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References

- Altınkurt, Nimet. 2008. *Özel eğitim ve rehabilitasyon merkezlerinde yaşanan sorunlar ve çözüm önerileri* [Problems in special education and rehabilitation centers, and suggestions for solution]. Master's thesis. Dokuz Eylül Üniversitesi İzmir. [2.4]
- Demir, Ömer, & Mehmet Aysoy (2002). *Turkey Disability Survey*. State Institute of Statistics, Ankara. [2.2]
- Dikyuva, Hasan. 2011. *Grammatical non-manual expressions in Turkish Sign Language (T)*. Preston, Lancashire, England: University of Central Lancashire (UCLan) MA thesis. [2.3]

- Dikyuva, Hasan. 2012. Mardin Sign Language: signing in a “deaf family”. *Sign Languages in Village Communities: Anthropological and Linguistic Insights*, 4. 395-399. [2.1]
- Ergin, Rabia. *Central Taurus Sign Language: A Unique Vantage Point into Language Emergence*. Diss. Tufts University, 2017. [2.1]
- Genç, G. Aydan, Figen Başar, Maviş E. Kayıkçı, Didem Türkyılmaz, Zerrin Fırat, Öznur Duran, Özlem Ulusoy, Erol Belgin, Bilgehan Budak, Gülsevin Tekinalp, Murat Yurdakök, Şule Yiğit, & Ayşe Korkmaz. 2005. Newborn hearing screening outcomes in Hacettepe University. *Çocuk Sağlığı ve Hastalıkları Dergisi*, 48. 119-124. [2.2]
- Gürboğa, Coşgun & Tevhide Kargin. 2013. İşitme engelli yetişkinlerin farklı ortamlarda kullandıkları iletişim yöntemlerinin/becerilerinin incelenmesi [An investigation of hearing impaired adult’s communication methods and skills in various settings]. *Ankara Üniversitesi Eğitim Bilimleri Fakültesi Dergisi*, 36(1-2). 51-64. [2.2]
- İlkbaşaran, Deniz. 2015. *Literacies, mobilities and agencies of deaf youth in Turkey: Constraints and opportunities in the 21st century*. San Diego, CA: University of California, San Diego PhD Dissertation. [2.2] [2.3] [2.4]
- İlkbaşaran, Deniz. 2016. Türkiye’deki sağır gençlerin iletişim alışkanlıkları ve Türk İşaret Dili’nin toplumsal dilbilimi açısından incelenmesi. In E. Arık, *Ellerle Konuşmak: Türk t Dili Araştırmaları*, 411-444. İstanbul: Koç rsitesi Yayınları. [2.4]
- Kemaloğlu, Yusuf K. 2016. Türkiye’de Sağırın Görünürlüğü ve Toplumsal ve Eğitimsel Sorunları erine Demografik Bir İnceleme. In E. Arık, *Ellerle Konuşmak: Türk t Dili Araştırmaları*, 51-86. İstanbul: Koç niversitesi Yayınları. [2.2] [2.4]
- Kubus, Okan & Deniz İlkbaşaran & Shane K. Gilchrist. 2016. Türkiye’de İşaret Dili Planlaması ve Türk İşaret Dili’nin Yasal Durumu. In E. Arık, *Ellerle Konuşmak: Türk t Dili Araştırmaları*, 23-50. İstanbul: Koç iversitesi Yayınları. [2.4]
- Kubus, Okan 2016. *Relative Clause Constructions in Turkish Sign Language*. PhD Dissertation. University of Hamburg.[2.3]
- Makaroğlu, Bahtiyar & Hasan Dikyuva. 2016. *Yabancı dil olarak Türk t Dili eğitim seti* [Turkish Sign Language education package as second language]. Ankara University. tidegitim.com (last access March 8, 2018). [2.3]
- Milli Eğitim Bakanlığı [Ministry of Education] 2015. *Türk t Dili Dersi Etkinlik Kitabı (1, 2, 3. Sınıflar* [Turkish Sign Language Course Activity Book (1st, 2nd, and 3rd Grades). URL: http://orgm.meb.gov.tr/dosyalar/Turk_Isaret_Dili_188SFa.pdf (last access March 8, 2018) [2.4]

- Milli Eğitim Bakanlığı [Ministry of Education]. 2016. *Türkçe İşaret Dili dersi öğretim programı yürürlükte* [Turkish Sign Language Course education program is in operation]. URL: <http://orgm.meb.gov.tr/www/turk-isaret-dili-dersi-ogretim-programi-yururlukte/icerik/766> (Last access March 8, 2018 [2.4])
- Morton, Cynthia C., & Walter E. Nance. 2006. Newborn hearing screening - a silent revolution. *New England Journal of Medicine*, 354(20). 2151-2164. [2.2]
- Tekin, Mustafa & Z. Serap Arıcı. 2007. Genetic epidemiology of congenital/prelingual deafness and mating type. *American Journal of Medical Genetics, Part A*, 143A. 1583-1591.
- Yaprak Kemalöđlu, P. (2012). *Türkiye'de Sađır sporunun toplumsal analizi* [Social analysis of Deaf sports in Turkey]. PhD dissertation. Marmara Üniversitesi Sağlık Bilimleri Enstitüsü, İstanbul. [2.3]

Chapter 3. Status

3.1. Current legislation

The most reputable form of recognition of a language by legislation is recognition of the language as an official language by constitutional law. By 2010 the countries which recognized sign languages in their constitutions were Austria, the Czech Republic, Ecuador, Finland, Portugal, Slovakia, and New Zealand. In Article 42 of the Constitution of Turkey, languages other than Turkish can be taught at schools (subject to other regulations) as long as they are not taught as the mother tongue:

“(…) No language other than Turkish shall be taught as a mother tongue to Turkish citizens at any institution of education. Foreign languages to be taught in institutions of education and the rules to be followed by schools conducting education in a foreign language shall be determined by law. The provisions of international treaties are reserved”

(Taken from https://global.tbmm.gov.tr/docs/constitution_en.pdf)

Considering that sign language education is crucial in early childhood, Skutnabb-Kangas notes two important international documents about linguistic human rights concerning instruction in native language. The first one is the UN ‘Declaration on the Rights of Persons Belonging to National or Ethnic, Religious and Linguistic Minorities’ (1992, Article 4.3) which was adopted unanimously by UN member states:

“States should take appropriate measures so that, wherever possible, persons belonging to minorities have adequate opportunities to learn their mother tongue or to have instruction in their mother tongue”

The other document is the European Council’s ‘Framework Convention on the Protection of National Minorities’ (1998, Article 10.2). Turkey neither signed nor ratified this convention, Andorra, Monaco, and France likewise.

“In areas inhabited by persons belonging to national minorities traditionally or in substantial numbers, if there is sufficient demand, the parties shall endeavour to ensure, as far as possible and within the framework of their education systems, that persons belonging to those minorities have adequate opportunities for being taught in the minority language or for receiving instruction in this language”.

In 2009, Turkey signed the UN ‘Convention on the Rights of People with Disabilities’. The items 3b and 3c of Article 21 do not have the wording ‘mother tongue’, yet demand the following measures:

“(b) Facilitating the learning of sign language and the promotion of the linguistic identity of the deaf community; (c) Ensuring that the education of persons, and in particular children, who are blind, deaf or deafblind, is delivered in the most appropriate languages and modes and means of communication for the individual, and in environments which maximize academic and social development.”

Other than constitutional law and international law, countries can recognize minority languages by other laws. In Turkey, the issues related to human rights during the EU harmonization process, and the pressures from the Deaf community lead to a series of legislations about TİD. The first legislation that has the wording ‘Türk İşaret Dili’ is the Disabilities Act in 2005. This bill recognizes Turkish Sign Language and requires its documentation by the Article 15: “To provide the education and communication of the hearing disabled, Turkish sign language system is created by the directorate of Turkish Language Association.”. In addition, the bill enforces interpretation services, and training of interpreting to be supplied in state institutions in every province. Later regulations came out in the following years (2006, 2011, 2012) related to arrangements about TİD grammar books, interpreter training, and appointment of interpreters.

3.2. Language policy

In this section, policy means courses of actions that are implemented by state and non-state agencies about the requirements by laws and regulations. Policies regarding sign language acquisition and education are explicated in the section about Deaf education [[Socio-historical Background - Chapter 2.4](#)].

As the first solid attempt to fulfill the promises in legislations, Turkish Sign Language Science Council (TİDBO) was founded by the Turkish Language Association (TDK) in 2005. The organization was commissioned by the government for the preparation of a dictionary, a grammar book, and bilingual educational materials. However, TDK underwent some organizational changes, which protracted further steps to be taken. Scientifically informed actions came in 2015, when The Ministry of Family and Social Policies published a TİD grammar book prepared by an expert research team of three linguists, Bahtiyar Makaroğlu, Engin Arık and the deaf linguist Hasan Dikyuva. This book was based on a nation-wide corpus collected from 26 Provinces (about one third of the provinces). Again sponsored by the ministry, Makaroğlu and Dikyuva published an online TİD dictionary in 2017 ([tidsozluk.net](#)), the only TİD dictionary based on lexicographic methodology.

TİD interpreting was first recognized in 2005, in the Supplementary Item 8 of Social Service Law (2828) that was added according to Article 30 of the 2005 Disability Law. In 2006, a regulation was published in the Official Gazette 26264 about the training and working principles of TİD interpreters. The interpreting education (certificate) programs have been far from sufficient in duration and scope. Accordingly, the regulation was reviewed in 2011 and 2012. In order to prevent the repercussions of inadequate interpreting certificates, Turkish Sign Language Science Council (TİDBO) conducted a ‘certificate approval exams’ in 2007,

two exams in 2013, and finally in 2015. The number of interpreters who succeeded in the exams was 10% or less of the applicants.

3.3. Language attitudes

Loss of hearing leads to common obstacles for the members of the Deaf community. These obstacles arise from the systematic or disorderly exclusive practices of social institutions or individuals of the surrounding majority group. In terms of legislative discourse, sign language is not yet regarded to be a linguistic human right of the Deaf community that are composed of autonomous agents, but rather as a service for dependent citizens. Considering the legal documents, the shift of responsibility from Turkish Language Association (TDK) to the Ministry of Family and Social Policies, and that TİD interpreting was first under a Social Service Law (5799) which states its aim in Article 1 as related to social services supplied to people who are in need of care and help.

Kemaloğlu, an ENT (ear, nose, and throat) doctor and researcher in Deaf studies, notes that ‘hearing impaired’ is defined only by medical criteria regarding hearing tests to get disability reports (specifically the regulation about medical disability reports in 2010) given. However, the communication problems in social settings are not necessarily direct reflections of medical tests. Kemaloğlu cites various social variables that need to be considered as suggested by American Speech-Language-Hearing Association such as the reaction of the individual and other individuals. In addition, that there is not a single reference to sign language in this regulation and state statistics about disability (but rather to language and speech disorders) reflects an attitude that totally ignores the linguistic culture and even implies it to be a disorder. A similar uninformed statement exists in Article 15 of the 2005 Disability Law: “To provide the education and communication of the hearing disabled, Turkish sign language system is **created** by the directorate of Turkish Language Association.” (emphasis added by the author). Though it turned out that documentation or standardization is meant by the ‘creation’ of Turkish Sign Language ‘system’, the literal meaning is that TİD is to be created by an institution as if it is not a natural language with its own history.

TİD first appeared on television in the program News for the Hearing Impaired in 1993 by the state channel Türkiye Radyo ve Televizyonları TRT-1 narrated by Nermin Merdanoğlu. In recent years, TİD interpreting was included in certain popular TV shows and news programs in private news channels. Moreover, TRT and two other private TV channels Star and Kanal-D provide TİD interpreting. While TRT arranges interpreting for the news, the private channels have interpretation in soap operas.

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References

- İlkbaşaran, Deniz. 2015. *Literacies, mobilities and agencies of deaf youth in Turkey: Constraints and opportunities in the 21st century*. San Diego, CA: University of California, San Diego PhD Dissertation.
- İlkbaşaran, Deniz. 2016. Türkiye'deki sağır gençlerin iletişim alışkanlıkları ve Türk İşaret Dili'nin toplumsal dilbilimi açısından incelenmesi. In E. Arık, *Ellerle Konuşmak: Türk İşaret Dili Araştırmaları*, 411-444. İstanbul: Koç Üniversitesi Yayınları.
- Kemaloğlu, Yusuf K. 2016. Türkiye'de Sağırın Görünürlüğü ve Toplumsal ve Eğitimsel Sorunlarına Demografik Bir İnceleme. In E. Arık, *Ellerle Konuşmak: Türk İşaret Dili Araştırmaları*, 51-86. İstanbul: Koç Üniversitesi Yayınları.
- Kubus, Okan & Deniz İlkbaşaran & Shane K. Gilchrist. 2016. Türkiye'de İşaret Dili Planlaması ve Türk İşaret Dili'nin Yasal Durumu. In E. Arık, *Ellerle Konuşmak: Türk İşaret Dili Araştırmaları*, 23-50. İstanbul: Koç Üniversitesi Yayınları.
- Tove Skutnabb-Kangas. 2000. Bilingual education and sign language as the mother tongue of deaf children. In Cynthia J. Kellett Bidoli & Elana Ochse, *English in International Deaf Communication*. 75-94. Bern: Peter Lang.

Chapter 4. Linguistic study

Sign language studies began in the 2000s and the academic interest has been growing in linguistics, as well as other humanities and engineering areas. According to Engin Arık's compilation of TİD studies, there are a few publications per year between 2000-2004 as journal articles, book chapters, proceedings, theses, dissertations, and conference presentations. With a steady increase through the years, there have been 12 to 15 scientific works per year between 2011-2013 on TİD. This chapter will give brief information about grammatical description (4.1), lexicographic work (4.2), and corpora (4.3). Finally, the current state of knowledge about sociolinguistic variation of TİD will be summarized in section 4.4.

Besides linguistic studies, there is a growing interest in computer science and engineering studies about Turkish Sign Language. There were 19 scientific studies by 2016 about automatic translation, education incorporating human-computer/robot interaction, and various other subjects. This line of research might open up new application possibilities of technology for society in the long-term (e.g. Aran, Santemiz, Arı, Kındıroğlu, & Akarun, 2016; Eryiğit, Köse, Kelepir, & Eryiğit, 2016; Köse, Uluer, & Akalın, 2016; Santemiz et al., 2009).

4.1. Grammatical description

The first linguistic work on TİD was conducted by Ulrike Zeshan with observations about the pronominal system, numerals, tense and aspect, non-manual markers, sentence types and classifiers in 2002. Later years saw the flourishing of TİD studies. The main topics studied are listed in the table below:

Topic	Example Study
Basic grammar	Açan (2001, 2007), Sevinç (2006)
Phonetics, phonology, and morphology	Kubuş (2008), Özkul (2013), Taşçı (2012)
Non-manuals and sentence types	Zeshan (2006), Gökgöz & Arık (2011), Gökgöz (2011), Makaroğlu (2012), Göksel & Kelepir 2013, Özsoy et al. (2015)
Syntax	Gökgöz (2009), Göksel & Kelepir 2016
Signing Space	Arık (2013), Özyürek et al. (2010)
Language acquisition	Sümer and Özyürek (2016), Sümer (2015a, 2015b)

(Adapted from Arık, 2013: 3)

The first comprehensive TİD grammar book is prepared by Hasan Dikyuva, Bahtiyar Makaroğlu, and Engin Arık in 2015, by the support of the Ministry of Family and Social Policies. An English version of the book has been published in 2017. The book is based on a

104 hours-long video database, out of which approximately 20% is annotated (165.000 signs) with ELAN software. The sample is composed of 113 participants above the age of 12, who are native or near-native signers from 26 provinces. There are four to eight participants from each town, and four to five towns each from Western, North-Western, Central, Northern, Eastern, and Southern regions. The project team is composed of seven academic members and eight Deaf members specialized in various technical aspects.

4.2. Lexicographic work

There are two types of lexicographic work on TİD. One type is similar to standard spoken language dictionaries that are prepared according to lexicographic and linguistic methodologies. The only TİD dictionary of this kind is ‘The Current Dictionary of TİD’ (Güncel Türk İşaret Dili Sözlüğü) which has been online since 2017 (tidsozluk.net). The dictionary was prepared by a team led by Bahtiyar Makaroğlu and Hasan Dikyüva, sponsored by the Ministry of Family and Social Policies. The dictionary is based on the corpus described in the previous section [[Socio-historical Background - Chapter 4.1](#)] with 165.000 annotated signs. The online dictionary consists of 2000 lexical entries that have the highest frequency of occurrence in the corpus. Different from other dictionaries, search options are two-ways between TİD and Turkish. In other words, a sign can be searched by entering its handshape and location properties, or alternatively writing the Turkish translation. Each lexical entry consists of variants, other senses of the word, and sample sentences for each sense of the word. The ordering of the multiple senses are also based on the frequency of occurrence.

The other type of lexicographic work is semi-lexicographic in the sense that most of them are prepared by presenting Turkish words to a Deaf model and asking her/him to produce the signs for the words. By 2015, the following Turkish-to-TİD word translation lists were published online or in press as cited in Dikyüva et al.’s grammar book:

‘Sign Language Guide for Adults’ *Yetişkinler için İşaret Dili Kılavuzu* (Ministry of Education Special Education, Guidance and Counseling Services General Management, 1995); updated and published in 2012 as *Turkish Sign Language Dictionary* “Türk İşaret Dili Sözlüğü”.

‘Turkish Sign Language Word List’ *Türk İşaret Dili Kelime Listesi* (Özyürek, İlkbaşaran, & Arık, 2004; 750-word, Koç University).

‘Turkish Sign Language Resource Website’ *Türk İşaret Dili Kaynak Sitesi* (published online in 2008 and updated several times by İsmail Arı, Pınar Santemiz, and Lale Akarun. Boğaziçi University, Artificial Intelligence Lab in Computer Engineering).

TİD vocabulary list published within the scope of the project *İki Elin Sesi* ‘The Voice of Two Hands’ (The Association of Persons with Disabilities in Turkey, 2008).

‘Turkish Sign Language Education Material’ *Türk İşaret Dili Eğitim Materyali* (İstanbul Metropolitan Municipality, 2012).

‘Turkish Sign Language Manual’ *Türk İşaret Dili Kılavuzu* (Barışık, 2012; Yargı Yayınevi, Ankara).

‘Smart Sign Language’ *Akıllı İşaret Dili* published by ‘Ankara Çankaya Deaf International Sign Language Research Education Instruction and Sports Association’ *Ankara Çankaya Sağırklar Uluslararası İşaret Dili Araştırma Eğitim Öğretim ve Spor Kulübü Derneği* in 2013.

‘Turkish Sign Language’ *Türk İşaret Dili* translation dictionary published online by Anatolian University Open Education Faculty (Akalm, Cavkaytar, Oral 2014).

‘Turkish Sign Language Dictionary of Religious Concepts’ *Türk İşaret Dili Dini Kavramlar Sözlüğü* published by the Turkish Directorate of Religious Affairs in 2014. A positive aspect of the dictionary is that the neologisms are akin to native TİD words in phonological shape, and fingerspelling use is very minimal.

‘Spreadthesign.com’ prepared by European Sign Language Center (2010) that aims to include vocational technical terms in several sign languages together with TİD. However the technical signs heavily rely on fingerspelling rather than native word-formation. Co-ordinator: Thomas Lydell-Olsen. Turkish Sign Language signs from Mert Öztüre İşitme Engelliler Lisesi, İzmir. Co-ordinator: Gökhan Kaya, Teachers: Cevriye Kaya, İlker Şimşek.

4.3. Corpora

The only nationally representative annotated TİD corpus to our knowledge is the corpus created by Dikyuva and Makaroğlu, sponsored by the Ministry of Family and Social Policies. The corpus consists of 104 hours video recording, out of which approximately 20 hours are annotated according to its description in 2015 [[Socio-historical Background - Chapter 4.1](#)].

Boğaziçi University Turkish Sign Language Corpus (BUTIDCorpus) is still under construction which has been supported by multiple projects. In total, there are 55 participants who are native or near-native signers, and most of them are from Istanbul. By September 2017, there is approximately 14 hours of glossed video recording out of 500 hours of recording. This corpus was started in 2012. The first set of recordings were conducted between 2012 and 2015 by Sumru Özsoy (Principal Investigator), Aslı Göksel, Meltem Kelepir, and Engin Arık (İTAK Research Fund, project 111K314: “A model for reference grammars of sign languages: Methods of analysis and description of sign systems in the light of Turkish Sign Language (İşaret dilleri kaynak bilgisi modeli: Türk İşaret Dili ışığında işaret dizgelerini betimleme ve çözümleme yöntemleri)”. This project is connected to COST IS1006 Unraveling the grammars of European sign languages: pathways to full citizenship of deaf signers and to the protection of their linguistic heritage). The corpus has

had additional recordings since April 2016 by Meltem Kelepir (Principal Investigator), Aslı Göksel, and Kadir Gökgöz with the support of the Sign-Hub project “Preserving, researching and fostering the linguistic, historical and cultural heritage of European Deaf signing communities with an integral resource” under EU-Horizon 2020 Research and Innovation. Another project that contributed to the corpus is conducted by Hatice Köse (Principal Investigator, İstanbul Technical University - İTÜ), Gülşen Eryiğit (İTÜ), and Meltem Kelepir (Boğaziçi University) (‘A Signing Avatar System for Turkish to Turkish Sign Language Machine Translation’ by The Scientific and Technological Research Council of Turkey (TUBITAK) with a 1003 grant (no: 114E263)). Finally, there have been recording and annotation work supported by the project ‘Language Contact in Turkey: Documentation and Analysis’, which is funded by Boğaziçi University Research Fund (August 2016 to August 2018) and led by Aslı Göksel.

Finally, BosphorusSign is a TİD corpus that is compiled for mainly computer visual recognition of 855 signs and phrases in health and finance domains (www.bosphorussign.com). Each sign is produced by ten signers to increase the robustness of the recognition system. The corpus is aimed to improve services in hospitals and banks. The research team is led by Lale Akarun from Boğaziçi University Computer Engineering Department supported by SANTEZ 0341.STZ.2013- 2 project.

4.4. Sociolinguistic variation

The anecdotal evidence from Deaf signers and CODAs indicate that there is no communication problem due to regional variation of TİD. Dikyuva, Makaroğlu, and Arık’s grammar book, which is based on a representative sample of the whole of Turkey [Socio-Historical Background - Chapter 4.1], states that the regional variation is observed only in terms of lexical items between Eastern and Western regions, but not in grammatical structure.

Other than regional variation, there can be lexical variation in smaller scale regions, that is variation between Deaf schools, Deaf associations, and families. Moreover, there can be variation between younger and older generations. For example, HOUR is produced by pointing to the wrist, thus this sign is iconically related to wrist watch. Older generations articulate HOUR with a -handshape on the chest, which is iconically related to pocket watches that lost their popularity gradually after World War I.

Authorship information

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References

Açan, Zeynep. 2001. *A study on sign languages and Turkish Sign Language*. Ankara, Turkey: Hacettepe University MA thesis.

- Açan, Zeynep. 2007. *A linguistic analysis on basic sentence types in Turkish Sign Language (TİD) with reference to non-manual activity*. Ankara, Turkey: Hacettepe University PhD dissertation.
- Aran, Oya, Pınar Santemiz, İsmail Ari, Ahmet A. Kındıroğlu & Lale Akarun. 2016. Otomatik İşaret Dili Tanıma ve Türk İşaret Dili İçin Bilgisayar Uygulamaları. In E. Arık, *Ellerle Konuşmak: Türk İşaret Dili Araştırmaları*, 471-498. İstanbul: Koç Üniversitesi Yayınları.
- Arık, Engin. 2016. Geçmişten geleceğe Türk İşaret Dili araştırmaları. In E. Arık, *Ellerle Konuşmak: Türk İşaret Dili Araştırmaları*, 7-22. İstanbul: Koç Üniversitesi Yayınları.
- Arik, Engin. 2013. Expressions of space in Turkish Sign Language. In E. Arik (Ed.), *Current directions in Turkish Sign Language research*, 219-242. Newcastle upon Tyne, UK: Cambridge Scholars Publishing.
- Arik, Engin. 2013. Introduction: Previous and Current Research on Turkish Sign Language (TİD). In E. Arik (Ed.), *Current directions in Turkish Sign Language research*, 1-17. Newcastle upon Tyne, UK: Cambridge Scholars Publishing.
- Dikyuva, Hasan, Bahtiyar Makaroğlu & Engin Arık. 2015. *Türk İşaret Dili Dilbilgisi Kitabı [Turkish Sign Language Grammar Book]*. Ankara.
- Dikyuva, Hasan, Bahtiyar Makaroğlu & Engin Arık. 2017. *Turkish Sign Language Grammar*. The Republic of Turkey Ministry of Family and Social Policies.
- Eryiğit, Cihat, Hatice Köse, Meltem Kelepir & Gülşen Eryiğit. 2016. Building Machine-Readable Knowledge Representations for Turkish Sign Language Generation. *Knowledge-Based Systems. Elsevier*.
- Gökgöz, Kadir & Engin Arık. 2011. Distributional and syntactic characteristics of nonmanual markers in Turkish Sign Language (Türk İşaret Dili, TİD). *MIT Working Papers in Linguistics 62: Proceedings of the 7th Workshop on Altaic Formal Linguistics*, 63-78.
- Gökgöz, Kadir. 2009. *Topics in Turkish Sign Language (Türk İşaret Dili – TİD) Syntax: Verb movement, negation, and clausal structure*. İstanbul, Turkey: Bogazici University MA thesis.
- Gökgöz, Kadir. 2011. Negation in Turkish Sign Language: The syntax of nonmanual markers. *Sign Language & Linguistics*, 14(1). 49-75.
- Göksel, Aslı & Meltem Kelepir. 2013. The phonological and semantic bifurcation of the functions of an articulator: HEAD in questions in Turkish Sign Language. *Sign Language and Linguistics*, 16(1). 1-30.

- Göksel, Aslı & Meltem Kelepir. 2016. Observations on clausal complementation in Turkish Sign Language. In: A. Herrmann, R. Pfau & M. Steinbach (Eds.), *A Matter of Complexity: Subordination in Sign Languages*, 65-94. Berlin: De Gruyter Mouton.
- İlkbaşaran, Deniz. 2015. *Literacies, mobilities and agencies of deaf youth in Turkey: Constraints and opportunities in the 21st century*. San Diego, CA: University of California, San Diego PhD Dissertation.
- İlkbaşaran, Deniz. 2016. Türkiye'deki sağır gençlerin iletişim alışkanlıkları ve Türk İşaret Dili'nin toplumsal dilbilimi açısından incelenmesi. In E. Arık, *Ellerle Konuşmak: Türk t Dili Araştırmaları*, 411-444. İstanbul: Koç rsitesi Yayınları.
- Kemaloğlu, Yusuf K. 2016. Türkiye'de Sağırların Görünürlüğü ve Toplumsal ve Eğitimsel Sorunları erine Demografik Bir İnceleme. In E. Arık, *Ellerle Konuşmak: Türk t Dili Araştırmaları*, 51-86. İstanbul: Koç versitesi Yayınları.
- Köse, Hatice & Pınar Uluer & Nezih Akalın. 2016. İnsansı Robot Destekli İnteraktif Türk İşaret Dili Eğitimi. In E. Arık, *Ellerle Konuşmak: Türk t Dili Araştırmaları*, 499-528. İstanbul: Koç rsitesi Yayınları.
- Kubus, Okan & Deniz İlkbaşaran & Shane K. Gilchrist. 2016. Türkiye'de İşaret Dili Planlaması ve Türk İşaret Dili'nin Yasal Durumu. In E. Arık, *Ellerle Konuşmak: Türk t Dili Araştırmaları*, 23-50. İstanbul: Koç iversitesi Yayınları.
- Kubus, Okan 2008. *An analysis of Turkish Sign Language (TID) phonology and morphology*. MSc Thesis. Middle East Technical University.
- Makaroğlu, Bahtiyar, & Hasan Dikyuva (Ed.). (2017). *Güncel Türk t Dili Sözlüğü [The Contemporary Turkish Sign Language Dictionary]*. Ankara: Aile ve Sosyal Politikalar Bakanlığı. URL: <http://tidsozluk.net>.
- Özkul, Aslı. 2013. *A phonological and morphological analysis of instrumental noun-verb pairs in Turkish Sign Language*. MA thesis. Bogazici University, İstanbul.
- Özsoy, A. Sumru, Meltem Kelepir, Derya Nuhbalaoğlu & Emre Hakgüder. 2015. Commands in Turkish Sign Language. *Journal of Japanese Linguistics Society*, 146: 13-30. Gengo Kenkyu.
- Özyürek, Aslı, Inge Zwitterlood & Pamela M. Perniss. 2010. Locative expressions in signed languages: A view from Turkish Sign Language (TID). *Linguistics*, 48(5), 1111-1145.
- Santemiz, Pınar, Oya Aran, Murat Saraclar & et al. 2009. İşaret dili videolarından hizalama ile ayrık işaret çıkarımı [Alignment Based Extraction of Isolated Signs from Sign Language Videos]. IEEE Conference Publications.

- Sevinç, A. Müge. 2006. *Grammatical Relations and Word Order in Turkish Sign Language* (Türk İşaret Dili). MSc Thesis. METU, Ankara.
- Sümer, Beyza & Aslı Özyürek. 2016. İşitme Engelli Çocukların Dil Edinimi [Sign language acquisition by deaf children]. In C. Aydın, T. Goksun, A. Kuntay, & D. Tahiroglu (eds.), *Aklın Çocuk Hali: Zihin Gelişimi Araştırmaları, [Research on Cognitive Development]* 365-388. Istanbul: Koc University Press.
- Sümer, Beyza. 2015a. *Acquisition of spatial language by signing and speaking children: A comparison of Turkish Sign Language (Türk İşaret Dili) and Turkish*. PhD dissertation. Radboud University of Nijmegen, NL.
- Sümer, Beyza. 2015b. *Scene-setting and Referent Introduction in Turkish and Turkish Sign Language (Türk İşaret Dili, Turkish): What Does Modality Tell Us?*. MA Thesis, Boğaziçi University.
- Taşçı, Süleyman S. 2012. *Phonological and morphological aspects of lexicalized fingerspelling in Turkish Sign Language (TID)*. Master's Thesis. Bogazici University, Istanbul.
- Zeshan, Ulrike. 2002. Sign Language in Turkey: The story of a hidden language. *Turkic Languages*, 6(2), 229-274.
- Zeshan, Ulrike. 2006. Negative and interrogative structures in Türk İşaret Dili (Turkish Sign Language). In U. Zeshan (ed.), *Interrogative and Negative Constructions in Sign Languages*, 128-164. Nijmegen: Ishara Press.

Phonology

Chapter 1. Sublexical structure

The sublexical structure involves features of sign articulation which are handshape, movement, location and orientation. These *phonological* features are not about all precise details in articulation i.e. phonetics, but about recurrent properties across various signs regardless of meaning.

Certain iconic signs have a dramatically different sublexical structure than other signs, such as the manual alphabet [Lexicon - Chapter 2.2.2.] or lexicalizations of classifier constructions [Lexicon - Chapter 1.2.1.].

1.1. Active articulators

1.1.1. Contrastive handshapes

Contrastive handshapes are handshapes that can distinguish at least two signs that have the same location and movement. See below two pairs of signs where such a meaning distinction is made by different handshapes. In the first pair, LUCK and WINE, H -handshape and S -handshape are distinctive. In the second pair, CHICKEN and PUNISHMENT, the distinctive handshapes are D-handshape and r-handshape.

LUCK

[video example]

WINE

[video example]

(adapted from Dikyuva, Makaroğlu, & Arık, 2015: 105)

CHICKEN

[video example]

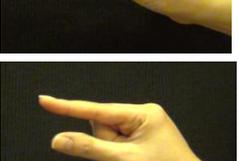
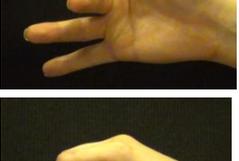
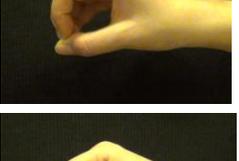
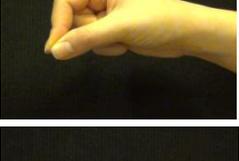
PUNISHMENT

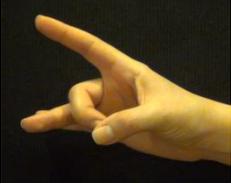
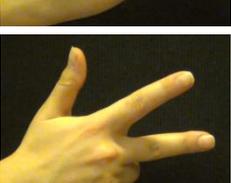
[video example]

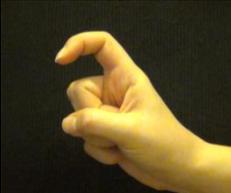
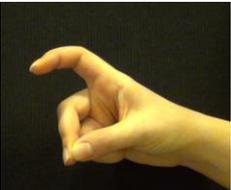
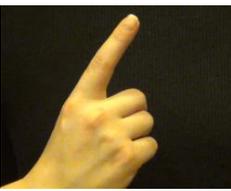
(adapted from Kubus 2008: 19)

Distinctive handshapes and example signs with the respective handshapes are listed below. Handshape names are given according to the selected fingers or similarity of the handshape to a fingerspelled letter, number, or a lexical sign in TİD.

	Handshape Picture	Handshape Name	Example Signs
1		Letter C	MOON, COFFEE, DEVIL, TURKEY
2		Letter L	FESTIVAL, SHOUT, WEDNESDAY, THURSDAY, VILLAGE
3		Letter O	GREEN, SILVER, PLEASE, GOLD, NONE, ORGANIZATION
4		Letter P	FRAUD, EMPTY, FIGHT
5		Letter U	THROAT, THICK, URFA (city name)
6		Thumb	PRESIDENT, SPORTS, APPOINTING
7		Closed Four	ISTANBUL, MOUSE, MIRROR, EQUAL, CLOSED, KARATE
8		Closed Five	STOP, HELP, HIT, FRIEND, IGNORANT

9		Claw	SELF, MOTHER, OWN, MAD
10		Bent flat	SUPPORT, FUNNY, GRANNY, CHEESE
11		Open C	BINOCULARS, GLASS, GROUP
12		Bent parallel	SOFT, VIDEO, VOTE, FILE
13		Small	SUSPICION, WHISTLE, THIN, GRAPES
14		Middle Finger	PUNISHMENT, GOAL, CONSCIENCE, FORGIVE
15		Wide O	PIPE, TELESCOPE, LABORATORY, VERTEBRA
16		Narrow O	MATCHES, PERMISSION, FEW, STRING, EASY
17		Good	CHILD, EAT, PROBLEM, GUILT, EGG

18		Middle finger and thumb	TAKE-OUT, FIRE-SOMEBODY, DIET
19		Good luck	REPORT, NOT-RECOGNIZE, TWELVE
20		Covered T	DO/MAKE, DIFFICULT, OFFER, PAYMENT
21		Letter H	WANDER, BED, SAVING
22		Little finger	GUEST, BAD, TUESDAY, FAVORITISM, RIDICULE
23		Letter Y	SAME, HEAVY, GAME, AIRPLANE
24		Three fingers	AGRICULTURE, DE-JURE, ALAWITE
25		Four fingers claw	FAMILY, PRISON, PUSH, DEFENCE
26		Letter V	SEE, FASHION, POLICE, THEATRE, NORMAL

27		Open five	EXIST, WANT, BLACK, KNOW, WANT, DUMB, QUEUE
28		Number seven	GIRL, FRIDAY, STAR, QUICK, WINE, TRAINING
29		Number eight	SIT, BLUE, LOVE
30		Number nine	YEAR, WRONG, UNCLE, KING, GOSSIP, HOT, INVESTIGATION, FIND
31		Closed fist	GET-BORED, GET-ANGRY, ACCIDENT, PRESS
32		Fingersnapping	FORGET, RUN-AWAY, FAST
33		Index finger	COMMAND, RED, NO, LUCK, SUNDAY

(r.f. Kubus 2008:39-42 and Dikyuva, Makaroğlu, & Arık 2015:103)

Half of the lexical items involve one of the following frequent handshapes: x -handshape and H, and Good-Handshape. Besides, 1 (or ASL-S handshape), O, >, 2handshapes constitute about one quarter of the lexicon. Other handshapes such as f -handshape are less frequent.

Handshape includes phonological features of *selected fingers* and *joint configuration*. Selected fingers in a sign are the fingers that can be flexed, that can have movement in fingers, or that can contact a location on body. The pair of signs INVESTIGATOR and MANAGE are different in terms of selected fingers. INVESTIGATOR has index and pinky fingers, whereas MANAGE has index and middle fingers as selected.

INVESTIGATOR
[video example]

MANAGE
[video example]

(adapted from Makaroğlu, Bekar, & Arık 2014: 217)

Joint configuration is about the flexion properties of selected fingers. The flexion can be in finger joints, that is the first two joints in fingers. The signs LUCK and HOT are distinguished based on finger joints.

LUCK
[video example]

HOT
[video example]

(adapted from Makaroğlu, Bekar, & Arık 2014: p.214)

Alternatively, the base joints (the third joints from fingertips) can be flexed. This feature is distinctive as the pair FULL and FUNNY shows.

FULL
[video example]

FUNNY
[video example]

Orientation of the hand is another feature that distinguishes meaning. Orientation is about which direction the hand is facing. For example, in the sign EARTHQUAKE, the palms are facing down whereas in ISLAMIC.MEMORIAL.CEREMONY the hands are facing up as exemplified below:

EARTHQUAKE
[video example]

ISLAMIC.MEMORIAL.CEREMONY
[video example]

1.1.1.1. Selected fingers

1.1.1.2. Finger configuration

1.1.2. Orientation

1.1.3. The manual alphabet & number signs

Exceptional handshapes can be found in the manual alphabet, number signs and borrowed signs. For example, P-handshape in lexical forms such as FRAUD and EMPTY is different from the fingerspelled letter. While index finger is flexed in the lexical form, middle finger is flexed in the fingerspelled form.



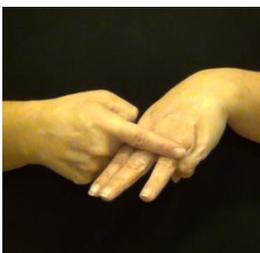
P-handshape in lexical forms



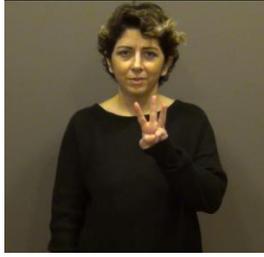
P-handshape in fingerspelling

(adapted and r.f. from Kubus 2008: 50)

A handshape where index, middle, and ring fingers are open occurs only in fingerspelled letter E, W (as lexicalized in WHATSAPP), and also for the numeral THREE. The handshape is exemplified below with the fingerspelled letters E, W :



The letter E



The letter W

Numeral signs can contain handshapes that have certain selected fingers that do not occur in lexical signs. Such an example is TWENTY.FIVE where the ring finger and thumb are selected. This is a selected finger combination that only occurs in number signs.

TWENTY.FIVE

[video example]

Apart from the manual alphabet and number signs, exceptional handshapes can also occur in name signs and loan words [[Lexicon - Chapter 2](#)]

1.1.4. Other active articulators

1.2. Location

The major locations for the articulation of signs are head, torso, arm, and nondominant hand (h2). *Setting* further specifies a major location as either being ipsilateral (right side of a right-handed signer), contralateral (left side of a right-handed signer), low, high, contact, proximal, and distal. Moreover, each location can be specified with an exact setting unique to the major location (e.g. *eyes* is an exact setting of the major location *head*). Below, a table with all locations and all exact settings are presented with examples.

Major Loc	Setting	Exact Setting	Example Sign
Arm	Contact	Whole arm	STREET
Arm	Contact	Elbow	BLUE.JEANS
Arm	Hi	Upper Arm	YELLOW
Arm	Low, contact	Lower Arm	HOMETOWN
h2	Contact	Dorsal Hand	LATE
h2	Contact	Fingers	RIDE
h2	Contact	Whole hand	ORANGE
h2	Contact	Palm	INVESTIGATE

h2	Contact	Radial and Ulnar Lateral Border of the Hand	INSIDE
h2	Contact	Wrist	DOCTOR
Head	Contact	Cheeks	LOOK
Head	Contact	Ear	WEDNESDAY
Head	Contact/ Proximal	Eyes	DECEMBER
Head	Contact	Whole head	POOR
Head	Contact	Mouth	RED
Head	Contact	Nose	EASY
Head	Contact	Upper Head	HOT
Head	Proximal	Proximal Face	MIRROR
Torso	Contact	Whole body	CLOTH
Torso	Contact	Neck	PLEASE
Torso	Contact	Shoulders	NEW
Torso	High, Contact	Chest	LAW
Torso	Low	Hips	SHORT
Torso	Low	Pelvis	SWIMSUIT
Torso	Low, Contact	Abdomen	ACCUSATION
Torso	Proximal	Proximal Torso	KEY

(adapted and expanded from Makaroğlu & Dikyuva 2017)

Half of all the lexical items involve the torso as the major location, and one third of the signs are produced in head location. Less frequent locations are the nondominant hand and the arm. The nondominant hand serves as the major location for less than one fifth of the lexicon while the arm is extremely rare appearing in only two per cent of the signs.

Except the exact settings in the locations arm and nondominant hand, the most rare exact settings predominantly allow only iconically motivated signs. The exact setting of eyes appear in eye-related words such as EYE, EYEGASSES, TEARDROP, BROW, and EYELASHES (with the exception of DECEMBER). Other such rarely occurring exact settings that serve as the setting for iconic signs are the body (e.g. CLOTH, SHIRT), the pelvis (e.g. SWIMSUIT), and the hips (e.g. SHORTS).

1.3. Movement

Movement is a main parameter of a sign's sublexical structure besides hand configuration and location. Two main types of movement are path movement and hand-internal/secondary movement. Path movements are realized by flexions in the wrist, elbow, and shoulder joints;

while hand-internal movements are produced by flexion of finger joints or rotation of forearm which leads to change in hand-orientation. The exact setting of a sign is necessarily changed by path movement but not by hand-internal movement. Additionally, if a sign has neither path nor hand-internal movement; it may have one of the following types of movement: (i) short back-and-forth repetitive movements that generally last shorter than two hundred milliseconds (see [Phonology - Chapter 2] for the prosodic function of this type of movement); (ii) non-manual movements (movement of head, or torso) with no movement in hands [Phonology - Chapter 1.5.3.]

1.3.1. Path movement

Path movements are movements that move the hand(s) in space. The shape of a path movement can be straight (e.g. AIRPLANE), arc (e.g. PARTY), circular (e.g. ENGINE), or a complex path (e.g. GRASS). See the examples below:

AIRPLANE

[video example]

PARTY

[video example]

ENGINE

[video example]

GRASS

[video example]

The most frequent movement shape is straight movement which appears in more than half of all signs that have a path movement. Arc and circular movement each make up about one sixth of signs that have path movement. Complex path shapes are less frequent and occur in five percent of signs with a path movement.

1.3.2. Secondary movement

Secondary movements or internal movements are of three types: orientation change that involves rotation of the forearm (e.g. SUN), aperture change that is realized by the movements of the fingers (e.g. CAKE), and wiggle which is a set of very rapid movements of fingers (e.g. COMPUTER) or forearm (e.g. GOLD). Wiggle is seen less frequently than other hand-internal movements.

SUN

[video example]

CAKE

[video example]

COMPUTER

[video example]

GOLD

[video example]

As for the tendencies in signs that have a combination of an internal movement with a path movement, about half of the signs that have aperture or orientation change also have a path movement. Orientation change mostly co-occurs with straight movements (e.g. SUN), and less frequently with arc movements (e.g. SOCKS).

SUN

[video example]

SOCKS

[video example]

Aperture change generally combines with a straight movement (e.g. SYRINGE), and sometimes with an arc movement (e.g. CATCH), or a circular path movement (e.g. DREAM). Wiggling is occasionally combined with a straight path movement (e.g. BRIGHT).

SYRINGE

[video example]

CATCH

[video example]

DREAM

[video example]

BRIGHT

[video example]

In terms of the most frequent combinations of hand-internal movements, orientation change mostly co-occurs with wiggling (e.g. BRIGHT), and sporadically with aperture change (e.g. CHAIN). Aperture change is very infrequently combined with wiggle (e.g. COMPUTER) and orientation change (e.g. CHAIN). Wiggling usually appears with orientation change (e.g. BRIGHT), and rarely with aperture change (e.g. COMPUTER). See the example CHAIN below.

CHAIN

[video example]

1.4. Two-handed signs

More than half of the lexicon is composed of two-handed signs. These signs are grouped under two categories, symmetrical, and asymmetrical signs, according to hand arrangement, that is, the relative complexity of handshape and movement features of the two hands. Symmetrical signs have the same handshape and similar movement in both hands, whereas in asymmetrical signs the dominant hand has movement but the second hand is the major location of the sign. Sixty percent of two-handed signs are symmetrical.

1.4.1. Symmetrical signs

In a symmetrical sign both hands have the same handshape and the movements of the two hands can be either the exact mirror image of each other along a body plane (e.g. PARTY), or the initial and final settings of the movements might alternate between the two hands at a given time (e.g. TREE). The plane of symmetry can be saggital as in PARTY and TREE, transverse as in TURTLE, or coronal as in CINEMA.

PARTY

[video example]

TREE

[video example]

TURTLE

[video example]

CINEMA

[video example]

Rarely, the hands have different handshapes, yet move symmetrically (e.g. BUS-STOP, SHISH-KEBAB). In this rare group, the hands are generally in contact or are very close to each other except PUMPKIN.

BUS-STOP

[video example]

SHISH-KEBAB

[video example]

PUMPKIN

[video example]

1.4.2. Asymmetrical signs

In asymmetrical signs, the dominant hand is phonologically more complex than the non-dominant hand,; specifically, the non-dominant hand is the major place of articulation with no movement feature, whereas the dominant hand has movement and its handshape is equally complex or more complex than the handshape of the non-dominant hand.

The asymmetrical signs are classified into two groups based on the sameness or unlikeness of handshapes. In one group, the handshapes are the same and they are generally among the handshapes listed below:

Handshape

Example sign



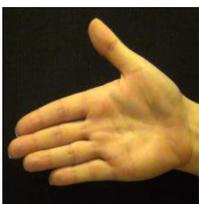
KNIFE



PARSLEY



URGENT



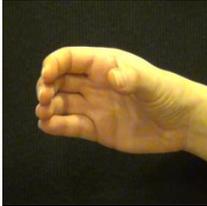
WEDDING



ASSISTANT



ROCK



BOTTLE



BE-LOST



MATCHES



TAILOR

However, exceptions exist such as the P-handshape in TUESDAY as shown below:



TUESDAY

Asymmetrical signs that have different handshapes is another class of signs where the handshape of the non-dominant hand can only be one of the most frequent and least complex handshapes. These nondominant hand handshapes are listed below with example lexical items.

Handshape

Example Sign



ASSIGNATION



CHICKEN



OPPRESSION



FLAG

Exceptions to this pattern almost always appear in iconically motivated signs. Such an exception is TUNNEL with respect to the h2 handshape since KP (Claw) handshape is not among the frequent handshapes list above.

TUNNEL

[video example]

Another exception is CINEMA with respect to the nondominant hand location. The dominant hand is not close to the nondominant hand, yet the nondominant hand iconically represents the shape of a bigger object than the hand, namely an old-style camera. Similarly in WATERMELON, the nondominant hand represents only a fragment of the watermelon's contours. The examples are presented below.

CINEMA

[video example]

WATERMELON

[video example]

1.5. Non-manuals

Lexical non-manual features are organized in three categories: mouth gestures, mouthings, and other non-manuals such as facial expressions, and movements of torso or head. The non-

manuals described in this section are obligatory properties of lexical items, probably except mouthings. So, their function is purely phonological, in other words, the sign's production is incomplete without the particular non-manual. Thus, these lexical non-manuals are unlike the non-manuals required by prosody (such as the slight head nod that occurs in many citation forms) [[Phonology - Chapter 2](#)] or nonmanuals that determine sentence types [[Syntax - Chapter 1](#)].

1.5.1. Mouth gestures

Mouth gestures are actions performed by tongue, cheeks, and lips. For example, the mouth is puffed in the sign HAVE-DIFFICULTY, lips perform a blowing action in PAPER and WIND, and the tongue is protruded in DEAD:

HAVE-DIFFICULTY	
[video example]	(adapted and r.f. from Dikyuva et al. 2015: 118)
PAPER	
[video example]	(adapted and r.f. from Dikyuva et al. 2015: 117)
DEAD	
[video example]	(adapted and r.f. from Dikyuva et al. 2015: 118)

As very exceptional cases, proper nouns can be composed of solely non-manuals. ALSANCAK, a district in İzmir, is signed by a movement of lips to the ipsilateral side.

ALSANCAK	
[video example]	(adapted and r.f. from Dikyuva et al. 2015: 122)

1.5.2. Mouthing

Mouthing copies the articulation of a sign's Turkish translation. In other words, during the manual production of a sign, the lips, and the tongue in some cases, silently perform the movements of a spoken word's production [[Lexicon - Chapter 2](#)]. Though citation forms are almost always accompanied by mouthing, in natural signing, the mouthing component might be lost if the referent of a sign is well-established in discourse [[Pragmatics - Chapter 2](#)].

Mouthing can disambiguate signs that are homophones otherwise. For example, the sign MUNICIPALITY and MUNICIPALITY-BUS have the same manual component, yet they are differentiated by mouthing. The former has [belediye] 'municipality' as mouthing, whereas the latter has [otobüs] 'bus'.

MUNICIPALITY	
[video example]	
MUNICIPALITY.BUS	
[video example]	

Mouthing can also disambiguate otherwise homophonous nouns and verbs such as LIGHTER (noun) and FLICK.LIGHTER (verb). Nouns display mouthing more frequently than verbs. See the examples below.

LIGHTER

[video example]

FLICK.LIGHTER

[video example]

1.5.3. Other non-manuals

Lexical non-manuals besides mouth gestures can be movements of body, head, brows, eyes, and eyegaze. To exemplify, LUCK and MAYBE have the same manual features, yet MAYBE has brow-raise in its phonological specification while LUCK doesn't.

LUCK

[video example]

MAYBE

[video example]

(adapted and r.f. from Dikyuva et al., 2015: 116)

As for body movement, the sign KONYA, a city name, has no manual movement but only repetitive sideward head movements. Contrasting in movement feature, SELF has only manual movement.

KONYA

[video example]

SELF

[video example]

(adapted and r.f. from Makaroğlu, Bekar, & Arik, 2014: 224)

Information on data and consultants

The descriptions in this chapter are partially based on the references below and partially on research done by the author during the development of this chapter. Please see the data and consultant information in the references.

A certain portion of the descriptions in Section [1.1] and the majority of descriptions in Sections [1.2], [1.3], and [1.4] are based on original research by the author. The data that contributed to this research have been provided by two near-native fluent signers. The analyses are based on a corpus of 600-800 signs.

Additionally, the linguistic data in images and video clips that were produced or reproduced for this chapter were provided by a near-native fluent signing consultant who was born and raised in Istanbul.

Authorship information

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References

Dikyuva, Hasan, Bahtiyar Makaroğlu & Engin Arık. 2015. *Türk İşaret Dili Dilbilgisi Kitabı [Turkish Sign Language Grammar Book]*. Ankara. [1]

Kubus, Okan & Annette Hohenberger. 2011. The phonetics and phonology of TİD (Turkish Sign Language) bimanual alphabet. In R. Channon and H. van der Hulst (eds.), *Formational units in sign languages*, 43-63. Berlin: Walter de Gruyter. [1.1.3]

Kubus, Okan 2008. *An analysis of Turkish Sign Language (TID) phonology and morphology*. Ankara, Turkey: Middle East Technical University MA thesis. [1.2], [1.3], [1.4]

Makaroğlu, Bahtiyar, & Hasan Dikyuva (Ed.). (2017). *Güncel Türk İşaret Dili Sözlüğü [The Contemporary Turkish Sign Language Dictionary]*. Ankara: Aile ve Sosyal Politikalar Bakanlığı. URL: <http://tidsozluk.net>. [1.2]

Makaroglu, Bahtiyar & İpek P. Bekar & Engin Arık. 2014. Evidence for minimal pairs in Turkish Sign Language. *Poznań Studies in Contemporary Linguistics*, 50(3), 207-230. doi: 10.1515/psicl-2014-0015 [1]

Özkul, Aslı. 2013. *A phonological and morphological analysis of instrumental noun-verb pairs in Turkish Sign Language*. Istanbul, Turkey: Bogazici University MA thesis. [1.5]

Özkul, Aslı. 2016. Türk İşaret Dili'nde araç bildiren isim ve fiil çiftlerine birimbilimsel bir bakış. In E. Arık, *Ellerle Konuşmak: Türk İşaret Dili Araştırmaları*, 211-232. İstanbul: Koç Üniversitesi Yayınları. [1.5]

Taşçı, Süleyman S. 2016. TİD El Alfabeti'nin sözlükselleşmesi ve biçimlenişsel yapılandırılması: El değişimi ve benzeşme olguları. In E. Arık, *Ellerle Konuşmak: Türk İşaret Dili Araştırmaları*, 183-210. İstanbul: Koç Üniversitesi Yayınları. [1.1.3]

Taşçı, Süleyman S. 2013. Hand reversal and assimilation in TİD lexicalized fingerspelling. In E. Arik (Ed.), *Current directions in Turkish Sign Language research*, 71-100. Newcastle upon Tyne, UK: Cambridge Scholars Publishing. [1.1.3]

Taşçı, Süleyman S. 2012. *Phonological and morphological aspects of lexicalized fingerspelling in Turkish Sign Language (TİD)*. İstanbul, Turkey: Bogazici University MA thesis. [1.1.3]

Taşçı, Süleyman S. (forthcoming). Phonological complexity in Turkish Sign Language. [1.3], [1.4]

Taşçı, Süleyman S., Yavuz, Tunç E. (forthcoming). Observations on handshape and location in TİD. [1.2]

Zeshan, Ulrike. 2002. Sign Language in Turkey: The story of a hidden language. *Turkic Languages*, 6(2), 229-274. [1.1.3]

Chapter 2. Prosody

Prosody is the phonological structure of utterances above the phonemic level [Phonology - Section 1.]. Prosody has two functions. It groups utterances into the prosodic constituents Intonational Phrase, Phonological Phrase, Prosodic Word, Foot, Clitic, and Syllable. In addition, prosody contributes to meaning, for instance, it can differentiate a statement [Syntax - Section 1.1.] from a question [Syntax - Section 1.2.].

Prosodic markers can either mark a domain, or, they can mark the boundaries of a prosodic constituent. Domain markers such as the nondominant hand, eyebrow position and head position span over the entire prosodic domain they mark. Boundary markers, on the other hand, such as hand movements, eye blinks, and single head-nods typically occur at one or both boundaries (left or right ends) of a prosodic constituent.

2.1. The lexical level

2.1.1. Syllable

The movement within a lexical sign [Phonology - Section 1.3.] forms a syllable and there are three such movement types. In TĪD, the signs MANY, MATERNAL.AUNT and FORGIVE are all single syllable signs. MANY is a single syllable sign with aperture changing movement: the hand moves from one handshape configuration [Phonology - Section 1.1.1.] to another.



MANY

In contrast, in MATERNAL.AUNT there is a setting change: the hand moves from one setting to another in a major location [Phonology - Section 1.2.].



MATERNAL.AUNT

Finally, in FORGIVE, there is orientation change. The hands move from one position of the palm and fingertips to another [Phonology - Section 1.1.2].



FORGIVE

How many syllables there are in a sign is counted by counting the lexical movements [Phonology - Section 1.3.] in that sign. All of the syllables above are single syllables, also known as monosyllables. There are also signs which include two syllables such as BABY. Such signs are called bisyllabic signs.



Bisyllabic sign BABY, two movements—two syllables

Syllables can differ in another way. They can be light or heavy. If a syllable has only one movement type, it is a light syllable. MANY, MATERNAL.AUNT and BABY above are light syllables. In contrast FORGIVE is a heavy syllable. It has two changes, a path movement [Phonology - Section 1.3.1.] and an orientation changing wrist movement [Phonology - Section 1.3.2.]. LOSE is an example of another sign with a heavy syllable. It is articulated with a path movement where the two hands start together in the neutral space in front of the signer's torso and move away from each other to a distance parallel to the shoulders. During this path movement, a simultaneous secondary movement occurs and this time it is a handshape change from an open hand configuration where the corresponding fingertips of the two hands touch each other to a closed handshape.



LOSE, heavy syllable, path movement and handshape change

Some signs in TĪD contain one syllable, which is illustrated by MATERNAL.AUNT above. TĪD also has signs with two syllables such as BABY. On the other hand, a sign can be smaller than a syllable. An example of such a sign is TURKEY (the country). This sign is static. It doesn't have a defining path movement. In this and other such signs, movement is added to the sign. In the case of TURKEY, this added movement, called epenthetic movement, takes the sign to the forehead from any other position from where a preceding sign ends.



TURKEY, a sign without lexical movement

Sometimes a syllable and a morpheme overlap. MATERNAL.AUNT is a single syllable sign and it is a single morpheme because it has a meaning. But this is not always the case. BABY is also a single morpheme but it has two-syllables. LOOK.AT, is composed of two morphemes although it is a single syllable word. The two morphemes on this verb are the verb meaning and the end point of the movement used for object agreement [[Syntax - Section 2.1.2.3.1](#)]. Finally, the sign TURKEY is smaller than a syllable but it still has a single meaning and therefore it is a morpheme.



LOOK-AT, one syllable but two morphemes

Some compounds [[Morphology - Section 1](#)] may be reduced to a single syllable while having two morphemes. Below SHAMPOO has a [squeeze] morpheme and a [hand-for-hand] morpheme.



SHAMPOO, a compound with a single syllable but two morphemes

Initialized signs [Lexicon – Section 2.2.2.1.] also have syllable structure. In initialization, a movementless/static letter from the manual alphabet [Phonology - Section 1.1.3.] becomes a sign with a lexical movement [Phonology - Section 1.3.]. HIGH-SCHOOL is an initialized sign. Although it is not defined for a movement when it serves as a letter of the manual alphabet [Phonology - Section 1.1.3.], the letter L acquires an elliptical path movement [Phonology - 1.3.1.] when it is used as an initialization in HIGH-SCHOOL. The resulting sign has two syllables because it has two elliptical movements.



HIGH-SCHOOL, example of an initialized sign, only the first syllable is shown

The agentive and the associative suffixes, -CI and -LI respectively, [Morphology - Section 2.1.1.1.], are heavy single-syllable items. In these, a path movement and a handshape change occur during the articulation from the first letter to the second.



Fingerspelled suffix -CI, path movement and handshape change



Fingerspelled suffix -LI, path movement and handshape change

Although the handshape change from the first letter to the second is articulated during a path movement, and thus a syllable is formed, the borrowed suffixes -CI and -LI/-LU still violate a phonological constraint. This constraint is the selected finger constraint which forbids the use of two handshapes within a single syllable.

Compounds [[Morphology - Section 1.](#)] may also be monosyllabic or bisyllabic. For instance, the compound JACKET (*ceket*) is formed with a letter C combined with the sign COAT. The C handshape is imposed on the lexical path movement [[Phonology - Section 1.3.1.](#)] of COAT, which is from the shoulder setting to the mid torso setting of the body major location [[Phonology - 1.2.](#)]. The resulting compound is a monosyllabic sign.



The letter C



COAT



JACKET

2.1.2. Foot

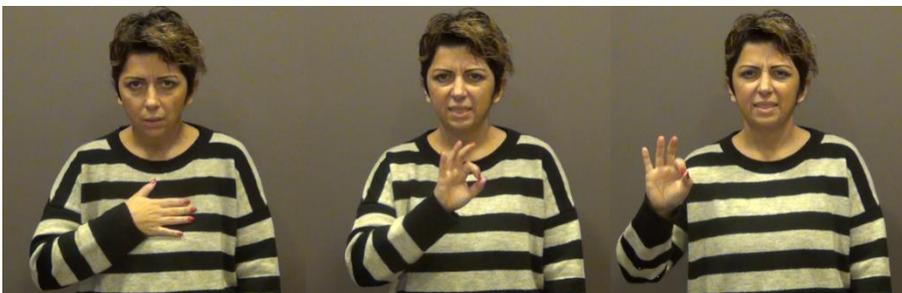
A foot is a rhythmic unit and it is made up of one or two syllables. Below we mention some instances for foot in TĪD. These are some two-digit numbers, the negative affix -LESS, the agentive and associative suffixes, and the sign PERSON.

TĪD groups some of its two digit numbers into foot. SIXTEEN is such a number. Each digit is a single syllable resulting from an epenthetic movement. Together they form a two-syllable unit.



SIXTEEN

The negative affix [[Morphology - Section 2.1.1.2.](#)] -LESS forms a foot with a sign it attaches to. When a lexical item has one movement in its citation form, that movement is kept as a single movement when attached to the negative morpheme.



RESPECTFUL+LESS

When a lexical item has more than one movement in its citation form, the movement of the lexical item is reduced to one so that the lexical item and the negative form a prosodic foot together.

BOOK

[video example]

BOOK+LESS

[video example]

The derivational morphemes -CI and -LI/-LU also form a foot with the lexical sign they attach to. These borrowed suffixes have a single path movement that implements the handshape change from the first letter to the second. If a lexical item with more than one lexical movement is attached to one of these morphemes, the movement of the lexical item reduces to one. So, the lexical item and the suffix form a prosodic foot.

PILAV+CI

[video example]

CACAO+LU

[video example]

The -PERSON suffix also forms a foot with the sign that it attaches to. FOOTBALL has more than one syllable in its citation form. When the -PERSON suffix is attached to it, the number of syllables on FOOTBALL reduce to one. So, the lexical item and the suffix form a prosodic foot in FOOTBALL+PERSON.

FOOTBALL

[video example]

FOOTBALL+PERSON

[video example]

2.2. Above the lexical level

In this section, Prosodic Word, Phonological Phrase and Intonational Phrase are described. These prosodic domains are marked by domain markers [Phonology - Section 2.] which are present from the beginning until the end of the marker and/or edge markers [Phonology - Section 2.] which are present at the edges of these domains.

2.2.1. Prosodic word

Prosodic word is the prosodic domain which is higher than Foot and lower than the Phonological Phrase. It does not always correspond to a morphological word. It is the prosodic

level at which some phonological events such as reduplication, coalescence and cliticization occur as we describe below.

A prosodic word can be made up of a single syllable.



SHAMPOO, single syllable sign forming a prosodic word

Also, a monosyllabic sign can be reduplicated which can still be a prosodic word when nonmanual markers on the lower face, which work as domain markers [Phonology - Section 2], cover the root of the sign and the reduplications on this root. An example is provided below. The signs STAND.FACING.EACH.OTHER and ONE precede and follow SWING.DANCE which is repeated twice. This reduplicated sign forms a single Prosodic Word as well as the preceding and the following signs. The domain of the Prosodic Word is marked by the position of the mouth gesture [Phonology - Section 1.5.1.] and the head. The mouth gets more open from the end of the preceding Prosodic Word and it is kept in that position until the next Prosodic Word starts. Also the head position changes from a head-tilt for the first Prosodic Word to a normal head position during the reduplicated Prosodic Word in the middle to a head turn in the last Prosodic Word.

<u>head-tilt</u>	<u>head-normal</u>	<u>head-turn</u>
<u>mouth open</u>	<u>mouth more open</u>	<u>mouth closed</u>
STAND.FACING.EA	SWING.DANCE++	ONE
(Prosodic Word)	(Prosodic Word)	(Prosodic Word)
'Two upright entities dance.'		
[video example]		

A Prosodic Word can also include more than one sign. For instance, functional words tend to be phonologically weak and often cliticize to lexical hosts. So, a weak pointing sign can cliticize to a lexical host. In such a case, the prosodic word includes more than one sign. Below, the pointing sign is articulated starting in the middle of the movement of the sign LIKE and it ends the Prosodic Word by being present until the end of the movement. A single mouthing [Phonology - Section 1.5.2.] which is mimicking the oral articulatory gestures of the corresponding Turkish words spans over the Prosodic Word. So mouthing works as a domain marker [Phonology - Section 2.] here.

/beğendim/

LIKE IX_{3a}

(Prosodic W.)

‘(I) liked it.’

[video example]

The negative marker [[Morphology - Section 3.5.](#)] also forms a single Prosodic Word with the predicate it attaches to. Being in the same Prosodic Word, the negative marker is articulated in the same location with the lexical sign it attaches to as we show below. Also there is continuity between the lexical sign and the negative marker with respect to nonmanual markers. The backward-head-tilt tends to spread regressively from negation to the predicate. In this use, the backward head tilt functions as a domain marker [[Phonology - Section 2.](#)]. It is present in the entire domain of the Prosodic Word.

backward-head-tilt

HEAR.OF^NOT

(Prosodic Word)

‘I didn't hear of it.’

Coalescence is the reduction of two phonetic units into a single one. An example is provided by the cliticization of negation below, where the dominant hand of the symmetrical [[Phonology - 1.4.1.](#)] two handed-sign START becomes the host of negation. In its citation form, the sign START is realized as a symmetrical two handed sign as we show below. As a symmetrical two handed sign, START satisfies the phonological requirement for coalescence to appear. The example shows how fusion is realized. At the beginning of the cliticized form, START^NEG, the sign START is produced by the two hands in the same configuration (as in the citation form). During the downward movement between the two locations of START, the dominant hand changes its shape producing the handshape of negation, thus realizing the fused form START^NEG in a single Prosodic Word. Also, backward-head-tilt spreads regressively from negation to the host marking the domain [[Phonology - Section 2.](#)] of the Prosodic Word. There is also no mouth gesture [[Phonology - Section 1.5.1.](#)] change between the host and the negative marker. Thus, three elements are marking the domain of the prosodic word: nondominant hand, stability in mouth gesture and backward head-tilt.



START

backward-head-tilt

START^NEG

(Prosodic Word)

[video example]

2.2.2. Phonological phrase

Phonological Phrase is the level where prosodic words are organized into a larger prosodic domain. We see in the section for Prosodic Word [Prosody - Section 2.2.1.] that the mouth, the position of the head or the chin is relevant for marking the domain [Prosody - Section 2.] of a Prosodic Word. The Phonological Phrase, on the other hand, is marked by the spread of the non-dominant hand, (h2) below, across two or more lexical, prosodically strong signs. An example is provided below.

(h1) LATER ONE LATER ONE EGG

(h2) LATER WEEK.....EGG

(Phonological Phra.)

‘One week later, an egg (hatches) ...’

[video example]

The non-dominant hand of the incorporated sign [Lexicon – Section 3.10.1.1.] ONE^WEEK is held in place at the end of the sign until the right edge of the phonological phrase, while the other hand (h1) keeps on articulating the signs LATER and ONE.

The spread of the nondominant hand within the Phonological Phrase can be regressive as well. Below the nondominant hand for the sign FOR starts with BABY which is a case of regressive spread. Also notice that mouthings are different between the two constituents of the Phonological Phrase which contrasts with the mouthing distribution in a Prosodic Word [Phonology - Section 2.2.1.].

/çocuk/ /için/

(h1) BABY FOR

(h2) FOR.....

(Phonological Phr.)

‘For the baby’

[video example]

We see above that negation forms a single Prosodic Word [Phonology - Section 2.2.1.] with the lexical item it attaches to. The same location and the same nonmanual marker are used on the lexical item and negation in such cases. In contrast to negation, another functional sign, the modal marker [Morphology - Section 3.4.] NEED creates a Phonological Phrase. Although the modal marker is signed in the same location with the lexical item that it follows, there is a

position change in the mouth [[Phonology - Section 1.5.1.](#)] and a change in eye gaze. Also each sign keeps its movement intact. The nondominant hand functions as a domain marker [[Phonology - Section 2.](#)] of the Phonological Phrase since it is part of the first sign and is held during the articulation of the second sign.

	<u>eye-gaze-to-object</u>	<u>eye-gaze-to-addressee</u>
	<u>mouth closed</u>	<u>mouth open</u>
(h1)	SHOOT	NEED
(h2)	SHOOT.....	
(Phonological Phrase)	
'(The hunter) needs to shoot.'		
[video example]		

In addition to domain markers, there is also an edge marker [[Prosody - Section 2.](#)] for a Phonological Phrase. This edge marker is lengthening by means of repetition.

	<u>blink</u>			
				<u>brow-raise</u>
				<u>head-forward</u>
	/yarın/	/akşam/	/davet/	/var/
(h1) Hedging	TOMORROW	EVENING++	INVITATION	THERE.IS+++
(h2) Hedging.....		EVENING++	INVITATION.....	
(Phonological Phrase)		(Phonological Phrase)
(Intonational Phrase)		(Intonational Phrase)
'There is an invitation for tomorrow evening.'				
[video example]				

In the example above, there are two Phonological Phrases. The domain of the first Phonological Phrase is marked by mouthing change from the first sign to the second. The repeated movement which gives an effect of bouncing on the sign EVENING marks the edge of this Phonological Phrase. The second Phonological Phrase is marked by the spread of the nondominant hand as well as mouthing change from the first sign INVITATION to the second sign THERE.IS in this Phonological Phrase. There are also 3 repetitions on the second sign, THERE.IS, which marks the right edge of this second Phonological Phrase.

Phonological Words affect each other if they are in the same Phonological Phrase. Such interaction is named external sandhi which is assimilation between words. One such sandhi is seen below:

<u>Mouth-closed</u>	<u>/Beğendim/</u>
IX ₁	LIKE IX _{3a}
handshape assimilation <--	
(Prosodic Word)	(Prosodic Word)

Intonation is described in [Phonology - Section 2.3.3.].

2.4. Interaction

2.4.1. Turn regulation

2.4.2. Back-channeling

Information on Data and Consultants

The descriptions in this chapter are based on the references that are provided underneath the examples. If no such reference is found underneath the example, this reflects new research. Those descriptions are based on corpus searches in Boğaziçi University TİDBİL database.

Author Information

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References

Dikyuva, Hasan, Bahtiyar Makaroğlu & Engin Arık. 2015. *Türk İşaret Dili Dilbilgisi Kitabı [Turkish Sign Language Grammar Book]*, 122. Ankara.

Göksel, Aslı & Meltem Keleş. 2013. The phonological and semantic bifurcation of the functions of an articulator: HEAD in questions in Turkish Sign Language. *Sign Language and Linguistics*, 16(1). 1-30.

Gökgöz, Kadir & Engin Arık. 2011. Distributional and syntactic characteristics of nonmanual markers in Turkish Sign Language (Türk İşaret Dili, TİD). *MIT Working Papers in Linguistics 62: Proceedings of the 7th Workshop on Altaic Formal Linguistics*, 63-78.

Gökgöz, Kadir. & Engin Arık. 2010. Distributional and syntactic characteristics of nonmanual markers in Turkish Sign Language (Türk İşaret Dili, TİD). Paper presented at the *7th Workshop on Altaic Formal Languages (WAFL7)*. LA, CA. (29-31 October, 2010)

Hakgüder, Emre. 2015. *Complex clauses with embedded constituent interrogatives in Turkish Sign Language (TİD)*. Istanbul, Turkey: Boğaziçi University MA thesis.

Makaroglu, Bahtiyar, İpek P. Bekar & Engin Arık. 2014. Evidence for minimal pairs in Turkish Sign Language. *Poznań Studies in Contemporary Linguistics*, 50(3), 207-230. doi: 10.1515/psicl-2014-0015

Taşçı, Süleyman S. 2012. *Phonological and morphological aspects of lexicalized*

fingerspelling in Turkish Sign Language (TİD). Istanbul, Turkey: Boğaziçi University MA thesis.

Zwitserslood, Inge, Pamela Perniss & Aslı Özyürek. 2013. Expression of multiple entities in Turkish Sign Language (TİD). In E. Arık (ed.), *Current directions in Turkish Sign Language research*, 273-302. Newcastle upon Tyne, UK: Cambridge Scholars Publishing.

Chapter 3. Phonological processes

3.1. Processes affecting the phonemic level

3.1.1. Assimilation

Assimilation is described in [[Phonology - Section 2.2.2.](#)].

3.1.2. Coalescence

Coalescence is described in [[Phonology - Section 2.2.1.](#)].

3.1.3. Movement reduction and extension

3.1.3.1. Without joint shift

3.1.3.2. With joint shift

3.1.4. Weak hand drop

3.1.5. Handshape drop

3.1.6. Nativization

3.1.7. Metathesis

3.2. Processes affecting the syllable

3.2.1. Epenthesis

Epenthesis is described in [[Phonology - Section 2.1.1.](#)].

3.2.2. Syllable reduction

3.2.3. Syllable reanalysis

3.3. Processes affecting the prosodic word

3.3.1. Reduplication

Reduplication is described in [[Phonology - Section 2.2.1.](#)].

3.3.2. Phonological effects of cliticization and compounding

Phonological effects of cliticization are described in [Phonology - Section 2.2.1].

Phonological effects of compounding are described in [Phonology - Section 2.2.1].

3.4. Processes affecting higher prosodic units

3.4.1. Organization of the signing space

3.4.2. Differences in “loudness”: Whispering and shouting mode

Lexicon

Chapter 1. The native lexicon

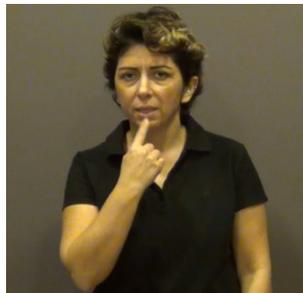
1. Core lexicon

The core lexicon of TİD contains the established signs and it forms the basis of the vocabulary items found in dictionaries such as *Güncel Türk İşaret Dili Sözlüğü* (Updated Turkish Sign Language Dictionary). These are the words that every signer uses in their daily interactions. The vocabulary items in the lexicon are called lexical items. All the lexical items in the TİD core lexicon are invariably formed with one of the hand shapes described in [Phonology – Section 1.1.1.].

Many lexical items are not dependent on the context that they are used in. They can be interpreted when signed on their own. Some examples are below:



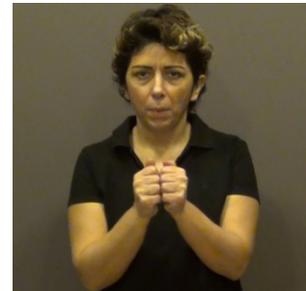
WEDNESDAY



RED

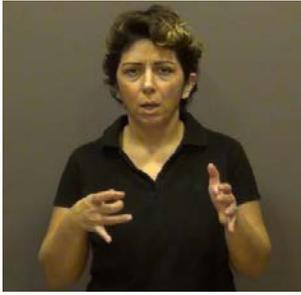


BREAK



TOGETHER

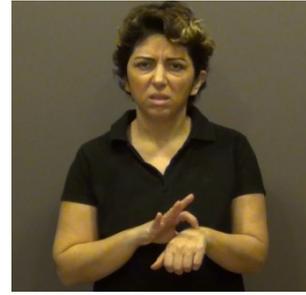
Homonyms: In contrast to the above where signs have meaning independent of the linguistic context they are used in, there are some signs that need to be put into context for their interpretation. These are homonyms, which are signs that have more than one meaning, for example place names and the entities that are typical of those places, or concepts where the name of an entity is used as a substitution for another entity that is related to it (metonymy) [Pragmatics – Section 9.2.]. Examples for these are given below:



WATERMELON
DIYARBAKIR (a town)



TONGUE
LANGUAGE



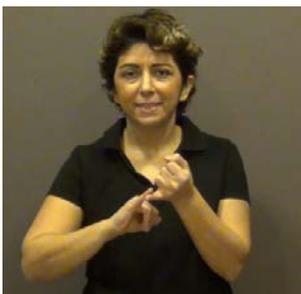
PATIENT
DOCTOR

As another case, there are some lexical items that are accidentally homophonous, with no semantic, visual, or other associative relation between them:

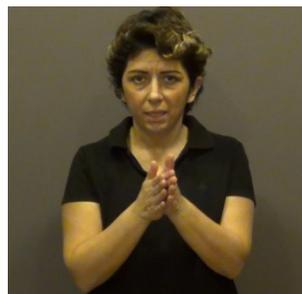


AUGUST – GRAY

Synonyms: Another aspect of the lexicon is that a concept can have more than one word to express it, in which case we have synonyms. Some of the synonyms occur because of the usage conventions in different regions. For example, the name of a day, Tuesday, have different signs in Ankara and in İstanbul:



TUESDAY (Ankara)



TUESDAY (Istanbul)

Lexical items within the same semantic field: Some signs have meanings that have similar associations, in other words, the concepts that they denote have some kind of affinity. Parallel to this, in some such cases, the semantic affinity carries over to their shapes and the signs denoting these concepts may also contain an element of this affinity. For example, the signs that have to do with cognitive faculties such as ‘remember’ and ‘understand’ and the noun ‘psychology’ are all associated with the mind. This is reflected in the phonological properties of the lexical items that denote these signs, such that they are both signed close to the head.



REMEMBER



UNDERSTAND

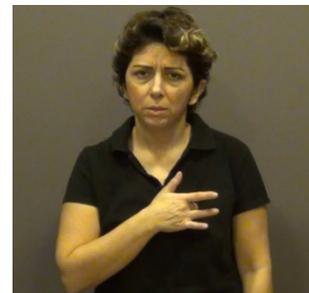


PSYCHOLOGY

Similarly, the signs that have to do with emotions tend to be signed with body contact on the torso, sometimes close to the heart, as the emotions that they denote are associated with the heart:



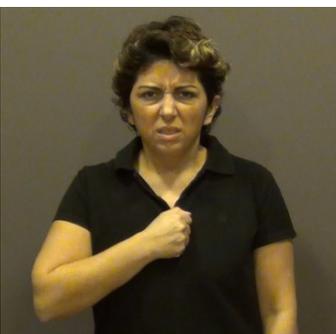
BE.SAD



BE.SORRY.FOR

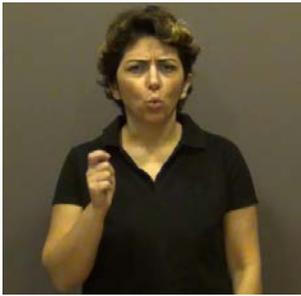


LOVE/LIKE

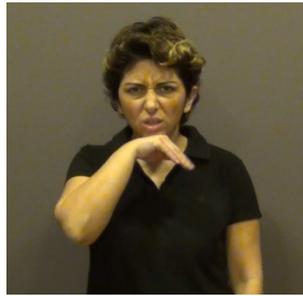


ANGER

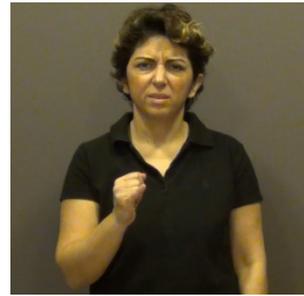
As a final example, some lexical items with socially set negative connotations tend to occur with a squint:



DIFFICULT



OLD (person)

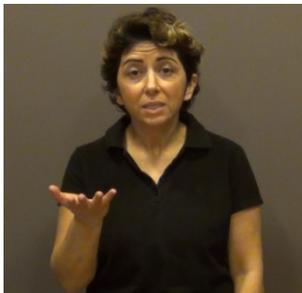


DIRTY

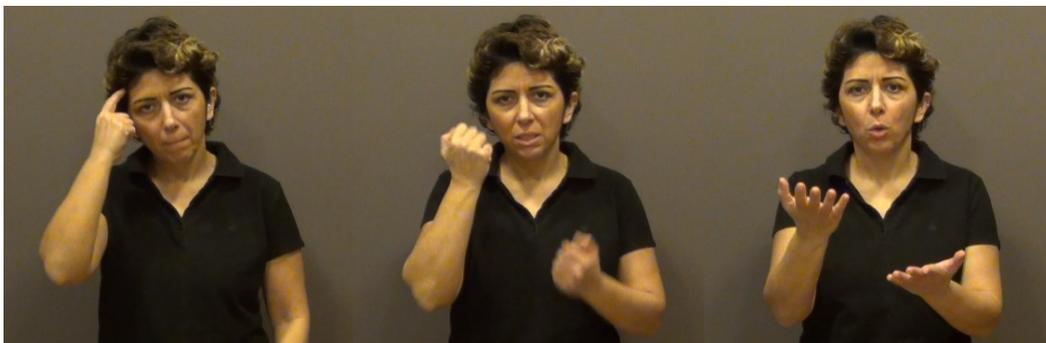
Idioms and metaphoric expressions: The lexicon contains more than simple words, as the ones we have given above. Some lexical items whose meanings cannot be deduced from the parts, everyday greetings, or terms of social interaction fall into this class:



HEART^BREAK ('be hurt')



HOW.ARE.YOU



HEAD^HEALTH^BE 'my condolences'

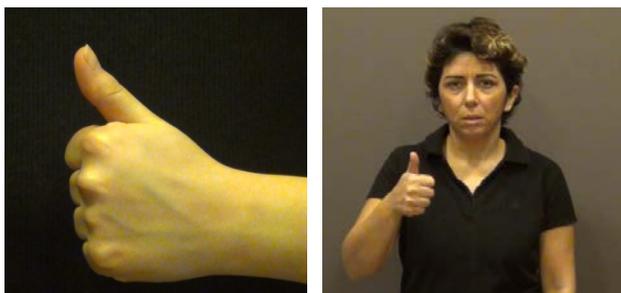
1.2. Non-core lexicon

The non-core lexicon contains items that exploit the visual nature of sign languages. Such expressions are, classifier constructions [Morphology – Section 5.], buoys, pointing [Lexicon – Section 3.7., Syntax – Section 2.1.2.2., Pragmatics – Section 2.1.], simultaneous expressions [Morphology- Section 1.3.2.].

1.2.1. Classifier constructions

The classifiers used in TĪD, including those that are lexicalized, are discussed in [Morphology – Section 5.]. Here we want to mention a few cases where a classifier occurs as part of a lexical item, in particular, the honorific classifier that is not only a lexical item on its own but appears as one of the components of a few lexical items.

The honorific classifier in TĪD that denotes persons in high esteem, e.g. directors, heads of companies, states, etc. and distinguishes such persons from those who have no particular status within a given context, is expressed with the hand shape where the thumb is in vertical position, and uses an upward movement:



CHIEF/PRESIDENT

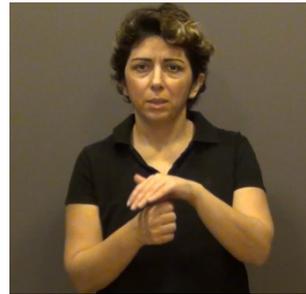
The handshape of the honorific classifier can also be one of the components in other signs, where the honorific classifiers denote not only a person in a high position, but also the more specific lexical items DIRECTOR and PRIME MINISTER, or a place which stands out among other places as in CAPITAL (of a country). In the case of DIRECTOR and PRIME MINISTER, the location of the sign is assimilated to the previous sign, and in CAPITAL, only the handshape and the movement is retained.



DIRECTOR



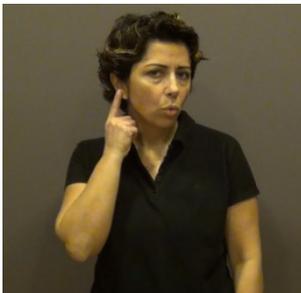
PRIME MINISTER



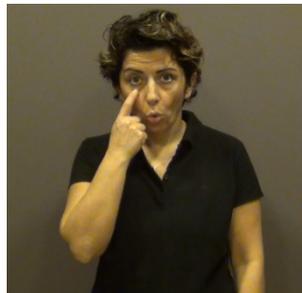
CAPITAL (of a country)

1.2.2. Pointing

The form of some lexical items, such as the body parts denoting ‘eye’ and ‘ear’ include pointing to the relevant organ:



EAR



EYE

1.2.3. Buoy

Buoys are elements that are employed for keeping track of the referents in a discourse as reminders of the ongoing topic, or for backtracking information [[Pragmatics - Chapter 2.2.3.](#)]. In such cases, the non-dominant hand is used and is kept in a stationary configuration.

When a number of different individuals is discussed, list buoys can be used. In such cases, the index finger of the dominant hand is used in TĪD for referring to particular individuals articulated on the non-dominant hand.

Another type of buoy that is used is the verb SAY. This is a buoy that is sometimes used in reported speech, marking the continuation of the reported discourse, where the word SAY is retained on the non-dominant hand for some part of the utterance(s). [[Syntax – Section 3.3.3.3.](#)]. This buoy has the discourse function of a reminder of the fact that a particular segment of what is being signed is, in fact, a reported utterance.

1.3. Interaction between core and non-core lexicon

1.3.1. Lexicalization processes

1.3.2. Modification of core lexicon signs

1.3.3. Simultaneous constructions and use of the non-dominant hand

See [[Morphology – Section 1.3.2.](#)]

Information on data and consultants

The descriptions in this chapter are based on the references below. Please see the data and consultant information in these references. The linguistic data in images and video clips that were produced or reproduced for this chapter were provided by a near-native fluent signing consultant who was born and raised in Istanbul.

Authorship information

Aslı Göksel

References

- Açan, Ayşe Zeynep. 2007. *A linguistic analysis on basic sentence types in Turkish Sign Language (TİD) with reference to non-manual activity*. Ankara, Turkey: Hacettepe University PhD dissertation. (229) - [Lexicon 1].
- Dikyuva, Hasan, Bahtiyar Makaroğlu & Engin Arık. 2017. *Turkish Sign Language Grammar*. The Republic of Turkey Ministry of Family and Social Policies. (248-262) - [Lexicon 1].
- Dikyuva, Hasan & Bahtiyar Makaroğlu. 2017. *Güncel Türk İşaret Dili Sözlüğü*. TC. Aile ve Sosyal Politikalar Bakanlığı. <http://tidsozluk.net>
- Kelepir, Meltem & Aslı Göksel. 2013. Aspects of Reported Utterances in Turkish Sign Language. In E. Arık (ed.), *Current Directions in Turkish Sign Language Research*, 191-218. Newcastle upon Tyne, UK: Cambridge Scholars Publishing. (207) - [Lexicon 1].
- Kubus, Okan 2008. *An analysis of Turkish Sign Language (TID) phonology and morphology*. Ankara, Turkey: Middle East Technical University MA thesis. (92-102) - [Lexicon 1].
- Zeshan, Ulrike. 2003. Aspects of Türk İşaret Dili (Turkish Sign Language). *Sign Language and Linguistics*, 6(1), 43-75. (65) - [Lexicon 1].

Chapter 2. The non-native lexicon

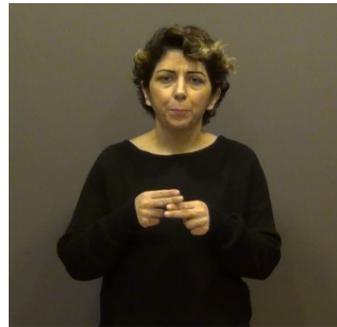
The non-native lexicon contains vocabulary items that have been borrowed from other languages. The languages from which signs have been taken into TĪD are ASL, ISL, DGS, NGT and other sign languages, and Turkish.

2.1. Borrowings from other sign languages

TĪD has borrowed a small number of items from other sign languages. OKEY is borrowed from ASL and NAME is borrowed from International Sign Language.



OK



NAME

Foreign town names are typically integrated into TĪD from the sign language of that country. For example, AMSTERDAM and BERLIN are the same signs as in NGT and DGS, respectively:



AMSTERDAM (NGT)



BERLIN (DGS)

2.2. Borrowings from (neighboring) spoken language

Although various languages are spoken in Turkey, the language that TİD has mostly borrowed from is Turkish, the dominant language. Some of the words and phrases in Turkish are already loans borrowed from Arabic, Persian, French, and other languages, and therefore these words also appear in TİD. Borrowings from Turkish (and the languages it has itself borrowed from) have taken many forms, the most prevalent of which are calques, fingerspelling, and mouthing. Apart from these, there are a few marginal or untypical forms, which we mention below.

2.2.1. Calques

Calques are complex lexical items, such as exocentric compounds [[Morphology - Section 1.1.1.1.2.](#)], which are translated verbatim into TİD. In the examples below, HEAD is combined with HIT and ATTACH to produce the compounds that mean ‘(put in an) application’ and ‘be obsessed with’, respectively. The term for ‘put in an application’ in Turkish is *başvur*, a noun-verb compound made up of the words *baş* ‘head’ and *vur* ‘hit’. Similarly, the term for ‘be obsessed with’ in Turkish is *kafaya tak*, a noun-verb compound made up of the words *kafaya* ‘head-DAT’ and *tak* ‘attach’.



HEAD^HIT ‘(put in an) application’



HEAD^ATTACH ‘be obsessed with’

Another example is SUN^HOLD ‘solar eclipse’, which is, again, a direct translation from Turkish:



SUN

-----HOLD-----

2.2.2. Lexicalization of fingerspelling

The manual (finger-spelled) alphabet in TİD is two handed and is made up of 32 letters: the 29 letters of the Turkish alphabet and the three letters common in European languages, Q, W, and X. There is a close visual resemblance between the letters in the TİD manual alphabet and the written alphabetical symbols that it has borrowed from.

In the TİD manual alphabet, C, I, L, O, P, U, V, of which the first two are depicted below, are one-handed, and the rest are two-handed. Of the two-handed letters, J and Y are traced on the hand to depict the letters:



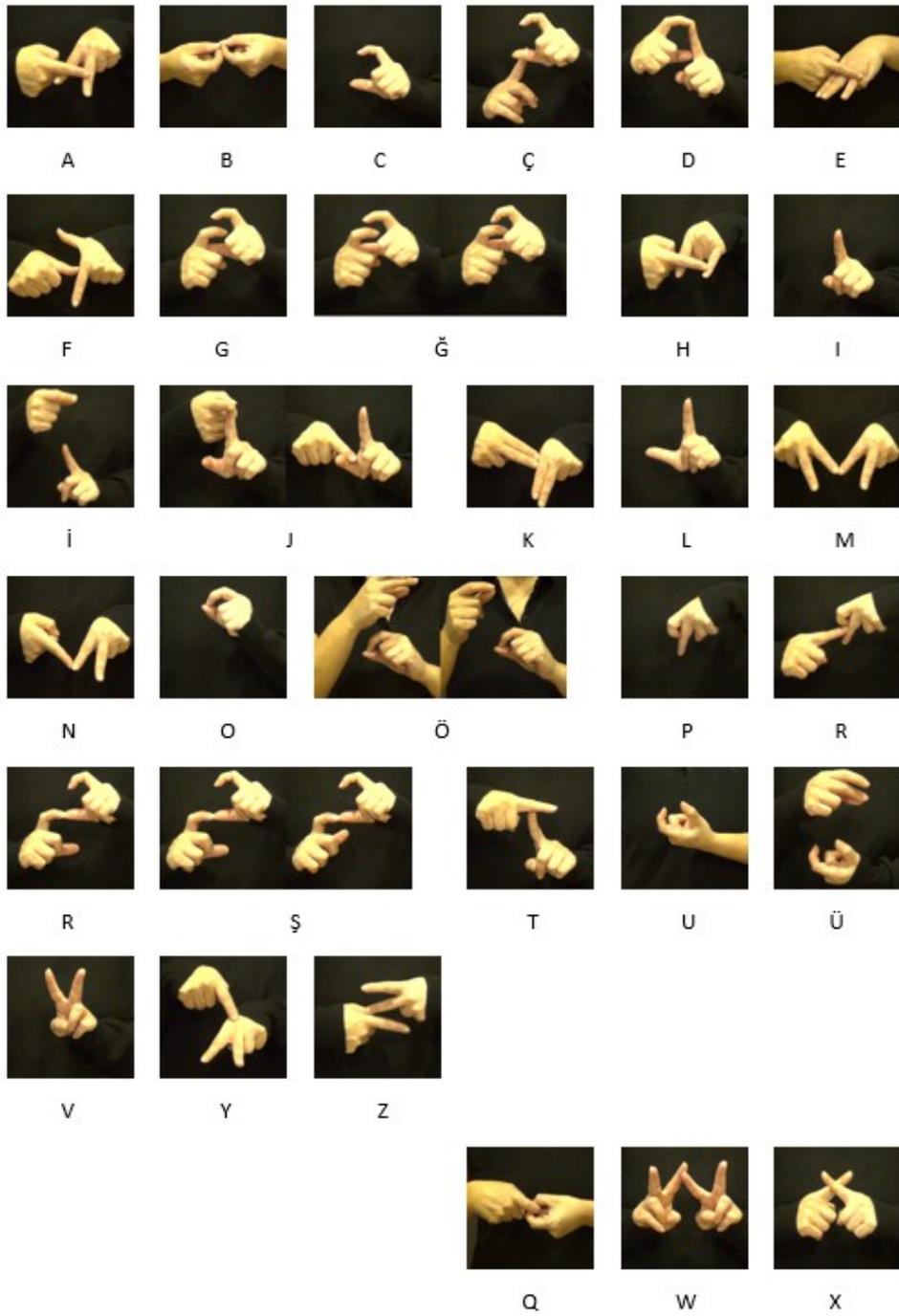
C

L

J

Y

Inventory of the finger spelled letters in TİD:



The letter G has a different sign in the Ankara dialect:



The single-handed letters C, I, L, O, P, U, V are articulated on the non-dominant hand. In the letters I, Ö, Ü, the larger part of the letters (I, O, U, respectively) is formed on the non-dominant hand, while the dots and umlauts (two dots) are signed on the dominant hand by finger snapping. The Turkish alphabet contains some diacritics: the cedilla and the breve, and these are also signed in TİD. The cedilla in Ç is signed on the dominant hand either by finger snapping or by the index finger. The cedilla on Ş is indicated by finger snapping or finger wiggling. The breve in Ğ is signed by finger wiggling. In the remaining letters, if one of the components is depicted by the index finger, it occurs on the dominant hand (except in the cases of D and Z). Some two-handed letters are symmetrical; the selected fingers on both hands are the same, e.g. B, M, and T. Others are asymmetrical, e.g. E, N and Z.

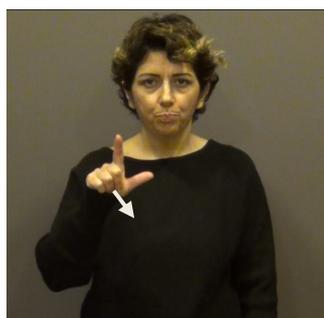
Using letters during signing can have many functions: For spelling out a proper noun that lacks a sign, to enhance a sign (for example the name of an object or a place that isn't frequently used), to avoid an ambiguity, to aide the perception of sign. But the grammatical functions of finger spelling come about when the manual alphabet is used to form lexical items, e.g. as in initialization where the formation of lexical items is sensitive to the phonological constraints of TİD.

2.2.2.1. Initialization

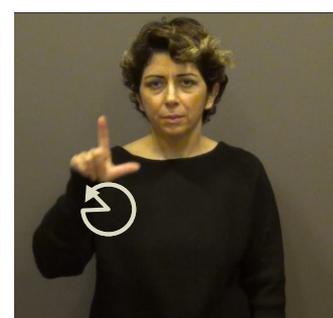
Initialization is the process of using one of the letters of the manual alphabet (together with movement and location) to form a lexical item. 6% of the TİD vocabulary contains a finger spelled letter, and the vast majority of these, around 91%, are letters that either stand on their own or are used in combination with signs to produce a lexical item. A very small number of words contain all the letters in a word, e.g. B-O-N-O 'bond' below. In most cases, where the initialized sign is only a single letter, it switches to the dominant hand. If it is made up of two (asymmetric) parts, the dominant and non-dominant hand may be swapped.



HIGH.SCHOOL ('Lise')



BE.NECESSARY ('Lazim')



BLUE ('Lacivert')



PUBLIC.CAR ('Dolmuş')



PHYSICS ('Fizik')

When a finger spelled form is used together with a sign, it can precede or follow that sign, or it can be articulated simultaneously with it. An example for a finger spelled form preceding a sign is O^CAR 'Opel', which can also be signed in the reverse order:



O^CAR



CAR^O

An example for a fingerspelled form occurring simultaneously with the sign is L^BLUE 'navy blue':



L^BLUE

2.2.2.2. Multiple-letter signs

A letter can also combine with other letters to form a lexical item. In such lexical items the letters of a word can be fully spelled out as in the case of B-O-N-O and V-A-N, or partially spelled out, as in the case of AL^SOUND ('alarm'):



B O N O
 'bond'



V A N
 VAN (a town in Turkey)



A(-L) SOUND
 ALARM

Alphabetism, as the name suggests, is another case where letters are spelled one by one. In these examples, the letters are the initial letters of the words that make up the name of an organization or institution, as in NATO:

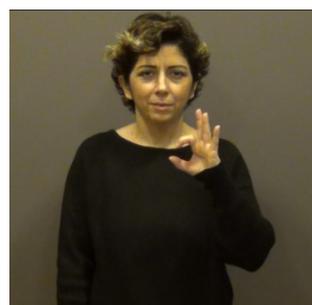


N A T O

A highly infrequent type of initialization is seen in one of the signs for 'toilet'. This involves the mimicking of the letters w and c together on the same hand, also seen in other sign languages, e.g HKSL.



W C



WC

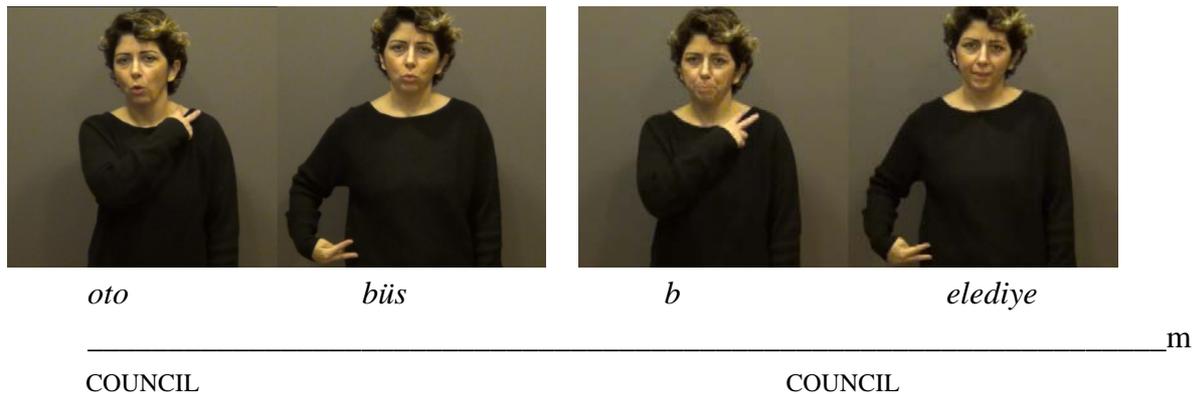
Finally, borrowed multiple-letter fingerspelled forms are not confined to words, compounds, and alphabetisms, but suffixes have been borrowed from Turkish as well, see [[Morphology - Section 2.1.2.](#)].

2.2.3. Mouthing

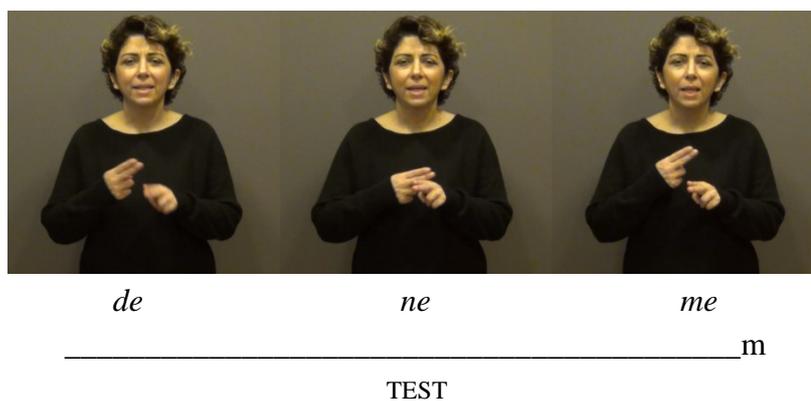
The term mouthing refers to the mouth patterns that are derived from spoken languages. Mouthing is the silent articulation of a spoken language word, or part of it, simultaneously with the sign. In some cases, mouthing is part of the sign and in other cases it may sporadically be used for disambiguating otherwise identical forms.

2.2.3.1. Full forms

In the Istanbul dialect, the term for ‘public bus’ is accompanied by mouthing. In the first set of pictures, the manual sign for ‘council’ produced twice. In the first one, it is accompanied by the partial mouthing of the Turkish word *otobüs* ‘bus’. In the second set of pictures, the same manual sign is accompanied by the mouthing based on the Turkish word *belediye* ‘council’. We show the mouthed Turkish words above the line indicating mouthing.



Another example for mouthing of the full form is illustrated below. In these examples, mouthing is used for disambiguating the words TEST (*deneme* in Turkish) and EXAMPLE (*örnek* in Turkish).





ör

nek

m

EXAMPLE

2.2.3.2. Reduced forms

Sometimes only a part of a word is mouthed. In these cases, the mouthed part is always in the beginning of the word:



EXPENSIVE

In this example, /paa/, which is part of *pahalı*, the word for ‘expensive’ in Turkish, is mouthed, together with the manual sign.

2.2.3.3. Mouthing and fingerspelling

Mouthing can accompany fingerspelling, sometimes to disambiguate otherwise identical lexical items. For example, K, the first letter of the Turkish word *kuzu* ‘lamb’ is, at times, accompanied by the mouthing /mee/ which is the onomatopoeic sound for bleating in Turkish.



LAMB

2.2.4. Other marginal types of borrowing

In TİD, in some cases, a new sign is derived from another sign simply by mimicking the arbitrary similarity between two signs in Turkish. This is a marginal type of borrowing that involves a derivational process based on iconic etymology. Here, two orthographically similar words in Turkish form the basis for the creation of a new sign in TİD, derived from an existing sign. For example, the words for ‘punishment’ and ‘Algeria’ are *ceza* and *Cezayir*, respectively, in Turkish. This similarity has carried over to TİD where the sign ALGERIA is based on a modification of the sign PUNISHMENT.



ALGERIA (Turkish: *Cezayir*)/ PUNISHMENT (Turkish: *ceza*)

The same process is observed in other pairs, exemplified below:



STRENGTH (Turkish: *kuvvet*)



KUWAIT (Turkish: *Kuveyt*)

The first example, the sign for ‘strength’ has an iconic component that mimics a strong person. This iconicity is carried over to the sign for KUWAIT, the country, which is unrelated to physical

strength. The iconicity is carried over simply because the two words in Turkish, KUVVET and KUYEYT are orthographically similar.

Another example is the word *yüz* in Turkish, which can mean ‘face’ or ‘(one) hundred’. The form for ‘(one) hundred’ in TİD is the index finger traversing the face, and this is possibly based on the fact that these concepts are expressed by the same word in Turkish.



FACE (Turkish: *yüz*)

HUNDRED (Turkish: *yüz*)

2.3. Borrowings from conventionalized gestures

2.3.1. Lexical functions

2.3.2. Grammatical functions

Information on data and consultants

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References

Dikyuva, Hasan, Bahtiyar Makaroğlu & Engin Arık. 2017. *Turkish Sign Language Grammar*. The Republic of Turkey Ministry of Family and Social Policies. (23-25) - [Lexicon 2].

Göksel, Aslı, & Süleyman S. Taşçı. 2016. Türk İşaret Dili’nde ödünçlemeler. In E. Arık, *Ellerle Konuşmak: Türk İşaret Dili Araştırmaları*, 361-388. İstanbul: Koç Üniversitesi Yayınları. - [Lexicon 2].

- Kubus, Okan 2008. *An analysis of Turkish Sign Language (TİD) phonology and morphology*. Ankara, Turkey: Middle East Technical University MA thesis. - [Lexicon 2].
- Kubus, Okan & Annette Hohenberger. 2011. The phonetics and phonology of TİD (Turkish Sign Language) bimanual alphabet. In R. Channon and H. van der Hulst (eds.), *Formational units in sign languages*, 43-63. Berlin: Walter de Gruyter. - [Lexicon 2].
- Özyürek, Aslı, Deniz İlkbaşıran & Engin Arık. 2004. Koç University Turkish Sign Language Website. - [Lexicon 2].
- Taşçı, Süleyman S. 2012. *Phonological and morphological aspects of lexicalized fingerspelling in Turkish Sign Language (TİD)*. Istanbul, Turkey: Bogazici University MA thesis. [Lexicon 2].
- Taşçı, Süleyman S. 2013. Hand reversal and assimilation in TİD lexicalized fingerspelling. In E. Arık (Ed.), *Current directions in Turkish Sign Language research*, 71-100. Newcastle upon Tyne, UK: Cambridge Scholars Publishing. - [Lexicon 2].
- Taşçı, Süleyman S. & Aslı Göksel. 2014. The morphological categorization of polymorphemic lexemes: A study based on lexicalized fingerspelled forms in TİD. *Dilbilim Araştırmaları Dergisi, Special Issue in Honor of Prof. A. Sumru Özsoy*, 165-180. - [Lexicon 2].
- Zeshan, Ulrike. 2003. Aspects of Türk İşaret Dili (Turkish Sign Language). *Sign Language and Linguistics*, 6(1), 43-75. - [Lexicon 2].

Chapter 3. Parts of speech

The term ‘parts of speech’ refers to the syntactic categories that lexical items belong to. There are two distinct classes in the lexicon: lexical/content words and function words. Nouns, verbs, adjectives, and adverbs are categorized as lexical words (words that have content) while pronouns, adpositions, conjunctions, numerals, quantifiers, and interjections are categorized as function words. In this chapter, we will describe parts of speech starting with content words.

3.1. Nouns

Nouns denote entities such as persons, places, animals, and objects, or abstract ideas or concepts. Some examples are given below:



MAN



IX1



IX2



HOUSE



SALAD



HEALTH



BACK



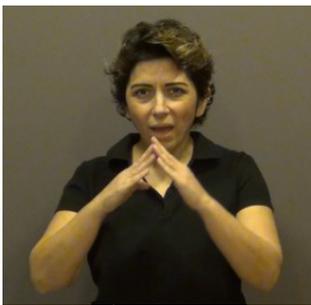
BAGEL



DAY

3.1.1. Common nouns

Common nouns describe classes of entities, which can be concrete or abstract. Concrete nouns can be identified through one of the five senses: taste, touch, sight, hearing and smell. They are tangible. In contrast, abstract nouns cannot be perceived using one of these five senses. They refer to actions, feelings, ideas, concepts, and qualities, all of which are intangible. Below, we give examples of common nouns:



HOUSE (concrete)



TABLE (concrete)



JOY (abstract)



LOVE/LIKE (abstract)



INFORMATION (abstract)

3.1.2. Proper nouns and name signs

In contrast to common nouns, proper nouns describe specific entities rather than classes of entities. Such nouns can be country names, names of unique objects such as planets or famous monuments, people's names, or brand names. There are some proper noun examples below:



MICHAEL JACKSON



ENGLAND



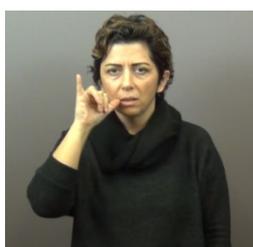
GÜNEŞ



EIFFEL TOWER

In the Deaf Culture, every deaf person has a name sign which is determined by the Deaf community and this name sign reflects a character trait or physical feature of that person. For instance, a name sign indicating eyes can be given to a person with big eyes or a name sign emphasizing joy or happiness can be given to a person who always smiles. For some toponyms (place names, such as countries and cities) TİD has its own indigenous signs. Some of these signs are in the native core lexicon [[Lexicon – Section 1.1.](#)] or they have a degree of non-nativeness. Below, some indigenous place signs in TİD are shown:

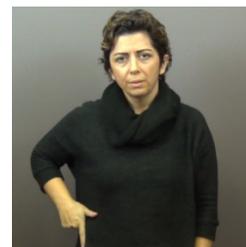
Indigenous place signs:



ITALY



ERZURUM



IZMIR

Some of the non-native signs [Lexicon – Section 2] involve fingerspelling [Lexicon – Section 2.2.2] which is based on the Turkish orthography of the place name. Some other place names are borrowed from other sign languages.

Borrowed place signs:



AMSTERDAM



BERLIN

Fingerspelled place name:



V

A

N

VAN

Most of these place names are iconic. For instance, Antalya, a town in southern Turkey, is famous for its oranges and the name of the town has the same sign as the one used for the fruit, orange.



ANTALYA (iconic)

3.2. Verbs

Verbs are divided into three types: plain verbs, agreement verbs, and spatial verbs.

3.2.1. Plain verbs

Plain verbs have fixed, unchangeable forms; they are not inflected for number or person. They can be transitive [[Syntax – Section 2.1.1.1.](#)] or intransitive [[Syntax – Section 2.1.1.2.](#)].

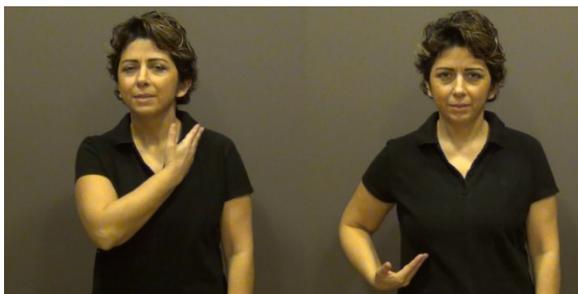
Transitive plain verbs:



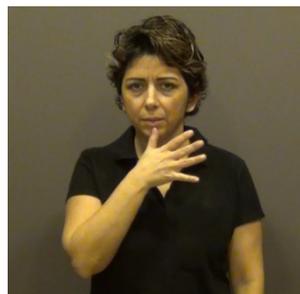
UNDERSTAND



WANT

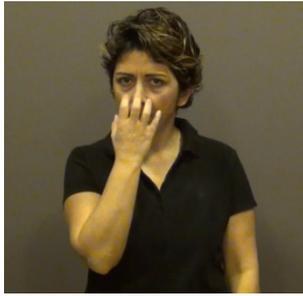


LOVE



KNOW

Intransitive plain verbs:



WAIT



RUN



BE.ANGRY

3.2.2. Agreement verbs

There is a group of verbs that show agreement with the person and number of their arguments. Some of these verbs are ASK, TELL, SUPPORT, GIVE, INFORM, ANSWER, OFFER, SEE, LOOK, EXPLAIN, SHOW, PERSUADE, FOLLOW, PICK, and ADVICE. See [[Morphology – Section 3.1.1.](#)] for details.

3.2.3. Spatial verbs

Spatial verbs use the signing space to show the location or the manner of the verb. For instance, the spatial verb WALK marks where the walking action begins and ends in the signing space as can be seen from the example below:

WALK

[video example]

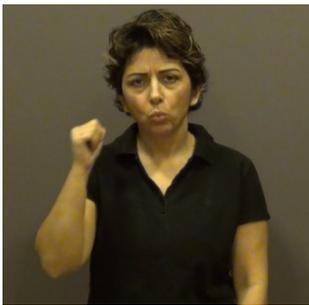
See [[Morphology – Section 3.1.1.](#)] for details.

As an additional information, there are some verbs that have noun counterparts with nearly the same phonological features, see [[Morphology – Section 2.1.3.1.](#)].

3.3. Lexical expressions of inflectional categories

3.3.1. Tense markers

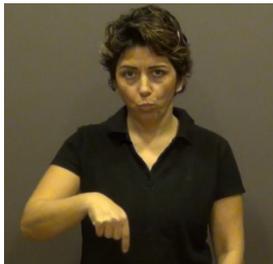
In TĪD, tense is generally not shown on verbs, which means there is no morphological tense inflection [Morphology – Section 3.2.2.]. Rather, tense is generally expressed by temporal adverbials such as YESTERDAY, TOMORROW, TODAY, NOW, LATER, and others. Temporal adverbials are pointing signs and they point to the back, front or other sides of the signer depending on the time reference as can be seen in the examples below:



YESTERDAY



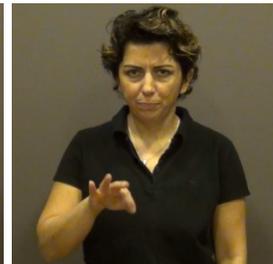
TOMORROW



TODAY



LATER



NOW

In addition to temporal adverbials, there is another strategy to express tense: time lines, see [Morphology – Section 3.2.1. and Pragmatics – Section 8.2.]. Time lines are imaginary lines in the horizontal plane between two points; a point in front of the signer and a point behind the signer. This time line refers to the past, present and future starting from the signer's back, chest and front respectively. Also, more detailed distinctions in time are expressed such as far future, near future, near past and far past. In the articulation of these signs, an arc movement is used rather than pointing to an exact point the back or front in the horizontal plane.

3.3.2. Aspectual markers

Aspect shows the internal arrangement of the events, for example whether an event is completed or ongoing. TĪD has both manual and nonmanual aspectual markers. Here we describe only the free aspectual markers. See [Morphology – Section 3.3.] for aspectual inflection and nonmanual markers.

The manual aspectual markers OKAY and FINISH express perfective aspect and they are shown below:



OKAY



FINISH

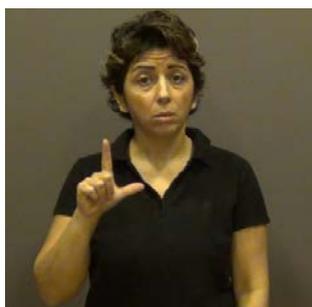
3.3.3. Modality markers

Modality is the expression of information about the attitude of a language user towards the validity of the content of a proposition. For example, to express whether the speaker thinks an event is possible or not modals are used. The typical modals in TİD are: HAVE.TO, MAYBE, OBLIGED.TO, NECESSARY and FORBIDDEN. These are used predicatively in TİD.

Modality is categorized into two: deontic and epistemic modality.

3.3.3.1. Deontic modality

Some modals express deontic modality which indicates the attitude of the language user towards the necessity or possibility of an act or event such as necessity/obligation, recommendation, ability, permission and intention/volition. NECESSARY (LAZIM), OBLIGED.TO (MECBUR), HAVE.TO (ZORUNDA), FREE (SERBEST), PERMISSION (IZIN), POSITIVE (OLUMLU), BANNED (YASAK), WANT (ISTEMEK) are signs that express deontic modality.



NECESSARY



MAYBE



OBLIGED.TO

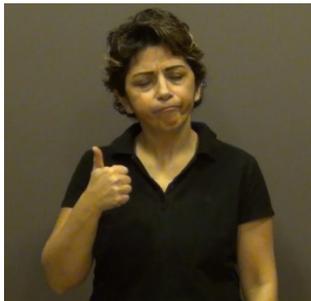
HAVE TO



FREE



PERMISSION



POSITIVE



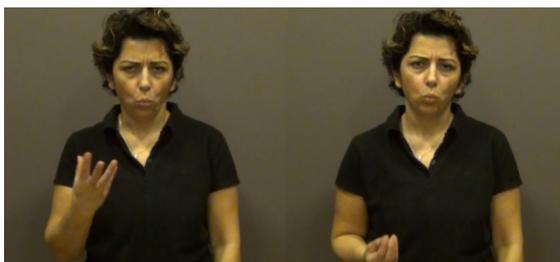
BANNED



WANT

3.3.3.2. Epistemic modality

Epistemic modality expresses the language user's opinion towards the evaluation of the truth of the proposition and the possibility of the event expressed in the utterance. Therefore, it is much like an estimation of the probability of an event in a certain situation. Typical epistemic modal signs are: IS.POSSIBLE, IS.NOT.POSSIBLE.



IS.POSSIBLE



IS.NOT.POSSIBLE

3.3.4. Agreement markers

See [Morphology – Section 3.1, Syntax – Section 4.2.1.1 and Pragmatics – Section 2.1].

3.4. Adjectives

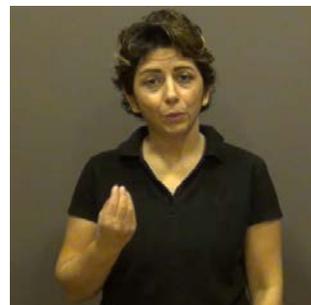
Adjectives generally qualify and specify a nominal element. They can qualify a noun (*the beautiful boy*), or they can be used as predicates (*The boy is beautiful*).

3.4.1. Attributive adjectives

Attributive adjectives modify nouns. Some examples of adjectives are given below:



INTERESTING



NICE



UGLY



ANGRY

For adjectival meanings which may be realized by non-manual markers that combine simultaneously with the noun they modify, see [Syntax – Section 5.1.].

3.4.2. Predicative adjectives

See [Syntax – Section 3.6].

3.5. Adverbials

3.5.1. Verb-oriented adverbials

Verb-oriented adverbials can be expressed by applying internal modification to the verb or co-articulating a verb with a non-manual marker.

For example, to express ‘walking quickly’, the verb WALK is articulated with a quicker movement, pursed lips, and eye brow lowering as can be seen below:

WALK

[video example]

WALKING.QUICKLY

[video example]

In the following example, the verb WORK is articulated with a slower movement and a non-manual marker, puffed cheeks, to express ‘working slowly’.

WORK

[video example]

WORKING.SLOWLY

[video example]

Other non-manuals used with adverbial function are lip bite and pursed lips with eye brow raising. When the verb WORK is co-articulated with lip bite, it means ‘working willingly’.

WORKING.WILLINGLY

[video example]

When it is co-articulated with pursed lips and eye brow raising, it means ‘working diligently’.

WORKING.DILIGENTLY

[video example]

3.5.2. Sentence adverbials

3.6. Determiners

3.6.1. Definite determiners

3.6.2. Indefinite determiners

3.7. Pronouns

TiD uses sign space to refer to present and non-present referents by pointing towards the actual referent or towards abstract locations that have been established earlier in the discourse. The pronominal system encodes person, number and locus [Syntax – Section 2.1.2.2 and Pragmatics – Section 2.1.].

3.7.1. Locative and demonstrative pronouns

3.7.2. Personal Pronouns

Personal pronouns are used to refer to individuals. They encode person and number, such as first, second and third for person and singular, plural, and dual for number.

3.7.2.1. Person

In TiD, referential expressions of person are expressed by signing towards or away from one's own chest. The first person is signed towards the chest, and the second and third persons are signed in an outward direction from the chest. For first person, index finger handshape, ASL B-handshape, and Bent Flat Handshape are used. For the second and third persons, index finger handshape and ASL-B handshape are used. These are indicated on the table in [Lexicon – Section 3.7.2.2].

3.7.2.2. Number

There are three types of number: singular, plural, and a numerically indicated group of persons from dual up to five persons [Morphology – Section 3.1.2]. The expression of dual (two of us/you/them), involves either V-handshape or ASL K-handshape with straight movement. The expression of persons between three and five is done by ASL 3-handshape (three of us/you/them), 4-handshape (four of us/you/them), and 5-handshape (five of us/you/them) respectively, and all three have a circular movement. These are cases of numeral incorporation [Syntax – Section 4.3.4.]. These numeric pronouns are homonyms of (have the same shape as) one set of reciprocal pronouns [Lexicon – Section 3.7.4.]

The person paradigm of TiD is shown in the following table:

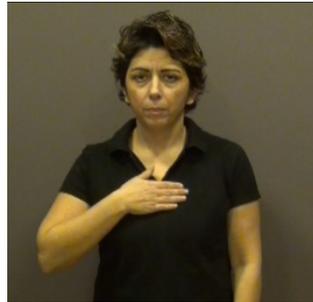
	Singular	Plural	Numerically indicated group of persons (two to five) (examples below are given from dual)
First	+ (index, ASL B and Bent Flat handshapes)	+ (index handshape with circular movement)	+ (V handshape with straight movement) (expresses 'two of us')
Second	+ (index and ASL B-handshapes)	+ (index handshape with arc movement)	+ (V handshape with straight movement) (expresses 'two of you')
Third	+ (index and ASL B-handshapes)	+ (index handshape with circular movement)	+ (V handshape with straight movement) (expresses 'two of them')

Person paradigm of pronouns

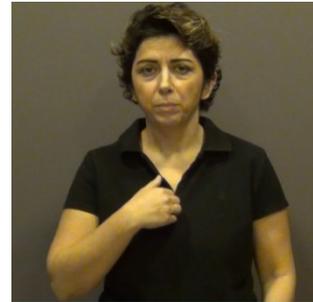
Below variations of personal pronouns are shown:



IX1-point



IX1-ASL B



IX1-Bent flat



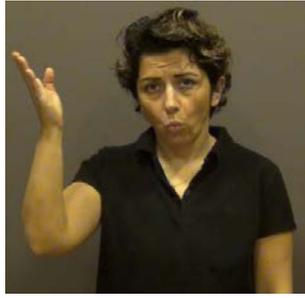
IX2-point



IX2-ASL B



IX3-point



IX3-ASL B



IX1pl



IX2pl



IX3pl



TWO OF US



TWO OF YOU



TWO OF THEM

3.7.2.3. Clusivity

3.7.2.4. Case

3.7.2.5. Gender

3.7.2.6. Honorific pronouns

This is marked by the honorific classifier which is articulated by the thumb in a vertical position with an upward movement. See [[Lexicon – Section 1.2.1.](#) and [Morphology – Section 5.1.1.](#)].

3.7.2.7. Logophoric pronouns

3.7.3. Possessive pronouns

Possessive pronouns [Syntax – Section 4.2.1.1.] are pronouns indicating possession and ownership (such as ‘my’, ‘your’, etc.). There are different forms for singular and plural possessive pronouns in TĪD. The possessive pronoun paradigm of TĪD is shown in the following table:

	Singular	Plural
First	+ (K- and Bent Flat Handshapes)	+ (index finger handshape with circular movement)
Second	+ (K- and index finger handshapes)	+ (index finger handshape with circular movement)
Third	+ (K- and index finger handshapes)	+ (index finger handshape with circular movement)

Possessive pronoun paradigm

Below different realizations of first and non-first singular and plural possessive pronouns are given [Syntax – Section 4.2.1.1 and]:



POSS1-K handshape



POSS1-flat hand



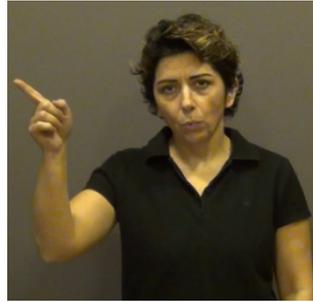
POSS2-K handshape



POSS2-index



POSS3-K handshape



POSS3-flat hand



POSS1pl



POSS2pl



POSS3pl

3.7.4. Reflexive and reciprocal pronouns

Reciprocal pronouns are used with verbs such as ARGUE, KISS, HUG, or MEET, verbs whose argument structure involves more than one person. In TĪD, there are two sets of reciprocal pronouns. One set of reciprocal pronouns [[Morphology – Section 3.1.3.](#)] is produced using a

single hand. These are the K-handshape and pronouns derived from the numerals two, three, four, and five (i.e. V-handshape, ASL 3-handshape, 4-handshape, and 5-handshape) which are homonyms of (have the same shape as) pronouns indicating numerically specified groups of persons [Lexicon – Section 3.7.2.2]. The referents involved in the action determine the direction of the handshape. For example, if one of the two interlocutors is the signer himself/herself, the direction of the hand is from the signer to the addressee.

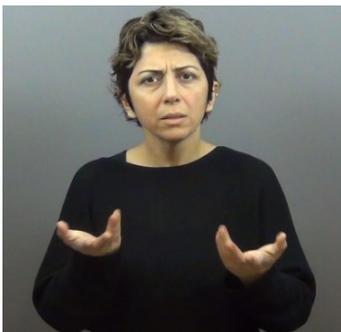
Another set of reciprocal pronouns used in TĪD is produced by both hands, each of which has index finger handshape. There is an asymmetrical straight path movement from proximal to distal in the vertical plane to express the referents. However, the orientation changes according to the referents in the context. If first person is included in the reciprocal pronoun, the hands face towards the signer. In other cases, they face each other.



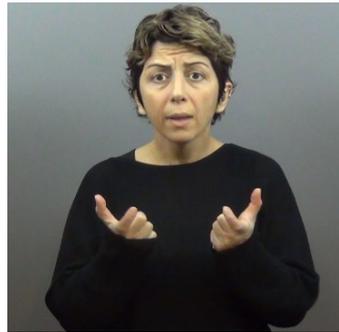
Reciprocal pronoun including first and second person

3.7.5. Interrogative pronouns

Interrogative pronouns [Syntax – Chapter 1.2.3.2.] are proforms used in wh-questions. Below is a list of question words in TĪD:



WHAT - HOW – WHICH



WHERE



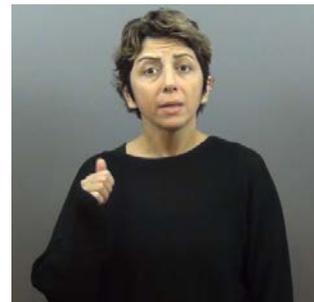
TO WHERE



FROM WHERE



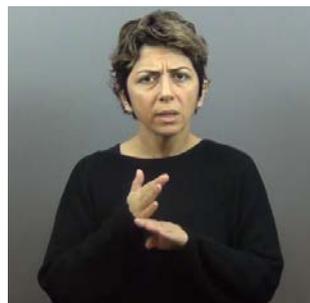
HOW.MANY



WHEN



WHO



WHY

3.7.6. Relative pronouns

3.7.7. Indefinite pronouns

3.8. Adpositions

3.8.1. Manual adpositions

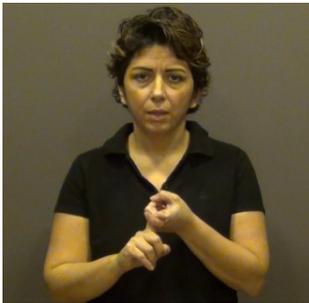
3.8.2. Adpositions and spatial relations

3.9. Conjunctions

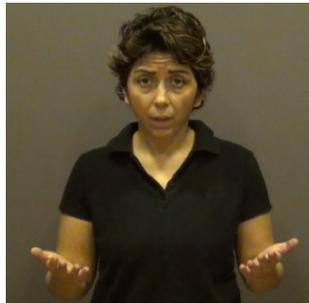
Conjunctions are parts of speech that connect two or more items such as words, phrases and clauses.

3.9.1. Coordinating conjunctions

There are two coordinating conjunctions used in TİD: AND and BUT. However, these are not obligatory when coordinating sentences. Below, AND and BUT are shown:



AND



BUT

3.9.2. Subordinating conjunctions

3.9.3. Correlative conjunctions

3.10. Numerals and quantifiers

3.10.1. Numerals

3.10.1.1. Cardinal numerals

3.10.1.2. Ordinal numerals

3.10.1.3. Distributive numerals

3.10.2. Quantifiers

3.11. Particles

3.11.1. Negative particles

TĪD has the following lexical items that are associated with negation: NOT, THERE.ISN'T, NO, NO-NO, SHOULD.NOT/CAN.NOT, NOT.AT.ALL, and the PALM-UP gesture. These signs are shown below. For more information, see [[Syntax – Section 1.5.1.](#)].



NOT



THERE.ISN'T



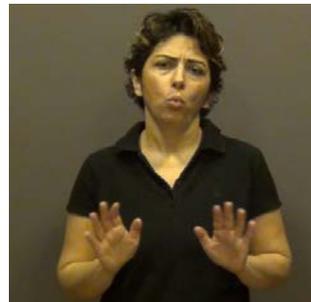
NO



NOT.AT.ALL



SHOULD.NOT/CAN.NOT



NO-NO



PALM-UP

NO is the most common negation word because it is simply used as a negative answer to a question in a conversation. It is generally accompanied by head-shake. Also, NOT.AT.ALL and NO-NO are accompanied by head shake but NOT, THERE.ISN'T and SHOULD.NOT/CAN.NOT are accompanied by head tilt.

NOT is the most frequently used negation particle and generally supported by a non-manual element, namely a backward head tilt and raised eyebrows. The sign is shown below:



NOT

3.11.2. Question particles

One of the ways of marking a polar question is to use a question particle [Syntax – Section 1.2.1.3.] This question particle is called Q.PART and is articulated by the index finger and has a trajectory in the shape of a question mark. Also, mouthing can accompany the Q.PART in the shape of the Turkish question particle (-*mI*).



Q.PART

3.11.3. Discourse particles

Discourse particles do not add to the meaning of the sentence but affect its communicative intent. These particles serve a semantic function to help to organize and connect different elements of the discourse, or to express the signer's attitude towards the state or event expressed in the sentence (or the previous sentences in the discourse). These are ABSOLUTELY, ANN, and FUU.

When ABSOLUTELY is used in a discourse, it expresses the agreement of the signer with his/her interlocutor. Another discourse marker is ANN, glossed as the sounds the signer produces. It can function as a hesitation marker or it can have a commentary function. FUU is

also glossed as the sounds the signer produces and is used to show that the message the signer carries has an importance and needs further attention.

3.12. Interjections

Interjections are exclamative items expressing the speaker's/signer's emotions, sentiments or judgement. TİD has the following interjections, glossed here (mostly) as the signers gloss them in Turkish: NAF, AVVA, TÜH, VAH, UUU, AVV NOT.EXIST, UIIS, VIVIVI, ALLAVE, BIT, WAOW, PUPU, ŞEEY. Some of these signs have been borrowed from Turkish, e.g. TÜH or VAH. On the other hand, some of them are unique to TİD such as AVVA, NAF, AVV NOT.EXIST or VIVIVI.

NAF is used when the signer wishes to diminish the significance of the event or state expressed in the discourse.



NAF

AVVA is used for expressing an advantage of something and can be related with the interjection used in Turkish 'oh, oh'.



AVVA

UUU expresses the meaning 'too bad'. It is more like an emphasis on the result.



UUU

Information on data and consultants

The descriptions in this chapter are partially based on the references below and partially on research done by the authors during the development of this chapter [3.12.]. Please see the data and consultant information in the references. The linguistic data in images and video clips that were produced or reproduced for this chapter were provided by a near-native fluent signing consultant who was born and raised in Istanbul.

Authorship information

Burcu Saral

References

Açan, Zeynep. 2001. *A study on sign languages and Turkish Sign Language*. Ankara, Turkey: Hacettepe University MA thesis.

Açan, Zeynep. 2007. *A linguistic analysis on basic sentence types in Turkish Sign Language (TİD) with reference to non-manual activity*. Ankara, Turkey: Hacettepe University PhD dissertation.

Arik, Engin. 2013. Introduction: Previous and Current Research on Turkish Sign Language (TİD). In E. Arik (Ed.), *Current directions in Turkish Sign Language research*, 1-17. Newcastle upon Tyne, UK: Cambridge Scholars Publishing.

Arik, Engin. 2016. Türk İşaret Dili'nde mekânsal dil. In E. Arik, *Ellerle Konuşmak: Türk İşaret Dili Araştırmaları*, 315-336. İstanbul: Koç Üniversitesi Yayınları.

Aslan Demir, Sema. 2010. Sessizliğin dili: Türk İşaret Diline dair gözlemler. *Bilig*, 54. 1-20.

- Aslan Demir, Sema. 2016. Sessizliğin Dili: Türk İşaret Dili'ne dair gözlemler. In E. Arık, *Ellerle Konuşmak: Türk İşaret Dili Araştırmaları*, 141-156. İstanbul: Koç Üniversitesi Yayınları.
- Aslan, Erhan, Gülşen Danacı & Neşe Arslan. 2007. The colour signaling process in Turkish Sign Language. *Dil Dergisi*, 138. 34-42.
- Dikyuva, Hasan. & Ulrike Zeshan. 2008. *Türk İşaret Dili - birinci düzey. [Turkish Sign Language - level one]*. Nijmegen: Ishara Press.
- Dikyuva, Hasan. 2011. *Grammatical non-manual expressions in Turkish Sign Language (TİD)*. Preston, Lancashire, England: University of Central Lancashire (UCLan) MA thesis.
- Dikyuva, Hasan, Bahtiyar Makaroğlu & Engin Arık. 2015. *Türk İşaret Dili Dilbilgisi Kitabı [Turkish Sign Language Grammar Book]*. Ankara.
- Ergenç, İclal, Selçuk İşsever, Bahtiyar Makaroğlu & Hasan Dikyuva. 2014. Agreement verbs in Turkish Sign Language (TİD) –Turkish bimodal bilingualism. 2. *International Conference on Linguistic Rights of the Deaf*. Moscow. (May 2014.)
- Gökgöz, Kadir. 2009. *Topics in Turkish Sign Language (Türk İşaret Dili – TİD) Syntax: Verb movement, negation, and clausal structure*. İstanbul, Turkey: Boğaziçi University MA thesis.
- Gökgöz, Kadir. & Engin Arık. 2010. Distributional and syntactic characteristics of nonmanual markers in Turkish Sign Language (Türk İşaret Dili, TİD). Paper presented at the *7th Workshop on Altaic Formal Languages (WAFL7)*. LA, CA. (29-31 October, 2010)
- Gökgöz, Kadir. 2011. Negation in Turkish Sign Language: The syntax of nonmanual markers. *Sign Language & Linguistics*, 14(1). 49-75.
- Gökgöz, Kadir. 2013. Negation in Turkish Sign Language: The syntax of nonmanual markers in Herrmann and Steinback (Eds.), *Nonmanuals in Sign Language*. John Benjamins Publishing.
- Göksel, Aslı & Meltem Keleş. 2013. The phonological and semantic bifurcation of the functions of an articulator: HEAD in questions in Turkish Sign Language. *Sign Language and Linguistics*, 16(1). 1-30.

- Göksel, Aslı & Meltem Keleşir. 2011. Issues in complexity: Sentential complementation in Turkish Sign Language. Complex sentences and beyond in sign and spoken Languages. University of Göttingen. (13-14 October 2011.)
- Göksel, Aslı & Meltem Keleşir. 2016. Observations on clausal complementation in Turkish Sign Language. In: A. Herrmann, R. Pfau & M. Steinbach (Eds.), *A Matter of Complexity: Subordination in Sign Languages*, 65-94. Berlin: De Gruyter Mouton.
- Sevinç, A. Müge. 2006. *Grammatical relations and word order in Turkish Sign Language (TİD)*. MA Thesis. METU, Ankara.
- Karabüklü, Serpil. 2015. Description of a perfective marker in Turkish Sign Language (TİD). *Formal and Experimental Advances in Sign Languages Theory (FEAST)*. University of Pompeu Fabra. (May 2015)
- Karabüklü, Serpil. 2016. A semantic analysis of perfective markers in TİD. *Workshop on Altaic Formal Linguistics 12 (WAFL 12)*. Central Connecticut State University. (May 2016)
- Karabüklü, Serpil. 2016. *Time and aspect in Turkish Sign Language (TİD: Manual and nonmanual realizations of 'Finish')*. Istanbul, Turkey: Boğaziçi University MA thesis.
- Keleşir, Meltem & Aslı Göksel. 2016. Türk İşaret Dili'nde Aktarılmış Anlatımın Özellikleri. In E. Arık, *Ellerle Konuşmak: Türk İşaret Dili Araştırmaları*, 337-360. İstanbul: Koç Üniversitesi Yayınları.
- Keleşir, Meltem & Aslı Göksel. 2013. Aspects of Reported Utterances in Turkish Sign Language. In E. Arık (ed.), *Current Directions in Turkish Sign Language Research*, 191-218. Newcastle upon Tyne, UK: Cambridge Scholars Publishing.
- Kubus, Okan & Annette Hohenberger. 2013. Phonology and phonetics of reciprocals in Turkish Sign Language (TİD). In E. Arık (ed.), *Current directions in Turkish Sign Language research*, 101-142. Newcastle upon Tyne, UK: Cambridge Scholars Publishing.
- Kubus, Okan 2016. *Relative Clause Constructions in Turkish Sign Language*. Hamburg, Germany: University of Hamburg PhD dissertation.
- Makaroğlu, Bahtiyar. 2013. Interrogatives in Turkish Sign Language (TİD): The role of eyebrows. In E. Arık (ed.), *Current directions in Turkish Sign Language research*, 143-165. Newcastle upon Tyne, UK: Cambridge Scholars Publishing.

- Makarođlu, Bahtiyar. 2016. Türk İşaret Dili'nde Soru Tümcelerinin Görünümü: Kaş Hareketlerinin Rolü. In E. Arık, *Ellerle Konuşmak: Türk İşaret Dili Araştırmaları*, 233-252. İstanbul: Koç Üniversitesi Yayınları.
- Nuhbalaođlu, Derya. 2013. Determining the paradigm of personal pronouns in Turkish Sign Language. Ms., Boğaziçi University.
- Özsoy, A. Sumru, Meltem Keleşir, Derya Nuhbalaođlu & Emre Hakgüder. 2015. Commands in Turkish Sign Language [Türk İşaret Dili'nde Emir Yapısı]. *Journal of Japanese Linguistics Society*, 146: 13-30. Gengo Kenkyu.
- Özsoy, A. Sumru & Hüner Kaşıkara. in press. Comparatives in Turkish Sign Language (TİD). In: K. Wojtylak, Y. Treis & L. de Vries (eds.), *Comparative Constructions*. Free University of Amsterdam.
- Sevinç, A. Müge & Cem Bozşahin. 2006. Verbal categories in Turkish Sign Language TİD. *The 13th International Conference on Turkish Linguistics*, 2006.
- Zeshan, Ulrike. 2003. Aspects of Türk İşaret Dili (Turkish Sign Language). *Sign Language and Linguistics*, 6(1), 43-75.
- Zeshan, Ulrike. 2002. Sign Language in Turkey: The story of a hidden language. *Turkic Languages*, 6(2), 229-274.
- Wilkinson, E. L. 2009. *Typology of Signed Languages: Differentiation through kinship terminology*. PhD Dissertation. The University of New Mexico.

Morphology

Chapter 1. Compounding

Compounding is a highly productive word formation process in TİD. In compounding, two signs are combined as a new unit that is realized as a single lexical item. The signs that make up a compound can appear in an utterance on their own. When inside a compound, these can be reduced or they can be expressed in full form. The various categories of compounding in TİD are further explained below in terms of the phonological, syntactic, and semantic relations of the parts.

1.1. Native compounds

TİD native compounds are composed without any interaction with Turkish or any other signed or spoken language. The disparity between native and non-native compounds is illustrated by the following compounds: LUNAR-ECLIPSE and SOLAR-ECLIPSE. Notice that while the former derives its second element as a translation of the Turkish word *tut-ul-ma* ‘to be held’ which is the word used for referring to an eclipse, the latter is formed by sign-language-internal (in this case visual and iconic) means.



MOON^HOLD (‘lunar eclipse’)

ay tut-ul-ma-sı

moon hold-PASS-NM-POSS3.S

(Turkish)

(r.f. Göksel & Taşçı 2016: 376)



SUN^ECLIPSE (‘solar eclipse’)

güneş tut-ul-ma-sı

sun hold-PASS-NM-POSS3.S

(Turkish)

(r.f. Göksel & Taşçı 2016: 376)

Many TID compounds have a single word translation in Turkish, which identifies them as native. Some examples are RED^{CL}.ROUND.OBJECT ‘tomato’ (*domates* in Turkish) and SOUR^{JAR} ‘pickle’ (*turşu* in Turkish). Finally, there are some native compounds that just happen to have the same structure as the corresponding compounds in Turkish (e.g. bed+room-POSS.3S).

Within the group of native compounds, sequential (Morphology – Section 1.1.1.) and simultaneous compounds (Morphology – Section 1.1.2.) are two subcategories. Within both groups, there are semantic and syntactic differences.

1.1.1. Sequential compounds

In sequential compounds, the parts are signed one after another. In some of these, there are phonological reduction and assimilation processes [Phonology – Section 3.1.] and semi-simultaneous compounds [Morphology – Section 1.1.2.]).

1.1.1.1. Semantic structure

Certain compounds are transparent in meaning (endocentric compounds), while in others, the meaning is not discernible from the words that make up the compound (exocentric compounds).

1.1.1.1.1. Endocentric compounds

In endocentric compounds, the meaning of the compound can be deduced from the parts. This category of compounding is productive and the compounds in this group are not always lexicalized, that is, new forms can be created by signers during conversation, such as ICE^{GROUND} (‘frozen ground’).

Endocentric compounds usually specify a subset within a category. The sign that indicates this category (the head) seldom has a free, unspecified position within the compound, which means that the components of compounds are usually fixed in their position. The most frequent pattern is the head-final one, but there are also head-initial endocentric compounds.

The compounds SLEEP^{OUTFIT} ‘pajamas’ and GOLD^{STORE} (‘jewelry store’) are head-final compounds. Pajamas are a type of outfit that are worn for sleeping (i.e. a subset within the category of outfits), and a jewelry store is a type of *store* where jewelry is sold.



SLEEP^DRESS ('pajamas')

In contrast, the next two are head-initial: a foal is a type of *horse* that is an offspring, and minced meat is *meat* that comes out of mincer.

HORSE^OFFSPRING ('foal')
[video example]

MEAT^OPERATE-MINCER ('minced meat')
[video example]

In another type of endocentric compound, 'descriptive compounds' which are akin to epithets, the meaning of one of the words in the compound is also the meaning that the whole compound denotes. For example, in PURPLE^EGGPLANT/CABBAGE ('eggplant'), EGGPLANT, which is one of the words within the compound is also what the whole compound means. FOOD/KITCHEN^FAMILY/KITCHEN ('kitchen') is a similar example.

The compound elements that can refer to the whole compound tend to be polysemous when compared to elements in other compounds. The first word in the compound, FOOD/KITCHEN^FAMILY/KITCHEN ('kitchen'), refers to both 'food' and 'kitchen'. The second word refers to both 'family' and 'kitchen'. The combination of the two elements gives rise to an unambiguous lexical item, 'kitchen'. In PURPLE^EGGPLANT/CABBAGE ('eggplant'), the word following PURPLE means eggplant or cabbage in isolation, but the compound means 'eggplant'.

1.1.1.1.2.Exocentric compounds

The meaning of exocentric compounds is not transparent, as seen in the following example:

MAN^TALL ('elder brother')
[video example]

(adapted from Kubus 2008: 80)

MAN^TALL does not literally mean 'a tall man' but 'elder brother'. Some other examples are:



BIG-STEERING-WHEEL^BUS ('big rig')

NECK^LONG ('giraffe')

[video example]

BITTER^JAR ('pickle')

[video example]

In these examples, the meaning, again, is not literal. A big rig is not a type of bus, a giraffe is not a kind of neck, and a pickle is not a type of jar.

As for head order, generally TID exocentric compounds are headless (e.g. BOOK^ARTICLE 'law'). One-headed exocentric compounds are usually head-initial (e.g. NECK^LONG 'giraffe').

1.1.1.2. Syntactic structure

Compounds have internal structure and in many compounds, one of the items is the head. Other compounds are non-headed or double-headed. Headedness is property which is independent of whether a compound is exocentric or endocentric. The parts of a compound form either a subordination relation (subordinate compounds) or a coordination relation (coordinate compounds).

1.1.1.2.1. Subordinate compounds

Compounds in which one of the items is a head are called subordinate compounds. Subordinate compounds have a head that marks the category of the compound. In the exocentric compound LONG^NECK ('giraffe'), the head of compound is NECK, modified by LONG. Other example of subordinate TID compounds are below:



SLEEP^OUTFIT ('pajamas')

MAN^TALL ('elder brother')

[video example]

1.1.1.2.2. Coordinate compounds

In coordinate (or coordinated) compounds, the signs are in a structurally symmetrical relation. In the compound FATHER^MOTHER 'parents', the signs for two sub-types of parents are combined. Other examples are below.



GOLD^SILVER ('jewellery store')

SOUR^BITTER ('pickle')

[video example]



THINK^PUT ('remember')

EAR^MOUTH ('deaf')

[video example]

WATER^SOIL ('mud')

[video example]

(Dikyuva, Makaroğlu, & Arık 2015: 167)

1.1.1.3. Compounds involving Size-and-Shape-Specifiers (SASS)

In compounds involving a Size-and-Shape-Specifiers [[Morphology – Section 5.2.](#)], the head of the compound may not be identifiable, as the SASS might represent an entity, but also alternatively a

feature of the entity. In TĪD, the SASS usually follows the lexical sign. Examples are presented below:

SOUND[^]CL.TWO.VERTICAL.OBJECTS ('loudspeakers')
[video example]

RED[^]CL.ROUND.OBJECT ('tomato')
[video example]

BINDI[^]CL.ROUND.OBJECT ('India')
[video example]

YELLOW[^]CL.ROUND.OBJECT ('melon')
[video example]

In contrast to SASSes that modify nouns in a phrase as adjectives [[Lexicon – Section 3.4.](#)], the SASSes in compounds are lexicalized. For instance, even when referring to a cubic tomato, roundness SASS in the compound is still obligatory when the compound is modified by another shape feature:

RED[^] CL.ROUND.OBJECT CUBE ('a cubic tomato')
[video example]

1.1.2. Simultaneous and semi-simultaneous compounds

Unlike sequential compounds, certain compounds are composed of two stems whose articulation times overlap totally or partially. Total overlap of stems gives rise to simultaneous compounds whereas partial overlap gives rise to semi-simultaneous compounds. (Semi-simultaneous compounds generally contain reduced stems.

1.1.2.1. Simultaneous compounds

In simultaneous compounds, two signs that are generally phonologically reduced are expressed separately on each hand. Simultaneous compounds are usually two-handed lexicalized classifier constructions [[Morphology - Section 5.1.](#)]. Consider, for instance, the sign SIGN (a document). The dominant hand is an entity classifier for long thin objects, which in this sign means pen, whereas the nondominant hand is also an entity classifier for flat objects, which means paper.



CL.LONG.THIN.OBJECT^CL.FLAT.OBJECT ('(to)sign')

In PERCH, the first component is a classifier with the sense of a bird, whereas the second classifier indicates a branch.

CL.TWO.LEGGED.ENTITY^CL.LONG.THIN.OBJECT ('to perch')

[video example]

(Dikyuva et al. 2015: 58)

Two other examples are below:



CL.HANDLING.CYLINDRICAL.OBJECT^HAND ('shampoo')

CL.ARC-SHAPED-ENTITY^CL.FLAT.ENTITY ('fortress')

(Göksel 2013; *Turkish Sign Language Dictionary* 2012)

Numeral incorporation is another type of simultaneous compounding [[Syntax – Section 4.3.4](#)]. Here, two separate signs are fused and produced simultaneously on one hand. This type of compound generally consists of a numeral and a time-related word (such as day, week, year, etc.):

TWO-DAY

[video example]

TWO-WEEK

[video example]

TWO-YEAR

[video example]

As the name implies, one of the two base signs is a numeral, while the other most frequently is a time term (day, week, etc.), or a pronoun. In its citation form, the TID sign DAY is articulated with a 2-hand that performs a wiggling movement in neutral signing space; when incorporated, a numeral handshape replaces the handshape of DAY, e.g. the Z-hand for ‘three’, realized as the sign THREE-DAY (‘three days’).

1.1.2.2. Semi-simultaneous compounds

The parts of semi-simultaneous partially overlap temporally. The magnitude of phonological reduction [[Phonology - Section 3.1.1](#)] and thus, the recognizability of the stems vary from one compound to the other. Certain compounds have recognizable elements, whereas others do not.

An example of a semi-simultaneous compound involving movement reduction and handshape assimilation is the compound MAN[^]TALL (‘elder brother’). MAN is signed with a ↙-hand proximal to the chin making repeated contact; TALL involves a ↖-hand making an upward movement on the ipsilateral space. In the compound, the ↙-hand moves from the chin to the upper ipsilateral area without repetition. That is, we observe (i) loss of movement in the first part, (ii) loss of handshape in the second part (which is a progressive handshape assimilation). See the examples below:

MAN[^]TALL (‘elder brother’)

[video example]

SAY[^]BAD (‘to swear’)

[video example]

EIGHT[^]ZERO (‘eighty’)

[video example]

1.2. Loan compounds

Sign languages almost always interact with the ambient spoken languages, which is reflected in various ways such as mouthings, fingerspelling, and in the borrowing of compound structures, among others (see also the section on calques [[Lexicon – Section 2.2.1](#)]).

1.2.1. Faithful loans

Faithful loans are characterized by the one-to-one relationship of input elements of the loan

compound. For instance, the TİD compound MOTHER^SCHOOL ('kindergarten') mirrors the structure of the Turkish compound *ana+okulu* (mother+school-POSS3.S). Other examples are as follows:



MIND^COME *akla+gel* (mind-DAT come 'come to mind')

(r.f. Göksel & Taşçı 2016: 375)

ICE^CUPBOARD *buz+dolabı* (ice+cupboard-POSS.3S 'refrigerator')

[video example]

1.2.2. Modified loans

In certain borrowed compounds, the order in the loan compound is reversed for phonological or semantic reasons. We refer to these cases as “modified loans”. For instance, the Turkish word for *mau mau* (a card game) is *pis+yedili* (nasty+seven-ASSOC). In TİD, however, the order of the two parts is reversed, which might be explained by the phonological tendency of placing the component articulated in a higher position in the signing space first.

SEVEN^NASTY *pis+yedili* (nasty+seven-ASSOC) ('mau mau (card game)')

[video example]

ROOM^SIT *oturma+odası* (sit-NR room-POSS.3S) ('living room')

[video example]

(Kan & Gökgöz 2009)

1.3. Compounds with finger spelled components

This type of compounding brings together a finger spelled component where an orthographic form, the letter, corresponding to the sound of the spoken word is borrowed via the manual alphabet. One or more finger spelled letters can be the input to this type of compounding which can be sequential or simultaneous.

1.3.1. Sequential

In these compounds, the fingerspelled element is produced separately from the other input element

in a sequential manner. The order might be fixed or free; when fixed, the fingerspelled letter can be the initial or the final item.

1.3.1.1. Native-like

In these, the form of native-like compound with a fingerspelled component is quite unlike the form of the borrowed word. For example, the fingerspelled letters U-N, the two letters of the loan word *un* ('flour') in Turkish, combine with the sign KNEAD to yield the meaning 'flour' (Note that the corresponding Turkish word is not a compound). Other similar examples are as follows:



Ç^THROW (*çöp* 'garbage')

SOLDIER^J (*jandarma* 'gendarme')

[video example]

L^CL.ROUND.OBJECT (*lahana* 'cabbage')

[video example]

(adapted from *Turkish Sign Language Resource Website* 2008)

1.3.1.2. Loan-like

In these compounds, the internal structure (such as the ordering of the elements) is similar to the loan compound in sequential loan-like compounds, including fingerspelled components. The compound meaning 'DVD driver' consists of two components, just like the Turkish original. These are sequentially combined in the same way as in Turkish, but the first component is represented by a fingerspelled word. The same is true for the compound R^TEACHER *rehber+öğretmen* (guide+teacher) meaning 'guidance counselor'. See below other examples:

O^SCHOOL *orta+okul* ('secondary school')

[video example]

Ç^TRUCK *çöp+kamyonu* ('garbage truck')

[video example]

SPOR^L *spor+lokali* ('sports clubhouse')
[video example]

(Özyürek, İlkbaşaran, & Arık 2004)

1.3.2. Simultaneous

In simultaneous compounds, handshape, location, or movement assimilations occur. The simultaneous compounds involving fingerspelling where handshape assimilation occurs are called initialization [[Lexicon – Section 2.2.2.1](#)]. In initialization, the handshape of the sign is usually the alphabetical handshape for the first letter of the corresponding word from the surrounding spoken language; this handshape replaces the handshape of a lexical item (e.g. the sign WEAR signed with a -hand for 'jacket'). Other such examples are listed below.



L^{BLUE} *lacivert* ('navy blue')



P^{HEAD} *psikoloji* ('psychology')

C^{TOGETHER} *cemiyet* ('club')
[video example]

(r.f. Taşçı 2012: 56)

In another type of simultaneous compound involving fingerspelling, a fingerspelled letter and a classifier are expressed simultaneously. For instance, the form meaning 'playstation' consists of the letter P on the dominant hand (left image below) and a classifier on the nondominant hand (right image below) (and optionally a second independent sign PLAY).

P^{CL}.FLAT.OBJECT^{PLAY} ('playstation')
[video example]

1.4. Phonological and prosodic characteristics

T^{ID} compounds generally exhibit certain types of phonological processes such as assimilation [Phonology – Section 3.1.1, and Phonology - Chapter 2] In the following sections, we discuss the most prevalent phonological phenomena in more detail.

1.4.1. Phonological characteristics

Regressive handshape assimilation is a common phonological phenomenon observed in T^{ID} compounds. One example is NECK^{LONG} ('giraffe') which exhibits regressive handshape and movement direction assimilation. NECK has downwards movement near the neck area with -handshape. LONG, on the other hand is signed with upwards movement with -hand. In the compound, the downwards movement of NECK is altered as upwards movement with the -handshape of LONG.

The hand-arrangement features can also assimilate within compounds. For instance, while STRONG is a two-handed sign, in the compound HEAD^{STRONG} ('stubborn'), the one-handedness feature of HEAD assimilates to STRONG.

Non-manual features sometimes spread between elements in compounds. Regressive non-manual assimilation is attested in the compound CHICKEN^{SMALL} ('chick'). The forward movement of shoulders and head in SMALL spreads to the first element CHICKEN.

Besides assimilation processes, there are two other tendencies in terms of movement direction. Namely, the transition movement from the first to the second input element tends to (i) move away from the body (ii) move downwards. As for move-away tendency, when one of the compound elements has a contact of the hand to the body, this element is predominantly the first element (e.g. MAN^{TALL} ('elder brother')). Moreover, this kind of contact^{no-contact} compounds are more common than compounds that have contact or no-contact in both elements (e.g. CL.RECTANGULAR.SHAPE^{PROJECTOR} ('projector')). As a sidenote, while the former pattern (contact^{contact}) is rare, the latter pattern (no-contact^{no-contact}) pattern is relatively common.

The downward-movement tendency is observed in two ways. First, the second element of the compound tends to be lower in signing location than the first compound element. Second, the place of articulation of two elements is predominantly in the order of head-to-torso rather than head-to-head and torso-to-torso. The compounds that have upwards movement is quite rare, SOFT^{SLEEP} ('pillow') is one such example.

1.4.2. Prosodic characteristics

Specific prosodic [Phonology – Chapter 2] changes are not uncommon in TID compounds. Most alterations occur with respect to rhythm. The compound form involves fewer movement strokes (syllables) than the items juxtaposed in a phrase.

The most common prosodic alteration in TID compounds is movement reduction in the first compound element. Some examples are, MAN[^]TALL (‘elder brother’) (loss of repetitive movement), FACE[^]BAD (‘ugly’) (loss of circular movement), SCHOOL[^]STUDENT (‘student’) (loss of sideways repetitive movement). The movement reduction in the second element is observed to a lesser extent (e.g. reduction in both elements: HEAD[^]STRONG (‘stubborn’)). In addition, two movements may be fused into one stroke such that the compound consists of only one syllable [Phonology – Section 2.1.1.] / syllable. In the compound SAY[^]BAD (‘swear’), the first input element SAY has a downward movement with  - handshape signed from the mouth to neutral signing space, whereas BAD has short repetitive downwards movements in neutral area with  -hand. In the compound form, location and movement characteristics are the same with SAY, though the handshape changes from  -hand to  -hand. Thus, a mono-syllabic and a disyllabic word combine to derive a mono-syllabic compound. A similar fusion of two signs is observed in other simultaneous compounds (e.g. P[^]CL.FLAT.OBJECT (‘playstation’) and semi-simultaneous compounds such as MAN[^]TALL (‘elder brother’), and EIGHT[^]ZERO (‘eighty’).

Information on data and consultants

The descriptions in this chapter are partially based on the references below and partially on research done by the authors during the development of this chapter. Please see the data and consultant information in the references. The linguistic data in images and video clips that were produced or reproduced for this chapter were provided by a near-native fluent signing consultant who was born and raised in Istanbul.

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References

Dikyuva, Hasan, Bahtiyar Makaroğlu & Engin Arık. 2015. *Türk İşaret Dili Dilbilgisi Kitabı [Turkish Sign Language Grammar Book]*. Ankara. [1.1]

Göksel, Aslı. 2013. Asymmetric signs: Simplex lexemes or semantically decomposable forms? Talk given at *Sign Language Workshop*. University of Haifa, (2 April 2013.). [1.1.1.2]

Göksel, Aslı, & Süleyman S. Taşçı. 2016. Türk İşaret Dili’nde ödünclemeler. In E. Arık, *Ellerle*

Konuřmak: Trk İřaret Dili Arařtırmaları, 361-388. İstanbul: Koç niversitesi Yayınları. [1.1]

Kan, Seda & Gkgz, Kadir. 2009. Topics in sign language morphology: Compound formation in Turkish Sign Language. Presented at the *7th Mediterranean Morphology Meeting*. University of Cyprus. (September 2009.). [1.2.2]

Kubus, Okan 2008. *An analysis of Turkish Sign Language (TID) phonology and morphology*. MA Thesis. Middle East Technical University. [1.4]

zyrek, Aslı, Deniz İlkbaşaran & Engin Arık. 2004. Trk İřaret Dili [Turkish Sign Language]. Koç University. <http://turkisaretdili.ku.edu.tr> (last accessed December 2013)

Tařçı, Sleyman S. 2012. *Phonological and morphological aspects of lexicalized fingerspelling in Turkish Sign Language (TID)*. MA Thesis. Bogazici University, Istanbul. [1.3]

Tařçı, Sleyman S. & Aslı Gksel. 2014. The morphological categorization of polymorphemic lexemes: A study based on lexicalized fingerspelled forms in TİD. *Dilbilim Arařtırmaları Dergisi, Special Issue in Honor of Prof. A. Sumru zsoy*, 165-180. [1.3]

Tařçı, Sleyman S. & Aslı Gksel. 2016. Grammatical encoding of semantic categories; Turkish Sign Language native compounds. Poster submitted to *TISLR 11*, Melbourne (January 2016.) [1]

Tařçı, Sleyman S. 2016. TİD el alfabetinin szlkselleřmesi ve biçimleniřsel yapılandırılması: El deęiřimi ve benzeřme olguları. In E. Arık, *Ellerle Konuřmak: Trk İřaret Dili Arařtırmaları*, 183-210. İstanbul: Koç niversitesi Yayınları. [1.3]

Turkish Sign Language Resource Website [Trk İřaret Dili Kaynak Sitesi]. Boęaziçi University. <http://www.cmpe.boun.edu.tr/tid> (last accessed December 2017)

Turkish Sign Language Dictionary [Trk İřaret Dili Szlę]. 2012. Ankara: T.C. Milli Eęitim Bakanlıęı zel Eęitim ve Rehberlik Hizmetleri Genel Mdrlę.

Chapter 2. Derivation

Derivation is a morphological process by which a lexeme is created from another lexeme. The creation of the noun *baker* from the verb *bake* is a typical derivational process and it is mediated by the derivational marker *-er*. Derivational markers in TİD can be manual or non-manual.

2.1. Manual Markers of Derivation

Manual markers may be realized in a sequential or simultaneous manner. In addition, there is a special kind of derivation based on iconic etymology.

2.1.1. Sequential Derivation

In TİD, there are some sequential derivational affixes which have been borrowed from the surrounding spoken language, Turkish. These are the privative (negative) suffix *-LESS* and the fingerspelled suffixes *-L-I* and *-C-I*, the associative and the agentive suffixes, respectively. The fingerspelled suffixes are signed on the dominant hand, although otherwise fingerspelling is usually reserved for the non-dominant hand [[Lexicon – Section 2.2.2.1](#)].

The associative suffix *-L-I* has been borrowed from the Turkish *-li* in accordance with (a reduced and simplified version of) vowel harmony, yielding two allomorphs. It has a variety of meanings but the most prevalent one is ‘with’.



-L-I

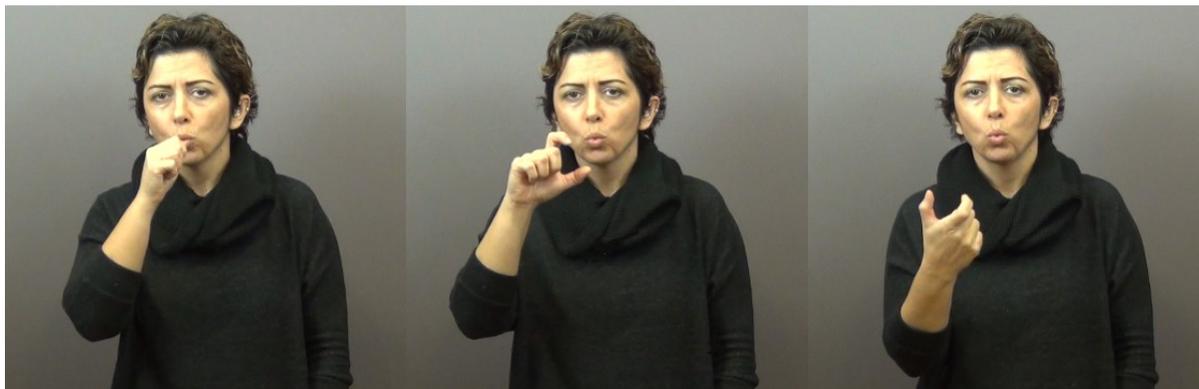


-L-U

The usage of the variant *-L-U* depends on whether the sign that it is attached to is mouthed in Turkish. If the mouthing of such a sign has a rounded vowel (o, ö, u, ü) as the last segment, then some signers use the form *-L-U* instead of *-L-I*.

2.1.1.1. Agentive

Similar to the associative suffix -L-I, the agentive suffix is also borrowed from Turkish. It imparts various meanings to the form it creates such as a person selling something, or the occupation of a person. On a par with -L-I, the agentive suffix has two forms that display a reduced form of vowel harmony, yielding the forms -C-I and -C-U. One form of SU[^]C(U) ‘water vendor’ is given below:



SU ‘water’

C

U

‘water vendor’

(based on Göksel & Taşçı 2016: 379)

In this example, the sign for water is followed by C and U. Note that the shape of the first letter of the agentive suffix ‘c’ happens to have the same form as the form for the sign PERSON which on its own forms a compound, see [Morphology – Chapter 1].

Agentive forms are rather infrequent in the TİD lexicon, an unusual fact given that Turkish has a vast number of words containing the agentive suffix. The Koç University web site lists 13 words containing -C-I. All of these words have the agentive suffix in the corresponding Turkish words too.

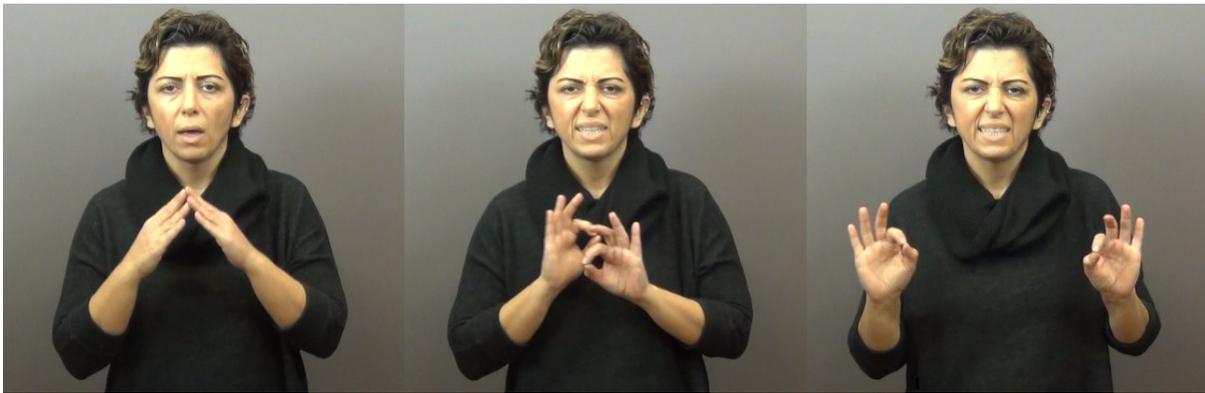
TURKISH WORD	TİD (person who sells or is associated with a thing, place etc.)
Bankacı	BANK^C-I ‘bank clerk’
Eczacı	MEDICINE ^EZ ^C-I ‘pharmacist’
Fırıncı	BAKERY^C-I ‘baker’
Futbolcu	SPORT^C-I ‘football player’
Kitapçı	BOOK^C-I ‘book seller’
Oyuncakçı	TOY^C-I ‘toy seller’
Postacı	POST^C-I ‘postman’
Saatçi	CLOCK^C-I ‘clock seller/repairman’
Sanatçı	ART^C-I ‘artist’
Simitçi	BAGEL^C-I ‘bagel seller’
Tamirci	REPAIR^C-I ‘mechanic’

The list of TİD words which contain –C-I

Some signs have their own lexical expressions for agentive. For instance, having an agentive meaning in itself, the sign for COMMENTATOR does not contain the agentive derivational marker –C-I. The applies to CARER as well.

2.1.1.2. Negative

The privative (negative) marker -LESS means ‘without’. The O-handshape is used in this sign and the movement is from contra-lateral to ipsi-lateral. Also, while producing the privative marker, there is simultaneous mouthing of the Turkish orthography counterpart of this marker. Below, there is an example of HOME^LESS.



HOME[^]LESS

2.1.1.3. Attenuative

2.1.2. Simultaneous derivation

In simultaneous derivation a new word is created by changing the internal structure of another word, such as its movement pattern. An example is the pair SIT and CHAIR. The verb SIT is produced by a single upwards wrist movement of the hands in 8-handshape. When this sign is articulated with repetition, the word CHAIR is derived, which shows that repetition is a derivational process deriving an instrument from a verb.



SIT



CHAIR

2.1.2.1. Noun-verb pairs

See [[Morphology – Section 2.1.2.3](#)]

2.1.2.2. Attenuative

2.2. Non-manual markers of derivation

2.2.1. Diminutive and augmentative

2.2.2. Intensive

2.2.3. Proximity

2.2.4. Noun-verb pairs: mouthing

Mouthing is used in instrumental noun-verb pairs in TİD. It involves the entire or partial silent pronunciation of the sign's Turkish counterpart. Mouthing is used simultaneously mostly with nouns and much less frequently with verbs. For example, LIGHTER is intensified with mouthing, however there is no mouthing in LIGHT.

Information on data and consultants

The descriptions in this chapter are based on the references below. Please see the data and consultant information in these references. The linguistic data in images and video clips that were produced or reproduced for this chapter were provided by a near-native fluent signing consultant who was born and raised in Istanbul.

Authorship information

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References

Açan, Zeynep. 2007. *A linguistic analysis on basic sentence types in Turkish Sign Language (TİD) with reference to non-manual activity*. Ankara, Turkey: Hacettepe University PhD dissertation.

Aslan Demir, Sema. 2010. Sessizliğin dili: Türk İşaret Diline dair gözlemler. *Bilig*, 54. 1-20.

- Aslan Demir, Sema. 2016. Sessizliğin Dili: Türk İşaret Dili'ne dair gözlemler. In E. Arık, *Ellerle Konuşmak: Türk İşaret Dili Araştırmaları*, 141-156. İstanbul: Koç Üniversitesi Yayınları.
- Dikyuva, Hasan, Bahtiyar Makaroğlu & Engin Arık. 2015. *Türk İşaret Dili Dilbilgisi Kitabı [Turkish Sign Language Grammar Book]*. Ankara.
- Kubus, Okan 2008. *An analysis of Turkish Sign Language (TİD) phonology and morphology*. Ankara, Turkey: Middle East Technical University MA thesis.
- Kubus, Okan & Annette Hohenberger. 2011. The phonetics and phonology of TİD (Turkish Sign Language) bimanual alphabet. In R. Channon and H. van der Hulst (eds.), *Formational units in sign languages*, 43-63. Berlin: Walter de Gruyter.
- Özbek, Aslı. 2012. Verbal Complexity in Turkish Sign Language: Instrumental Verbs and Classifiers. Poster presented at *45th Annual Meeting of the Societas Linguistica Europaea*. Stockholm University. (29 August - 1 September, 2012.)
- Özbek, Aslı. 2012. Identifying Noun Verb Pairs in Turkish Sign Language: Turkish-TİD Interaction. *International Conference on Turkish Linguistics*. Middle East Technical University, Ankara. (18-21 September, 2012.)
- Özbek, Aslı. 2012. Noun-Verb Pairs in TİD: A Methodological Criticism. *Proceedings of the International Symposium on Language and Communication: Research Trends and Challenges*, 1709-1716. Erzurum: Mega Press.
- Özkuş, Aslı. 2013. *A phonological and morphological analysis of instrumental noun-verb pairs in Turkish Sign Language*. İstanbul, Turkey: Bogazici University MA thesis.
- Özkuş, Aslı. 2016. Türk İşaret Dili'nde araç bildiren isim ve fiil çiftlerine birimbilimsel bir Bakış. In E. Arık, *Ellerle Konuşmak: Türk İşaret Dili Araştırmaları*, 211-232. İstanbul: Koç Üniversitesi Yayınları.
- Taşçı, Süleyman S. & Aslı Göksel. 2014. The morphological categorization of polymorphemic lexemes: A study based on lexicalized fingerspelled forms in TİD. *Dilbilim Araştırmaları Dergisi, Special Issue in Honor of Prof. A. Sumru Özsoy*, 165-180.

Chapter 3. Verbal inflection

This chapter describes inflectional morphemes on verbs in TID. These are agreement, tense, aspect, modality and negation.

3.1. Agreement

In TID only agreement verbs and spatial verbs [[Lexicon – Section 3.2.1.](#)] inflect for agreement. Agreement verbs agree with the person and number features of some of their arguments (their subjects and objects). Spatial verbs agree with their locative arguments. These arguments would answer the questions “from where?” (source) and “to where?” (goal).

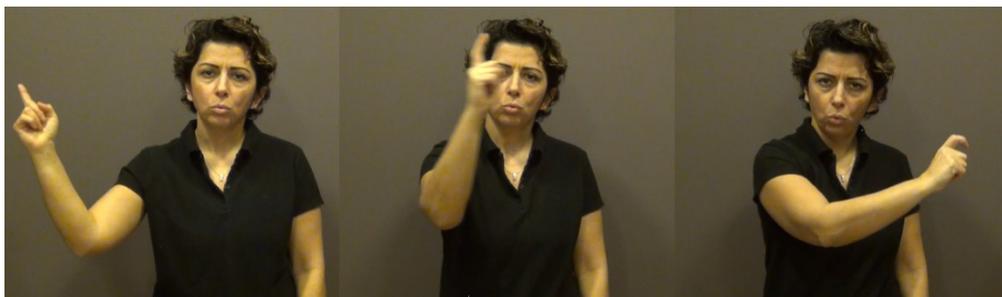
3.1.1. Person and locative markers

Agreement verbs can agree with both of their arguments (double agreement verbs) or only one of them (single agreement verbs) [[Lexicon – Section 3.2.1.](#)]. Double agreement verbs are also categorized into two: forward agreement verbs and backward agreement verbs.

The form of the agreement verb changes depending on the loci of the arguments. These loci may be at or near the actual location of the referents of the arguments physically present in the setting where the sentence is uttered, for example near the location of a person close-by. Alternatively, they may abstractly represent the referents of the arguments that are not physically present but mentioned before in the discourse (see [[Lexicon - Section 3.7. and Pragmatics - Sections 1.1. and 8.1.](#)] for explanations on establishing loci).

Agreement with the verb’s arguments is typically achieved by a modification of the direction of movement and/or the orientation of the hand.

In the case of modification of the direction of movement, when the verb agrees with both its subject and its object, the movement starts at the location associated with the subject and ends at the location associated with the object.



3aASK3b

Agreement marking is represented with subscripted indices on the left and the right of the verbs. The positions of the indices correspond to the start and end locations of the movement of the verb, i.e. left represents the start and the right represents the end. In forward agreeing verbs, the left-index represents the subject and the right-index represents the object:

forward agreeing verbs

${}_1\text{ASK}_2$ 1 = starting location of the verb movement; subject
'I ask you.' 2 = ending location of the verb movement; object

[video example]

In backward agreeing verbs, the left-index represents the object and the right-index represents the subject. The following provide representative examples:

backward agreeing verbs

${}_1\text{INVITE}_2$ 1 = starting location of the verb movement; object
'You invite me.' 2 = ending location of the verb movement; subject

[video example]

In the case of modification of the orientation of the hand, the relevant part of the hand – the palm or the fingertips – are oriented towards the object.

${}_2\text{TEACH}_1$
'You are teaching me.'
[video example]

The following is an example where both the direction of movement and orientation of the fingertips are modified:

${}_{3a}\text{SEND.MAIL}_{3b}$
'informed you.'
[video example]

${}_2\text{INFORM}_1$
'You informed me.'
[video example]

In summary, verbs can agree with one or two arguments by (i) by changing the direction of movement and orientation of the hand, (ii) by only changing the direction of movement, or (iii) by only changing the orientation of the hand.

As for spatial verbs, agreement is not marked based on grammatical roles such as subject and object but on the locative arguments of these verbs such as their source and goal arguments. The meaning of most spatial verbs involves transfer of an entity such as in MOVE and in PUT and these are articulated with path movement. The following illustrates a case where the verb agrees with both of its locative arguments. The starting location of the path movement coincides with the locus of the source, marked with a left-index on the verb PUT and the final location with the locus of the goal, marked with a right-index on the verb.

WAITER IX_{3a} TABLE_{3b} IX_{3b} TABLE_{3c} IX_{3c} PLATE _{3c}PUT_{3b}
'The waiter put the plate from this table to that table.'
[video example]

Sections 3.1.1.1. and 3.1.1.2. focus on subject agreement and object agreement respectively. Before we focus on agreement with each argument, let us describe the way these two agreement types are represented in the examples.

3.1.1.1. Subject markers

As mentioned above, when a forward agreeing verb involves a path movement, the first location slot of the verb coincides with the locus of the subject argument (probably established earlier in the discourse). The following is an example of a forward agreeing verb with subject agreement:

₂SEND₁
'You sent (it) to me.'
[video example]

In backward agreeing verbs, the final location slot coincides with the locus of the subject.

₁STEAL₂
'You stole from me.'
[video example]

See [Lexicon – Section 3.2.2] for a list of backward agreeing verbs attested in TID so far.

When the subject is 1st person singular, the path movement of the verb starts on or near the signer's body. When the subject is 2nd person singular, it starts in the central space in a locus near the addressee as in the examples above.

When a transitive verb is body-anchored, that is, when the starting location is on the body of the signer, then the verb may or may not agree with the subject. SAY is a body-anchored verb but even when the subject is non-first-person, it is possible to mark the verb with subject agreement, as in the following example:

3aSAY3b

‘She_{3a} said to him_{3b}.’

[video example]

3.1.1.2. Object markers

As mentioned above, an agreeing verb usually agrees with one of its objects. In agreeing verbs with path movement, the movement of the verb ends at the locus of the object in forward agreeing verbs:

TEACHER_{3a} IX_{3a} 3aASK₁

‘The teacher asked me (a question).’

[video example]

The path movement starts at the locus of the object in backward agreeing verbs:

TEACHER_{3a} IX_{3a} 1PICK_{3a}

‘The teacher picked me.’

[video example]

The grammatical role of the object can be a direct or an indirect object, and its semantic role can be theme, experiencer, source, or goal/recipient. The following are examples of possible semantic roles of objects involved in agreement:

theme

TEACHER_{3a} IX_{3a} STUDENT_{3b} IX_{3b} 3aSEE_{3b}

‘The teacher saw the boy.’

[video example]

2TEACH₁

‘You teach me.’

[video example]

goal/recipient

TEACHER_{3a} IX_{3a} SAY₂

‘The teacher told you.’

[video example]

TEACHER_{3a} IX_{3a} BOOK _{3a}GIVE₁

‘The teacher gave the book to me.’

[video example]

TEACHER_{3a} IX_{3a} STUDENT_{3b} BOOK _{3a}SHOW_{3b}

‘The teacher showed the book to the student.’

[video example]

source

TEACHER_{3a} IX_{POSS}₁ BOOK ₁TAKE_{3a}

‘The teacher took the book from me.’

[video example]

₁COPY₂

‘You copied from me.’

[video example]

In ditransitive verbs, usually, the verb agrees with only one of its objects and often this object is the indirect object and not the direct object. GIVE is a typical example. Below, we see that the direction of the path movement of the verb changes depending on the referent of the indirect object. Below, the indirect object is 2nd person singular:

₃GIVE₂

[video example]

In contrast, here, it is 1st person singular.

₃GIVE₁

[video example]

There are also cases where the agreeing verb does not have path movement. In such cases, object agreement can be expressed by changing the orientation of the palm.

₂SUPPORT₁

‘He supports me.’

[video example]

₁SUPPORT₂

‘I support him.’

[video example]

3.1.1.3. Locative markers

As explained above, spatial verbs agree with their locative arguments. These arguments are constituents that would answer the questions “from where?” (source) and “to where?” (goal). Even though agreement verbs usually agree with human arguments, spatial verbs do not have to do so.

The spatial verbs that can be categorized as motion verbs such as WALK or those whose meaning involve transfer of entities such as PUT are usually articulated with path movement. The start location of the movement coincides with the locus of the source and the end location with the locus of the goal. The following illustrate these cases:

NDH: PICTURE_CL_{3a}
DH: PICTURE_{3a} THERE_{3a} ONE GIRL_{3b} THERE.IS
'In the picture there is a girl.'

HOUSE_{3k} IXPOSS_{3b} IN-FRONT DOOR_{3c}
'(There is) a door in front of her house.'

DOOR_{3c} 3cNEAR_{3d} PARK_{3d} HOUSE_{3k} 3kWALK_{3d}
'There is) a park near her (house) door. She is walking from her house to the park.'
[video example]

While agreement with the goal is obligatory, agreement with the source is not. For instance, the verb PUT may or may not show agreement with the source.

WAITER_{3a} IX_{3a} TABLE_{3b} IX_{3b} PLATE PUT_{3b}
'The waiter put the plate on the table.'
[video example]

WAITER_{3a} IX_{3a} TABLE_{3b} IX_{3b} TABLE_{3c} IX_{3c} PLATE 3cPUT_{3b}
'The waiter put the plate from this table on that table.'
[video example]

There are also some spatial verbs such as SLEEP (somewhere) that do not semantically involve transfer and are not articulated with path movement. These verbs may show agreement with a locative argument by being articulated at the locus of that argument. This is usually achieved by the use of classifiers representing the subjects.

BED_a IX_a CHILD SLEEP_a

‘The child is sleeping in the bed.’

[video example]

3.1.2. Number markers

When we consider number marking on verbs, we usually think of marking of plurality of the subject (and/or the object). However, TID does not have a general plural marker for the verb, and it does not have morphemes that distinguish 1st person plural, 2nd person plural, and 3rd person plural from their singular counterparts. Rather, the number (or plural) concepts that are marked are *dual*, *multiple* and *exhaustive*.

3.1.2.1. Dual

If one of the arguments of a verb refers to two individuals, then the verb may be marked to show duality which has the meanings ‘two of you’, ‘two of them’ etc.

Dual inflection can take different forms depending on whether the verb is one-handed or two-handed.

When the verb is a one-handed sign such as ASK, both hands can be used and moved simultaneously, each movement starting from or ending in different locations. Thus, each hand represents an event with a different subject or object. In the following example, there are two different subjects.

²⁺²GIVE₁

‘You two give me.’

[video example]

3.1.2.2. Multiple

The verb is inflected with multiple (or collective) when one of the arguments denotes multiple entities. Thus, this concept is closest to the concept of “plural”. Verb forms with multiple are articulated with an arc movement. For instance, in the articulation of the verb INFORM below, the articulation of the verb starts near the signer’s mouth, in a straight line towards a location on the contralateral side of the signing space and then in an arc towards a location on the ipsilateral side of the signing space. In continuous signing, the straight and the arc movement are likely to get fused into one continuous movement.

¹INFORM_{3multiple}

‘I informed them.’

[video example]

(r.f. Dikyuva et al. 2015: 209)

3.1.2.3. Exhaustive

The verb is inflected with exhaustive (distributive) when an event is distributed over persons as in the sentence “The teacher gave a candy to each student.” Exhaustive verb forms are articulated with the reduplication of the verb. However, the number of repetitions does not necessarily represent the number of people involved in the event.

In an example such as the one below, the verb starts at a location close to the signer’s body and moves towards a location on the contralateral side of the signing space. But subsequently, while moving towards the ipsilateral side, the forward movement of the base form is reduplicated (although the reduplicants are likely to have a reduced movement).

3aINVITE₁ 3bINVITE₁ 3cINVITE₁

‘They each invited me.’

[video example]

With one-handed verbs, the non-dominant hand can participate in the reduplication and then the two hands can move in alternation.

3aGIVE_{3b} 3aGIVE_{3c} 3aGIVE_{3d}

‘She gave ... to each of them.’

[video example]

3.1.3. Reciprocal markers

A verb is inflected with a reciprocal marker when it expresses a mutual relation between the subject and the object. In English, this meaning is expressed with a reciprocal pronoun, *each other*, in examples such as “Ali and Yeşim sent gifts to each other”. So, when a verb such as SEND is inflected with a reciprocal marker in TİD, this marker expresses the meaning that “Ali sent a gift to Yeşim and Yeşim sent a gift to Ali.” This section focuses on inflecting verbs with reciprocity. See [Lexicon – Section 3.7.4.] for reciprocal pronouns.

Since plain verbs are not inflected for the features of their arguments, only agreement verbs show reciprocal marking. When an agreement verb is inflected for reciprocity, this can be expressed in a number of ways. Before we describe these ways, let us introduce the indexing convention: when a verb has both superscripts and subscripts with indices such as x and y, the superscripts indicate the movement of the dominant hand while the subscripts indicate the movement of the non-dominant hand.

With some of the one-handed verbs, reciprocal marking can be realized in the following ways:

- (i) The non-dominant hand copies the dominant hand and moves in reversed direction.

$x^y \text{GIVE}_y x$
[video example]

(ii) The verb undergoes sequential backward reduplication. If the verb is a forward agreement verb, the articulation of the verb is followed by backward reduplication.

$x \text{ASK}_y \text{ASK}_x$
[video example]

If the verb is a backward agreement verb, the articulation of the verb is followed by forward reduplication.

$x \text{CHOOSE}_y \text{CHOOSE}_x$
[video example]

With two-handed agreement verbs that are articulated with moving both hands symmetrically, the movement may be reduplicated. The direction of the movement depends on whether the verb is a forward or backward agreement verb.

$x^x \text{FOLLOW}_y^y \text{FOLLOW}_x^x$ (forward agreement verb)
[video example]

$x^x \text{INVITE}_y^y \text{INVITE}_x^x$ (backward agreement verb)
[video example]

Some one-handed and two-handed verbs are articulated in neutral signing space, i.e. the loci of their arguments are not as clear as in the cases described above. The articulation of an agreement marker in neutral space is represented with a 0 in the super- and subscripts in the examples below. 0 means the locus of the argument is completely dropped and x^0 or y^0 mean the loci of the arguments are not easily identifiable.

The following are examples of one-handed verbs that use both movement reduplication and copying to the non-dominant hand in neutral signing space: AFFECT, SOMEONE, FAX, SEE, INFORM and BADMOUTH. As can be seen in the videos of the examples, the way the reciprocal marking affects the articulation is not the same across these verbs. The different modifications the verbs undergo are provided below.

(i) The subject agreement marker is dropped (or reduced):

${}^0\text{AFFECT}_x{}^y{}^0$
[video example]

(ii) The object agreement marker is dropped (or reduced):

${}_x{}^0\text{FAX}_0{}^y{}^{++}$
[video example]

(iii) Body-anchoring of the verb is dropped:

${}_x{}^y{}^0\text{see}_0{}^0$
[video example]

(iv) Internal movement of the verb is dropped:

${}_x{}^0\text{inform}_0{}^y{}^0\text{inform}_x{}^0{}^{++}$
[video example]

(v) Path movement of the verb is reduced:

${}_x{}^0\text{badmouth}_0{}^y{}^0\text{badmouth}_x{}^0{}^0$
[video example]

Some two-handed verbs that are inflected with the reciprocal marker also get reduplicated but in a reduced way and their argument markers are neutralized. In SUPPORT, each hand represents a different supporting relation.

${}_x{}^y{}^0\text{SUPPORT}_y{}^0{}_x{}^0\text{SUPPORT}_x{}^y{}^0{}^{++}$

3.2. Tense

Tense as an inflectional notion refers to marking a verbal element (a lexical verb or an auxiliary) with a morpheme that indicates the time of the event, action or state expressed by the predicate by placing it with respect to the speech time. Main tenses are past, present and future. A past event is interpreted to have happened before the speech time, a present event overlapping with the speech time and a future event after the speech time.

TID does not have a productive tense marker that appears as an inflectional morpheme on a verb. However, time lines are used to indicate the time of the event or the state.

3.2.1. Time lines

A time line refers to an imaginary line between the horizontal plane from a point in front of the signer to a point behind the signer, with the present moment corresponding to a point at the signer's chest. In TĪD, the part of the line that is in front of the signer's body represents the future, the one in the back the past. However, more fine-grained distinctions in time are also expressed: far past, near past, near future, and far future. Time information is mainly expressed by lexical tense markers ([Lexicon - Section 3.3.1.](#)) and temporal adverbs ([Syntax – Section 6.4.2.1.](#)) which are also articulated in the relevant parts of the time line.

3.2.2. Tense inflection

There is no systematic tense inflection on verbs.

3.3. Aspect

Aspect as an inflectional notion that refers to marking a verb with a morpheme that expresses the way the internal temporal organization of actions, events, states and processes is perceived. A major categorization of such organization is between the presentation of events as incompleting vs. completed, which roughly correspond to imperfective aspect and perfective aspect respectively. These categories also have sub-categories as described below. It is crucial to note that the aspectual information of an event is independent of its time, namely, an event can, for example, be presented as ongoing not only in the present as in the English example “I am writing a text message right now.” but also in the past as in “I was writing a text message (when he walked in the door)”.

Some aspectual notions are expressed with lexical aspectual markers [[Lexicon - Section 3.3.2.](#)]. However, a number of aspectual notions are expressed either with modifying the verb form such as its movement or with non-manual morphemes such as mouth gestures or both.

3.3.1. Imperfective

An imperfective morpheme presents an event as not completed. Ongoing or habitual events are, for instance, categorized as imperfective. This section discusses the habitual, continuative/durative and conative aspects of the main aspectual category imperfective.

A common imperfective aspect notion is progressive. This aspectual concept presents an event as ongoing, continuous. This may sometimes be expressed by the repetitive and shortened path movement of the verb.

hn

IX₁ HOUSE GO++++

[video example]

3.3.1.1. Habitual

3.3.1.2. Continuative/durative

Continuative/durative inflection expresses that the event is perceived as continuing or lasting for a long, uninterrupted time. In TĪD, this is expressed with the mouth gesture ‘lele’, which is articulated by protruding the tongue slightly between the teeth and flicking it up and down repeatedly and quite rapidly. ‘lele’ most commonly occurs with atelic verbs, verbs that have no inherent endpoint. It is rarer with telic verbs, verbs with an inherent endpoint, and when it occurs with a telic verb, it expresses that the event has occurred repeatedly, that is, has an iterative meaning [Morphology – Section 3.3.2.1]

‘lele’

IX₁ ASSOCIATION PRESIDENT BECAUSE CALL

‘They keep calling me since I am the president of the association.’

(r.f. Dikyuva et al. 2015: 221)

3.3.1.3. Conative

3.3.2. Perfective

Verbs inflected with an imperfective morpheme are presented as a whole unit without internal structure, and thus, terminated or completed. Perfectivity in TĪD is usually expressed with an accentuated movement of the verb and the mouth gesture ‘bn’.

bn

EAT

[video example]

‘bn’ can only occur with eventive predicates. When ‘bn’ cooccurs with an atelic verb such as an activity, it expresses the meaning of termination (of the activity):

bn

THIS MORNING PLAY

‘I played this morning.’

[video example]

When it cooccurs with a telic verb, especially an accomplishment, it expresses the meaning of completion (of the event):

bn

YESTERDAY COOK

‘I cooked yesterday.’

[video example]

When a verb is reduplicated to express multiple occurrences of an event, ‘bn’ cooccurs with each articulation of the verb.

bn bn bn

YESTERDAY EVENING HOUSE GO GO GO

‘Yesterday evening I kept going to homes.’

[video example]

‘bn’ also frequently cooccurs with the lexical completive marker FINISH [[Lexicon – Section 3.3.2.](#)].

bn

HUSBAND_{3a} POSS_{3a} THIS EVENING WORK FINISH IX_{3a}

[video example]

Further, some subtypes of perfective, namely, iterative, inceptive/inchoative and completive, can also be marked with manual and/or non-manual markers.

3.3.2.1. Iterative

When a (completed) event or an action is repeated within a certain period of time, this may be expressed by an iterative marker. The meaning this marker contributes can be paraphrased as “again and again” or as “repeatedly”. Iterative differs from the habitual [[Morphology – Section 3.3.1.1.](#)] in that iterated events are perceived as countable and temporally bound.

Some verbs in TID can be inflected manually to express the iterative aspect. The following examples illustrate the bare, citation form of the verb INFORM, and its iterative inflected form. In the iterative form, the articulation of the verb involves a circular movement.

Citation form

INFORM

[video example]

Iterative form

bn

/defa/ 'times'

IX₁ HOW-MANY INFORM INFORM

'How many times did I keep informing you?'

[video example]

3.3.2.2. Inceptive/inchoative

Inceptive aspect denotes the beginning of an action whereas inchoative aspect denotes the beginning of a state. In TĪD, inceptive/inchoative is marked with the mouth gesture 'ee' [i:], which is articulated with an intense mouth pattern consisting of gritting the teeth and pulling back the corners of the mouth.

'ee'

ENTER MUSEUM MUSEUM BEAUTIFUL SEE

'As soon as I entered the museum I saw the beauties.'

[video example]

(r.f Dikyuva et al 2015: 220)

The non-manual marker 'ee' is used mostly in affirmative clauses.

3.3.2.3. Completive

A completive morpheme specifically marks an event as completed and it usually occurs especially with telic verbs, which have natural endpoints and can thus be perceived to be completed. It is not clear whether the aspectual marker BIT is a suffix, and thus, a verbal inflection marker, see [[Lexicon – Section 3.3.2.](#)].

3.4. Modality

3.4.1. Deontic modality

3.4.2. Epistemic modality

3.5. Negation

This section describes negative morphemes that attach to verbs.

3.5.1. Regular negation

Regular negation refers to cases where the negated verb is the result of a productive process where a negative morpheme attaches to a verbal stem and the negative morpheme and the verbal stem are clearly identifiable. Irregular negation, on the other hand, refers to negated verbs that are the result of partial or complete suppletion.

3.5.1.1. Manual markers

The negative particle NOT, described in [Lexicon – Section 3.11.1], frequently cliticizes to verbs. The following are some examples:

KNOW^NOT
[video example]

COME^NOT
[video example]

Note that when NOT functions as a clitic, its movement is reduced, its location is displaced towards that of the verb, and thus, it fuses with the articulation of the verb, in contrast with the way it is articulated as a free morpheme [Lexicon – Section 3.11.1].

3.5.1.2. Non-manual markers

The most common non-manual marker of (verbal) negation in TID is a single backward head tilt, ‘bht’. It is usually accompanied by eye-brow raise. When this non-manual marker cooccurs with the free morpheme NOT, it spreads only over NOT.

bht
SICK NOT
‘(He) is not sick.’
[video example]

When it cooccurs with the cliticized NOT, then its scope usually covers NOT and the verbal stem.

bht
KNOW^NOT
'(I) don't know.'

Another verbal negative form is puffed cheeks. This non-manual occurs with perfective verbs.

pc
COCA-COLA DRINK
'(I) didn't drink coca-cola.'
[video example]

3.5.2. Irregular negation

Irregular negation refers to suppletive forms where it is sometimes impossible and sometimes hard to identify the verbal stem. Compare the affirmative form and the negated form of WANT. The articulation of WANT involves the thumb touching the chest and short downward repetitive movement.

WANT
[video example]

WANT.NOT, on the other hand, is articulated with the pinky finger touching the chest and an upward hand twist on the vertical plane.

WANT.NOT
[video example]

Some of the phonological features of WANT such as its location and handshape are retained in WANT.NOT whereas the upward movement can be attributed to the phonological features of NOT. This is an example of partial suppletion.

A case of total suppletion is the negation of the sign THERE.IS resulting in THERE.ISN'T.

THERE.IS
[video example]

THERE.ISN'T
[video example]

Another suppletive form is a negated modal particle SHOULD.NOT/CAN.NOT. (See [Lexicon – Section 3.3.3] for contexts where this particle may be used.).

POSSIBLE

[video example]

SHOULD.NOT

[video example]

Information on data and consultants

The descriptions in this chapter are based on the references below. Please see the data and consultant information in these references. The linguistic data in images and video clips that were produced or reproduced for this chapter were provided by a near-native fluent signing consultant who was born and raised in Istanbul.

Authorship information

Meltem Kelepir

References

- Aslan Demir, Sema. 2016. Sessizliğin Dili: Türk İşaret Dili'ne dair gözlemler. In E. Arık, *Ellerle Konuşmak: Türk İşaret Dili Araştırmaları*, 141-156. İstanbul: Koç Üniversitesi Yayınları.
- Dikyuva, Hasan. 2011. *Grammatical non-manual expressions in Turkish Sign Language (TİD)*. Preston, Lancashire, England: University of Central Lancashire (UCLan) MA thesis.
- Dikyuva, Hasan, Bahtiyar Makaroğlu & Engin Arık. 2015. *Türk İşaret Dili Dilbilgisi Kitabı [Turkish Sign Language Grammar Book]*. Ankara.
- Dikyuva, Hasan. & Ulrike Zeshan. 2008. *Türk İşaret Dili - birinci düzey. [Turkish Sign Language - level one]*. Nijmegen: Ishara Press.
- Dikyuva, Hasan. 2016. Türk İşaret Dili'nde görünüş kodlayan el-dışı işaretler. In E. Arık, *Ellerle Konuşmak: Türk İşaret Dili Araştırmaları*, 297-314. İstanbul: Koç Üniversitesi Yayınları.

- Geraci, Carlo, Brandt Strickland, Roland Pfau, Meltem Kelepir & Philippe Schlenker. 2015. Sell or negotiate? Extracting telicity from sign language. Paper presented at *Formal and Experimental Approaches to Sign Language Theory (FEAST)*. UPF, Barcelona. (May 2015)
- Gökgöz, Kadir. 2009. *Topics in Turkish Sign Language (Türk İşaret Dili – TİD) Syntax: Verb movement, negation, and clausal structure*. Istanbul, Turkey: Bogazici University MA thesis.
- Gökgöz, Kadir. 2013. Negation in Turkish Sign Language: The syntax of nonmanual markers in Herrmann and Steinbach (Eds.), *Nonmanuals in Sign Language*. John Benjamins Publishing.
- Karabüklü, Serpil. 2016. A semantic analysis of perfective markers in TİD. *Workshop on Altaic Formal Linguistics 12 (WAFL 12)*. Central Connecticut State University. (May 2016)
- Karabüklü, Serpil. 2016. *Time and aspect in Turkish Sign Language (TİD): Manual and nonmanual realizations of 'finish'*. Istanbul, Turkey: Boğaziçi University MA thesis.
- Kubus, Okan 2008. *An analysis of Turkish Sign Language (TİD) phonology and morphology*. Ankara, Turkey: Middle East Technical University MA thesis.
- Kubus, Okan & Annette Hohenberger. 2013. Phonology and phonetics of reciprocals in Turkish Sign Language (TİD). In E. Arik (ed.), *Current directions in Turkish Sign Language research*, 101-142. Newcastle upon Tyne, UK: Cambridge Scholars Publishing.
- Kubus, Okan 2016. *Relative Clause Constructions in Turkish Sign Language*. Hamburg, Germany: University of Hamburg Ph.D. dissertation.
- Özyürek, Aslı, Inge Zwitserlood & Pamela M. Perniss. 2010. Locative expressions in signed languages: A view from Turkish Sign Language (TİD). *Linguistics*, 48(5), 1111-1145.
- Sevinç, A. Müge. 2006. *Grammatical Relations and Word Order in Turkish Sign Language (TİD)*. Ankara, Turkey: Middle East Technical University MA thesis.
- Strickland, Brent, Carlo Geraci, Emmanuel Chemla, Philippe Schlenker, Meltem Kelepir & Roland Pfau. 2015. Event representations constrain the structure of language: Sign language as a window into universally accessible linguistic biases. *Proceedings of the National Academy of Sciences*. DOI:10.1073/pnas.1423080112.
- Zeshan, Ulrike. 2003. Aspects of Türk İşaret Dili (Turkish Sign Language). *Sign Language and Linguistics*, 6(1), 43-75.

Chapter 4. Nominal inflection

Nouns can be inflected for plurality (number), localization and distribution.

4.1. Number

One common way of expressing multiple entities is to use numerals and quantifiers such as MANY, TOO MANY (see [Syntax – Section 4.4.] and [Lexicon – Section 3.10.2.]). Another common way is to use classifiers (alone or together with the nouns) ([Morphology - Chapter 5]) which can be reduplicated or morphologically modified to include path or circular movements to express plurality.

As for the plural inflection of nouns themselves, TID does not have a productive way of inflecting all nouns for plurality, hence, it does not have a plural affix.

4.1.1. Manual marking

Even though it is not very common, nouns can be marked for plurality with reduplication. There are two types of plural reduplication: simple reduplication and sideward reduplication.

In simple reduplication, the movement of the noun sign is simply repeated in its canonical signing space.

DAY-pl

‘days’

[video example]

(r.f. Kubus 2008: 64)

In sideward reduplication, a noun is repeated by displacing it towards one side of signing space.

TABLE-pl

‘tables’

[video example]

When the sign is body-anchored as in MAN, then the signer moves his head and body from the contralateral to the ipsilateral side and the reduplication is achieved by at least three head nods that accompany this movement.

MAN-pl

‘men’

[video example]

Sideward plural reduplication is different from localization [[Morphology – Section 4.2.](#)] in that a sideward reduplicated noun is not interpreted as expressing multiple entities being located next to each other.

Some nouns cannot be reduplicated. For instance, BOOK which is two-handed and is signed in the central signing space cannot be reduplicated.

4.1.2. Non-manual marking

As described in [[Morphology – Section 4.1.1.](#)], the reduplication of a body-anchored noun such as GIRL or MAN can be accompanied by head nods; each instance of head nod co-occurs with each reduplication.

4.2. Localization and distribution

Localization refers to signing a sign in a certain location in signing space, usually, not in central space where the citation form of the sign would be articulated but in the lateral space in order to express that the referent of the sign is in a certain location. For instance, the following example is interpreted as the house being at a certain location x. The signer then may point back to this location to express that the referent is “the house at location x”. This is a case of inflection because the form of the noun in this case is different from its form in its uninflected articulation, namely, the noun is inflected with a locus morpheme.

PARK_a aNEXT-TO_b GROCERY-STORE_b IX_b THERE-IS IX_b CHOCOLATE BUY

‘There is a grocery store next to the park. Buy chocolate there.’

[video example]

Spatial distribution is a combination of localization and pluralization via reduplication to express multiplicity of entities at different locations. This is possible only with classifiers. See [[Morphology – Chapter 5](#)].

Information on data and consultants

The descriptions in this chapter are based on the references below. Please see the data and consultant information in these references. The linguistic data in images and video clips that were produced or reproduced for this chapter were provided by a near-native fluent signing consultant who was born and raised in Istanbul.

Authorship information

Meltem Kelepir

References

- Açan, Zeynep. 2007. *A linguistic analysis on basic sentence types in Turkish Sign Language (TİD) with reference to non-manual activity*. Ankara, Turkey: Hacettepe University PhD dissertation.
- Dikyuva, Hasan, Bahtiyar Makaroğlu & Engin Arık. 2015. *Türk İşaret Dili Dilbilgisi Kitabı [Turkish Sign Language Grammar Book]*. Ankara.
- Kubus, Okan 2008. An analysis of Turkish Sign Language (TID) phonology and morphology. Ankara, Turkey: Middle East Technical University MA thesis.
- Perniss, Pamela M. & Aslı Özyürek. 2004. How many pots in the window sill? Number and quantification in German and Turkish Sign Languages. Crosslinguistic perspectives in *sign language research workshop, German Linguistic Society Conference, Mainz, Germany*.
- Zwitserslood, Inge, Pamela M. Perniss & Aslı Özyürek. 2012. An empirical investigation of multiple entities in Turkish Sign Language: Considering the effects of modality? *Lingua*, 122(14), 1636-1667. doi:10.1016/j.lingua.2012.08.010
- Zwitserslood, Inge, Pamela Perniss & Aslı Özyürek. 2013. Expression of multiple entities in Turkish Sign Language (TİD). In E. Arık (ed.), *Current directions in Turkish Sign Language research*, 273-302. Newcastle upon Tyne, UK: Cambridge Scholars Publishing.

Chapter 5. Classifiers

It is common in sign languages to depict salient iconic aspects of animate or inanimate entities by manual articulation, in particular, by handshape. Grammatical categories that express entities by such means are called classifiers. In this chapter, classifiers in TĪD will be explained and exemplified mainly under two categories: predicate classifiers and size and shape specifiers (SASS, also known as adjectival classifiers).

5.1. Predicate classifiers

‘Predicate classifiers’ are classifiers that usually occur with verb stems or locative predicates. They are locative constructions and they contain path motions of single and multiple entities. There are three types of predicate classifiers: entity classifiers, bodypart classifiers, and handle classifiers.

5.1.1. Entity classifiers

Entity classifiers (or whole entity classifiers/semantic classifiers) may refer to inanimate or animate objects and they are iconically or partially iconically motivated by the shape of the entities. Some examples of whole entity classifier handshapes that are common in TĪD are the flat handshape (for objects with smooth flat surfaces, e.g. a sheet of paper or a book), the ASL-C handshape (for long and/or thick cylindrical objects, e.g. a cup or a tree), and the 1- handshape (for long, thin objects, e.g. a pen or a person):



TURN-THE-NOTEBOOK-CL



TRUNK-CL



STEP-ON-A-LINE-CL

Entity classifiers can occur in verbs that express a motion of a referent, the localization of this referent in space, or its existence in space, and they are combined with the motion component of the verb. They may be used for describing various entities in a static situation in TĪD: upright human or animal figures, car, truck and plane figures, book and notebook figures, glass and cup figures, armchair figures, round middle-size fruit figures.

In the figure below, the signer uses two instantiations of the 1-handshape after she signs TWO and MAN. What the 1-handshape represents is the body of the referent, which, in this context, indicates two men in an upright position. The orientation of the fingers represents the men's physical orientation towards each other. The fact that the classifier handshapes are still, indicates that the men are not moving. Moreover, the positions of the classifiers in the signing space gives an indication of the proximity of the two men from the perspective of the signer.



TWO

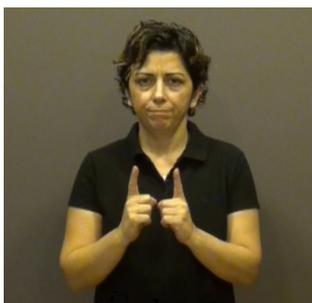
MAN

MAN-STAND-CL

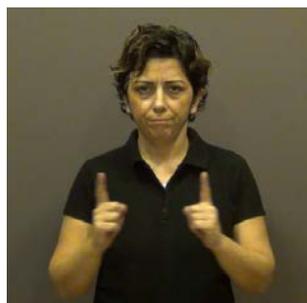
‘Two men are standing face to face.’

(r.f. Dikyuva et al., 2017:160)

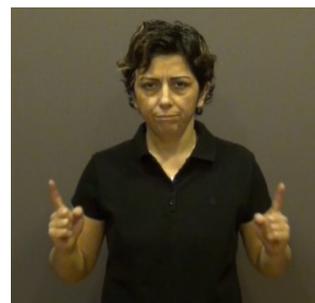
Entity classifiers not only depict static entities, but they can also be used for expressing dynamic states of human and animal figures. The signer in the figure below uses the same 1-handshape as in the previous figure (after she signs TWO and MAN). The position of the classifiers, the orientation of the hands with respect to each other are the same as the ones in the previous figure. However, the classifiers are moving towards each other in the following utterance, meaning both referents are involved in a movement and they are approaching each other.



(MAN TWO) MAN-STAND-CL



MAN-STAND-CL



MAN-STAND-CL

‘Two men are approaching each other.’

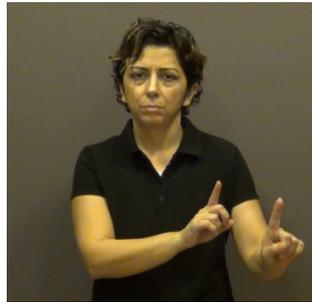
(r.f. Arık 2013: 6)

The following figure exemplifies yet another case where the same classifier is used. This time, the two referents are moving in the same direction, placed one after the other, instead of moving

towards each other. The difference in the direction of the movement and the orientation of the hands results in the meaning ‘a man is following another man’.



MAN TWO CL-MAN-MOVE



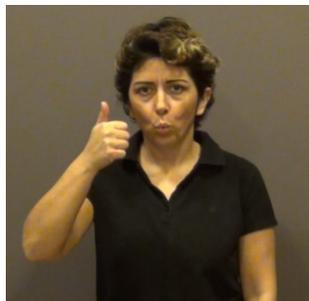
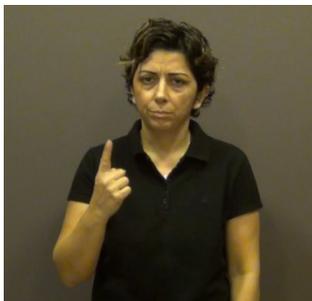
CL-MAN-MOVE

‘A man is following another man.’

(r.f. Arık 2013: 6)

The 1-handshape as shown in the previous figures is mostly used to refer to human beings. The plural information of the referents is maintained through using the relevant number of fingers to depict the number of human entities, e.g. 3-handshape on the proximal hand and 2-handshape on the distal hand would mean ‘three men are following (another) two men’.

There is a subtype of entity classifiers in TİD which is referred to as honorific classifiers. They share the same characteristics with entity classifiers in terms of the relationship between the handshape and the referent. However, honorific expressions might be used to refer to people of higher status or they indicate politeness, formality, social distance and respect. There is an honorific person classifier which is distinguished from the neutral person classifier in TİD in terms of its handshape as shown in the following figure.



Neutral and honorific person classifiers

(r.f. Zeshan, 2002:265)

Entity classifiers in TİD are not used only for human beings but also for animals, vehicles and geometrical objects.

Furthermore, instruments in TİD could be expressed by entity classifiers through representing the shape of the object or by handle classifiers which show the manipulation of the instrument by the hand. Below is an example of two instruments expressed by the same entity classifier.



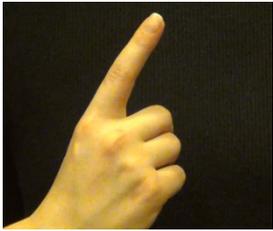
MIXER

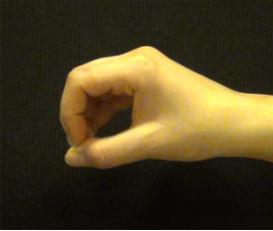
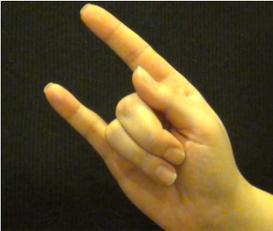
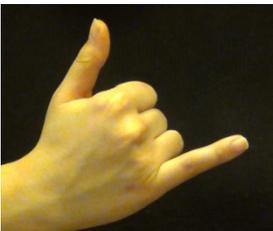


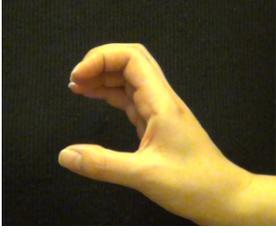
HAIR.DRYER

(Özkul, 2013:72)

The following table lists the entity classifier handshapes and their examples.

Figure	Handshape name	Examples
	1-Handshape	long-thin objects, human-beings (non-honorific)
	Flat Hand	flat objects, surfaces, vehicles (cars, minibuses, bicycles), rectangular static objects
	ASL A-Bar	honorific human-being, and bottle or alcohol, drinks

	<p>5-Handshape</p>	<p>plural non-honorific human-beings</p>
	<p>ASL O-Handshape</p>	<p>cylindrical objects (i.e. TELESCOPE)</p>
	<p>Horn-Handshape</p>	<p>square objects (mainly used with 1-handshape) (i.e. POOL)</p>
	<p>Hooked Flat Extended</p>	<p>small spherical objects</p>
	<p>O-Handshape</p>	<p>small round objects (coins)</p>
	<p>ASL Y-Handshape</p>	<p>airplanes</p>

	L-Handshape	objects and instruments with extensions (i.e. HAIR.DRYER and MIXER)
	ASL C-Handshape	cylindrical objects

The list of the entity classifier handshapes and their examples (r.f. and adapted from Kubus 2008)

5.1.2. Bodypart classifiers

The handshapes of bodypart classifiers refer mostly to limbs or legs. However, they sometimes refer to the head of an animate being or to the mouth, or even to the eyelids. Hooked V-handshape (together with the V-handshape) and the Flat-hand are among the handshapes which are used to represent limbs, legged objects and the whole body of the referents.



MAN.STAND.CL

‘A man is standing.’ (Kubus, 2008:103-104)

Four-legged animals in TĪD do not have specific classifier handshapes. Furthermore, similar classifiers are used to represent animals without legs (worm, snake), two legged animals (chicken), human beings, and many legged-animals (spider). The classifier handshape used for worms and snakes is the index finger indicating the whole body of the animal, which makes the classifier an entity classifier. 5-handshape, the hooked extended flat hand, the 4-handshape and the 8-handshape are used to represent spiders in TĪD.

TID makes use of different body parts of the same referent as classifiers depending on the movement of the referent. In the following example, the movement of the cow is represented by different classifiers.



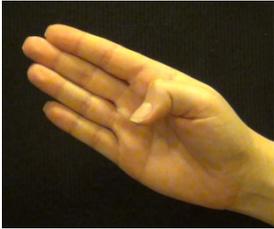
a-d COW zigzagging through a course with flags

- a. COW-CL: legged object
- b. COW-CL: limb with a zigzagging movement
- c. COW-CL: horn
- d. COW-CL: limb with a zigzagging movement

(Kubus, 2008:104)

In this example, the signer uses both the whole body classifier and the limb classifier to represent how a cow zigzagged through the obstacles. The movement begins with walking represented by V-handshape and the signer changes the classifier and represents the zigzag movement through the use of limb classifier. Moreover, TID makes use of different bodypart classifiers to express manner and path verbs. Figures in (a) and (c) above show the path of the movement through locations whereas Figure (b) and (d) show the manner of the cow's movement through the inner movement of the hand.

The following table provides a list of bodypart classifier handshapes and their examples.

Figure	Handshape name	Examples
	V-handshape	standing or walking human being
	Hooked V-handshape	animals with many legs
	Flat-hand	the body of the animals without legs
	4-handshape	animals with many legs
	5-handshape	animals with many legs

The list of bodypart classifier handshapes and their examples (r.f. and adapted from Kubus 2008)

5.1.3. Handle classifiers

Handle (or handling) classifiers represent only the part of the object that is handled, for example, the stem of a flower, the handle of a basket, or the handle of a knife.



CL-GIVE-CIGARETTE (O-handshape as a handle classifier)

(Kubus, 2008: 97)

In the figure above, the left hand of the signer in O-handshape indicates that the agent is holding the cigarette and giving it to someone else. In this example, it is the object/theme being manipulated and is expressed through a handle classifier. Handling classifiers are also used to represent instruments (see the figure below). They show how the instrument is manipulated or handled by the hand.



GRATE-CARROT-CL: ASL S-Handshape

(Özkul 2013:77)

In this example, the right hand of the signer indicates that the carrot is being handled and moved up-and-down across the grater. The left hand of the signer represents the grater which is being held still. This figure also shows that the same type of classifier could be used simultaneously on both hands to indicate different handled objects.

The following table provides a list of attested handle classifier handshapes and their examples in TID.

Figure	Handshape name	Examples
	Hooked Flat Extended	small spherical objects
	ASL S-Handshape	handling objects (bags, buckets, baggage) and vehicles (i.e. drive)
	Covered T Handshape	handling objects (tooth brush, a knife, hammer)
	O-Handshape	holding small objects (cigarette, nail, needle)
	CL3Bend	holding round objects such as round light switches

The list of handle classifier handshapes and their examples (r.f. and adapted from Kubus 2008 and Dikyuva et al 2016: 164)

5.2. Size-and-Shape Specifiers (SASS)

As the name suggests, Size-and-Shape-Specifiers (SASS) express the size and shape of entities. They are used to specify nouns of different shapes such as a table, a box, a tent, a book, and a ball and of different sizes such as small, large, or very big. While entity classifiers can be partially iconic, SASSs are always iconic.

SASS come in two types: static SASS and tracing SASS. Static SASS are handshapes that indicate classes of objects with a particular shape. Often the handshape reflects (part of) the outline of the object. The commonly used handshapes for static SASSes in TID are the C-handshape or U-handshape (Narrowed C-handshape). The following is an example of static SASS:



BOX



SMALL-BOX



LARGE-BOX

(r.f. Dikyuva et al 2016: 157)

The tracing SASS involves a movement component by which the outline of the object is traced. There is a distinction among handshapes according to the dimension they refer to. Although the 1-handshape is mostly used to specify different shapes, including 2-D geometrical shapes, the Claw handshape or Flat Hand are generally used to represent 3-D Shapes. ASL-C handshape may refer to round objects such as field glasses or cups:



A SASS could be referring to the partial shape of an entity or the whole shape. For instance, in the figure above, the ASL-C handshape refers to a cup. On the other hand, the four sides of a framework are expressed through the L-handshapes produced on both hands in the figure below. The SASS represents the edges and we understand that it is a square or a rectangular shaped object.

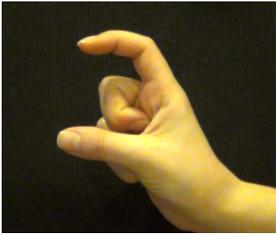
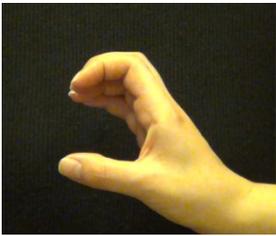


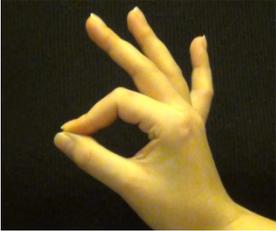
FRAME-ON-THE-WALL-CL-L handshape

‘The frame is on the wall.’

O-handshape, C-handshape and 1-handshape are other handshapes that are commonly used to form adjectival classifiers (SASSes).

The following table provides a list of SASS handshapes and their examples:

Figure	Handshape name	Examples
	ASL C-handshape	
	C-handshape	
	U-handshape (Narrowed C-handshape)	
	I-handshape	2-D geometrical shapes
	Claw handshape	3-D Shapes
	Flat Hand	3-D Shapes

	TİD O-handshape	
	L-Handshape	rectangular and square objects (i.e. frames)

The list of SASS handshapes and their examples (r.f. and adapted from Kubus 2008)

Information on data and consultants

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Authorship information

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References

Arık, Engin. 2013. Türk İşaret Dili'nde sınıflandırıcılar üzerine bir çalışma. *Bilig*, 67. 1-24.

Arık, Engin. 2015. Expressing manner, location, and orientation in manner-only motion events in Turkish Sign Language. *Trames: A Journal of the Humanities and Social Sciences*, 19(3). 205-220.

Dikyuva, Hasan, Bahtiyar Makaroğlu & Engin Arık. 2015. *Türk İşaret Dili Dilbilgisi Kitabı [Turkish Sign Language Grammar Book]*. Ankara: Aile ve Sosyal Politikalar Bakanlığı.

Dikyuva, Hasan, Bahtiyar Makaroğlu & Engin Arık. 2017. *Turkish Sign Language Grammar*. The Republic of Turkey, Ministry of Family and Social Policies. (248-262)

- Kubus, Okan 2008. *An analysis of Turkish Sign Language (TİD) phonology and morphology*. Ankara, Turkey: Middle East Technical University MA thesis.
- Özkul, Aslı. 2013. A phonological and morphological analysis of instrumental noun-verb pairs in Turkish Sign Language. Istanbul, Turkey: Bogazici University MA thesis.
- Özyürek, Aslı, Inge Zwitterlood & Pamela M. Perniss. 2010. Locative expressions in signed languages: A view from Turkish Sign Language (TİD). *Linguistics*, 48(5), 1111-1145.
- Özyürek, Aslı & Pamela M. Perniss. 2011. Event representations in signed languages. In J. Bohnemeyer, & E. Pederson (eds.), *Event representations in language and cognition*, 84-107. New York: Cambridge University Press.
- Zeshan, Ulrike. 2002. Sign Language in Turkey: The story of a hidden language. *Turkic Languages*, 6(2), 229-274.
- Zwitterlood, Inge, Pamela Perniss & Aslı Özyürek. 2013. Expression of multiple entities in Turkish Sign Language (TİD). In E. Arik (ed.), *Current directions in Turkish Sign Language research*, 273-302. Newcastle upon Tyne, UK: Cambridge Scholars Publishing.

Syntax

Chapter 1. Sentence types

There are four sentence types: declaratives, interrogatives, imperatives and exclamatives.

1.1. Declaratives

Declarative sentences are typically used to make statements and assertions. There are no special manual signs for declaratives and there are no non-manual markers that spread over the entire sentence to specifically mark it as declarative. However, the non-manual markers that mark other sentence types such as interrogatives are absent in declaratives and this facilitates the perception of a sentence as a declarative.

1.2. Interrogatives

Interrogative sentences are typically used to ask questions. There are three types of interrogatives: polar, alternative and content. Non-manual markers play an important role in interrogatives in not only distinguishing them from other sentence types but also differentiating between different interrogative sub-types. However, which specific non-manual markers fulfill these functions is subject to dialectal variation. The position of the head distinguishes interrogatives from declaratives. In some dialects the head is forward in *both* polar and content questions whereas in some others while the head is forward in polar questions, it is backward in content questions. There are also other non-manual markers such as brow raise, head nod and head shake, which are described below. The spreading domains of these non-manual markers vary.

1.2.1. Polar interrogatives

Polar interrogatives are usually used to ask questions whose answers are expected to be either 'yes' or 'no'. They have non-manual markers that distinguish them from content questions and these non-manual markers spread over the question completely or partially. Polar interrogatives can also have question particles.

1.2.1.1. Non-manual markers in polar interrogatives

Polar interrogatives are usually articulated with forward body lean, head forward, raised or lowered eyebrows, widened eyes, eye gaze directed to the addressee and a single or slightly repetitive head nod. Some of these non-manual markers are represented in the example below.

_____ fbl
 _____ hf
 _____ re
 _____ hn

UNDERSTAND IX₂

‘Do you understand?’

[video example]

In a relatively long question, the spreading domain of these different non-manual markers may differ. Head forward and raised eyebrows tend to spread over the entire question whereas head nod tends to occur at the end of the question, usually spreading only over the predicate and the sign(s) following it, for instance, the Q-PART or a subject pronoun.

When a polar interrogative is negated, this creates a potential conflict between head forward which marks the polar interrogative and backward head tilt which marks negation. In those cases, even though the question starts with head forward, this non-manual marker is replaced with (a single) backward head tilt when the predicate and the negative sign NOT are articulated.

_____ hf bht
 _____ re

ADANA EVER GO NOT

‘Haven’t you ever been to Adana?’

(Dikyuva et al., 2015: 273)

In the following sections, the non-manual markers are provided in the examples only if they are crucial to the description of the topic.

1.2.1.2. Word order changes between declaratives and polar interrogatives

There are no crucial word order [Syntax – Section 2.3.] changes between declaratives and polar interrogatives. However, it is frequently the case that the subject pronoun occurs at the end of the question, especially when the subject of the interrogative is the addressee/2nd person.

IX₂ SPORTS DO IX₂

‘Do you do sports?’

When the question is negated and the subject pronoun occurs question-finally, the pronoun follows the negative marker NOT [Syntax – Section 1.5.].

IX₂ BREAKFAST MAKE NOT IX₂

‘Have you not had breakfast?’

1.2.1.3. Interrogative particles

Polar questions may have question particles. The form, the frequency of use, and the optionality/obligatoriness of this particle depends on the signer.

A particle that some signers use is a manual sign articulated with a curved index finger resembling the graphic sign of a question mark in orthography. This sign can be represented as Q.MARK or as Q.PART. We adopt the gloss Q.PART, referring to its function in the question.



Q.PART

Some signers use this question particle to mark the focus [Pragmatics – Section 4.1.] of the question. In the dialect of these signers, the particle occurs question-finally when the entire question is the focus as in ‘Did you meet the president?’ or after the phrase which is the focus of the question. The latter case can be translated into English either with stress as in ‘Did YOU meet the president?’ or with clefting as in ‘Is it you who met the president?’. The following is an example where the entire question is the focus:

YOU YESTERDAY ANKARA GO Q.PART
‘Did you go to Ankara yesterday?’

The examples below show how the particle can be used by some signers to focus different constituents. The position of the article in the question is after the sign which is the focus.

YOU YESTERDAY Q-PART ANKARA GO
‘Was it yesterday that you went to Ankara?’

YOU YESTERDAY ANKARA Q-PART GO
‘Was it Ankara that you went to yesterday?’

CHILD Q-PART CHOCOLATE EAT
‘Was it the child who ate the chocolate?’

CHILD CHOCOLATE Q-PART EAT
‘Was it the chocolate that the child ate?’

(Makaroğlu 2012: 54-55)

In this dialect, when the Q.PART is not used, the focussed phrase occurs at the end of the question.

TOMORROW GO PICNIC

‘Is it to the picnic you will go tomorrow?’

(Makaroğlu 2012: 57)

An alternative is to double the focussed phrase, i.e. to have two copies, one in its basic position and one at the end of the question, see [[Pragmatics – Section 4.1](#)].

TOMORROW PICNIC GO PICNIC

‘Is it to the picnic you will go tomorrow?’

(Makaroğlu 2012: 57)

Mouthing of the Turkish question particle *mi/mu* is also possible: this mouthing occurs when the signer mouths the entire question, and the mouthing of *mi/mu* accompanies Q.PART if it is present.

 y/n

/ucuz mu/

CHEAP Q-PART

‘Is it cheap?’

In the absence of Q.PART, mouthing of *mi/mu* usually accompanies the final manual sign.

 y/n

/ucuz mu/

CHEAP

‘Is it cheap?’

Finally, some elderly signers use a question marker which is articulated by the index finger touching the nose and then moving downward in a straight line, which is derived from an older form of the question word WHAT.

1.2.2. Alternative interrogatives

Alternative interrogatives provide alternatives to the addressee to choose from. These are usually in the form of a polar interrogative as in the English example ‘Is he young or old?’ and thus, in TID an alternative interrogative may be articulated with the non-manual markers of polar interrogatives. Body leans to opposite directions accompany each alternative.

lean-r lean-l
y/n y/n
/pahali mi/ /ucuz mu/
EXPENSIVE CHEAP
'Is it expensive or cheap?'

When the manual signs in an alternative question are articulated with the non-manual markers of a content question, the question can be interpreted as 'Is it a woman or a man? Which one?', namely as a content question.

wh
WOMAN MAN
'Is it a woman or a man? (Which one?)'
(adapted from Zeshan 2006: 133-134)

Sometimes, the question can contain an overt question sign such as WHAT/WHICH.

wh
WOMAN MAN WHAT/WHICH
'Is it a woman or a man? Which one?'
(adapted from Zeshan 2006: 133-134)

1.2.3. Content interrogatives

Content interrogatives are usually used to ask questions with question words such as *who*, *what*, *where* etc.

POSS₂ TEACHER WHO
'Who is your teacher?'

WHERE WORK IX₂
'Where do you work?'

1.2.3.1. Non-manual markers in content interrogatives

As with polar interrogatives, content interrogatives are also co-articulated with a bundle of non-manual markers. The most common non-manual markers are forward lean of the head, shoulders and the upper torso, non-neutral eyebrow position (raised, lowered or furrowed eyebrows), slight backward tilt of the head/chin and a very small, fast, single or repetitive headshake.



 fb
 hs
 fe

WHERE WORK IX₂

‘Where do you work?’

The non-manual markers and their spreading domains are subject to variation. Non-neutral eyebrow position exhibits the highest variation: A content interrogative may be articulated with raised or lowered brows, with variation among signers as well as within a single signer. Moreover, some signers retain neutral eyebrow position in this type of interrogatives.

Non-manual markers also differ in their prominence. As can be seen in the figure above, whereas the forward lean of the head, shoulders and the upper torso and the raised and furrowed eyebrows are very prominent, the others are more subtle: even though the shoulders are moved forward, the head is slightly tilted backwards and the chin is tilted slightly upwards contrasting with the forward head tilt and the downwards movement of the chin in polar interrogatives. The headshake is also small, short and tense, and it is more subtle than the headshake in negatives [Syntax – Section 1.5.2.1.] which is larger and slower.

The spreading domains of these non-manual markers also differ. In the utterances of some signers, whereas forward body lean, head backward and brow raising/lowering spread over the entire question, headshake occurs with the question sign and may spread over an adjacent sign, and forward body lean may occur towards the end of the question. The following is an example.

 re
 hb
 fb
 hs

WHERE WORK IX₂

Moreover, if there is a topic [Pragmatics – Section 4.2.], these non-manual markers may exclude the topic. In the following example, the phrase VACATION AFTER ‘after the vacation’ is the topic of the question and it is excluded from the scope of the non-manual markers of content question. Here and in the rest of the sub-sections of 1.2.3., the non-manual marker notation “wh” refers to the bundle of non-manual markers in content interrogatives.

wh

VACATION AFTER WHAT DO IX₂

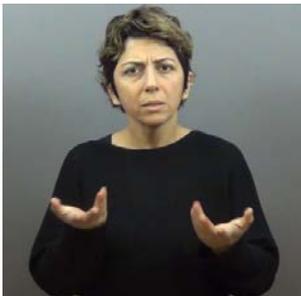
‘What are you doing after the vacation?’

[video example]

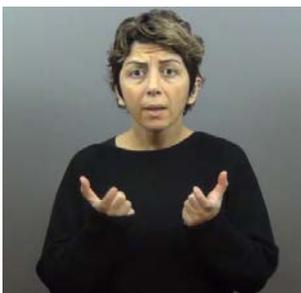
1.2.3.2. List of *wh*-signs

The following signs are a subset of signs used to question different types of constituents. The signs for each function may vary depending on the region and the generation the signer belongs to. The examples below were elicited from a signer who was born and has lived in Istanbul.

The question signs cooccur with forward lean of the head, shoulders and the torso, raised or lowered or furrowed eyebrows, slight backward tilt of the head/chin and a very small, short head shake. WHAT below is an underspecified question sign, that is, it can be used as a counterpart of *what*, *how* and *which*.



WHAT/HOW/WHICH



WHERE



HOW.MANY



WHEN/HOW-LONG



WHY

Also, a special sign exists for the meaning ‘which grade’, WHICH.GRADE.



WHICH.GRADE

The majority of the question signs, namely, WHERE, WHY, HOW.MANY/MUCH and WHEN, are phonologically similar to the signs of the common nouns PLACE, REASON, NUMBER, and DAY respectively. For instance, PLACE and WHERE are both two-handed signs [Phonology – Section 1.4.] and have the same handshape [Phonology – Section 1.1.1.]. Whereas PLACE is articulated with a single downward movement and with no non-manual markers, WHERE is articulated without downward movement but with a tremolo movement which can be either up-down or inward-downward and with side-to-side headshake. A similar difference in movement is observed with the pair DAY and WHEN. On the other hand, the difference between NUMBER and HOW.MANY/MUCH is only in the absence vs. presence of the non-manual markers. NUMBER is articulated with an opening of the hand and movement towards the contralateral side. Articulation of HOW.MANY/MUCH additionally involves a single head-shake towards the ipsilateral side. Similarly, the only difference between REASON and WHY is the non-manual markers. Finally, PERSON and WHO share only the handshape.

PERSON [video example]	WHO [video example]
PLACE [video example]	WHERE [video example]
REASON [video example]	WHY [video example]
NUMBER [video example]	HOW.MANY/MUCH [video example]
DAY [video example]	WHEN [video example]
PERSON [video example]	WHO [video example]

Complex *wh*-phrases are formed with a common noun [[Lexicon – Section 3.1.1.](#)] and with the basic question sign WHAT/WHICH/HOW. The common noun may precede or follow the question sign. See also [[Syntax – Section 1.2.3.6.](#)]. In the following, the complex *wh*-phrase is WHAT BRAND with the *wh*-determiner WHAT and the common noun BRAND.

POSS₂ PHONE WHAT BRAND
‘What brand is your phone?’

WHEN is used only in the sense of ‘what day’ or ‘how many days/months/years’. When asking “what time”, the question does not contain a question sign. See [[Syntax – Section 1.2.3.3.](#)]

1.2.3.3. Content interrogatives without *wh*-signs

It is possible to utter a content interrogative without a question sign.

IX₂ HOUR HOME GO IX₂
‘What time did you go home?’
[video example]

IX₂ AGE
‘How old are you?’
[video example]

1.2.3.4. Non-interrogative uses of *wh*-signs

1.2.3.5. Position of *wh*-signs

There are three common configurations of content interrogatives: in the first one, the question sign occurs in its basic (i.e. in-situ) position, namely, if it questions the subject, the subject position, if it questions the object, the object position etc.

WHO TRASH THROW

‘Who threw the trash?’

IX₂ **WHAT** BUY

‘What did you buy?’

IX₂ YESTERDAY **WHY** WORK COME[^]NEG

‘Why didn’t you come to work yesterday?’

In the second configuration, a question sign occurs twice in the question: with one copy in the basic position and one copy in the question-final position, see [[Syntax – Section 1.2.3.7](#)].

In the third one, the question sign occurs in the sentence-final position.

NOW DO **WHAT**

‘What will be done now?’

(Dikyuva et al. 2015: 274)

SURGERY POSS₁ SIGN **WHO**

‘Who will sign my surgery (papers) now?’

(Dikyuva et al. 2015: 277)

A less common configuration is where a question sign occurs question-initially.

WHEN IX₂ GO

‘When are you going to go?’

(Makaroğlu, 2012: 85)

1.2.3.6. Split between the *wh*-sign and its restriction

In complex *wh*-phrases, it is possible to split the question sign from the common noun (its restriction). In these cases the question sign occurs after its restriction and it usually occurs question-finally.

IX₂ SON **COLOR** LIKE **WHAT**

‘What color does your son like?’

1.2.3.7. Doubling of the *wh*-sign

It is possible to double a question sign. In such cases, usually, one copy of that sign is in its basic position in the sentence and another copy in the question-final position.

NOON **WHERE** EAT **WHERE**
'Where will we eat lunch?'

SCHOOL INSIDE **WHAT** THERE.**IS WHAT**
'What is there inside the school?' (Göksel & Kelepir 2013: 6)

1.2.3.8. Multiple *wh*-signs in interrogatives

1.2.3.9. Interrogative particles

Content interrogatives do not have interrogative particles.

1.3. Imperatives

The term “imperative” refers to a sentence type with a special form. This form may differ from the forms of other sentence types in the presence of special imperative markers, a difference in word order, presence/absence of certain kinds of subject, verb morphology and special negative forms. An imperative sentence may be used for a variety of functions but the most typical function of an imperative is commands that are used to give orders such as ‘Give me the book!’. Other functions of imperatives are invitations, suggestions, permissions, instructions and recommendations. The following subsections describe how imperatives are used to express these functions as well as what marks a sentence as an imperative in TİD.

A combination of manual and non-manual features are used: head tilt, eye gaze towards the addressee, verb articulated with a higher degree of intensity and a shorter duration perceived as abrupt, and optionally but frequently a sentence-final PALM-UP.

1.3.1. Subtypes of imperatives

Head tilt is the common non-manual marker in the subtypes of imperatives [[Syntax – Section 1.3.2.2.](#)] below) but its intensity shows gradation across the subtypes with being the most abrupt in commands and less so in suggestions and instructions.

1.3.1.1. Orders

Orders (or commands) require the addressee to do something.

SIT

‘Sit!’

[video example]

SIT^NOT

‘Don’t sit!’

[video example]

Head tilt (forward or sideward) is a very prominent non-manual marker in imperatives and it is very intense and abrupt in orders in comparison to its articulation in the other functions below [Syntax – Section 1.3.2.2].

1.3.1.2. Invitations

1.3.1.3. Suggestions/advice

1.3.1.4. Permissions

1.3.1.5. Instructions

1.3.1.6. Recommendations

1.3.2. Imperative markers

Even though there is no manual or non-manual marker that exclusively marks a sentence as an imperative, head tilt (forward or sideward) and signing of the verb with a tense movement are the most prominent markers in imperatives. We describe the head tilt in [Syntax – Section 1.3.2.2] below.

The following examples show that the verb SIT is articulated with a higher degree of intensity and shorter duration in a command compared to its articulation in a statement.

SIT

‘Sit!’

[video example]

1.3.2.1. Manual signs

TID does not have a manual sign that specifically marks a sentence as an imperative. PALM-UP is quite common in commands and instructions as a gesture but it is not obligatory. PALM-UP has the form of an open flat hand with the palm facing upwards, and it occurs after the verb. When it occurs after a pause, it co-occurs with a single forward head tilt and the verb co-occurs with an optional eye blink.



IX₂

WHY

EAT[^]



NOT

—ht

EAT

PALM-UP

‘Why don’t you eat? Eat!’

(Özsoy et al. 2015: 16)

PALM-UP is usually signed with one hand but when it is preceded by a double-handed sign, it can also be signed with two hands.

PALM-UP is generally used to express the signer’s impatience with the addressee or when the signer would like to convey to the addressee that s(he) is strongly obligated to carry out the action expressed by the command.

1.3.2.2. Non-manual markers

Imperatives expressing commands are usually articulated with furrowed brow and/or eyebrow raise, squint and a single forward or sideward head tilt co-articulated with the verb. Moreover, eye gaze is directed towards the addressee.



BALL

PLAY

‘Play ball!’

(Özsoy et al 2015: 4)

1.3.3. Imperatives and verb classes

We see in [Syntax - Section 1.3.2.2] that head tilt is a very common non-manual marker in commands. When the verb is a plain verb [Lexicon – Section 3.2.1.] such as PLAY, the head tilt is forward.



ht

BALL PLAY

‘Play ball!’

(Özsoy et al 2015: 4)

However, when head tilt is co-articulated with an agreement verb [Lexicon – Section 3.2.2.], its direction parallels the direction of the movement of the hand towards the goal/theme argument. The following example has a backward agreement verb TAKE. In contrast with the example with the plain verb PLAY above, the direction of head tilt is sideward, paralleling the direction of the verb which is from the ipsilateral side of the signer to neutral space in the frontline of the signer.



IX₃ LOAN TAKE
 ‘Let him borrow some money.’ (Özsoy et al. 2015: 5)

The direction of the head tilt paralleling the movement of the hands in agreeing verbs is unique to imperatives. The following is a declarative with the same verb TAKE.



IX₂ LOAN TAKE
 ‘You borrowed some money.’ (Özsoy et al 2015: 10)

1.3.4. Word order in imperatives

1.3.5. Attention callers

1.3.6. Negation in imperatives

1.3.6.1. Manual negation

The common negative marker NOT can be used in imperatives as well.

FEED^NOT
 ‘Do not feed it!’

An alternative and common way of forming negative commands is using a negated DO together with the lexical verb.



FOOD FEED DO^{\wedge} NOT

‘Do not feed it!’

ht

(Özsoy et al 2015: 10)

1.3.6.2. Non-manual negation

The non-manual marker (single) backward head tilt that occurs in declarative clauses also occurs in negative imperatives.

1.3.7. Subjects in imperatives

1.3.7.1. Null and/or overt subject

2nd person singular subject pronouns do not usually occur in imperatives. When they do, they tend to occur at the end of the sentence rather than the beginning.

1.3.7.2. The person of the subject

1.3.7.3. Anaphoric properties

1.3.8. Embedding imperatives

1.3.9. Special constructions: imperative-and-declaratives (IaD)

1.3.10. Exhortative constructions

1.4. Exclamatives

1.4.1. Total exclamatives

1.4.1.1. Non-manual marking

1.4.1.2. Manual signs

1.4.2. Partial exclamatives

1.4.2.1. Non-manual marking

1.4.2.2. *Wh*-signs

1.4.2.3. Other structures

1.4.3. Negation in exclamatives

1.5. Negatives

A negative sentence is formed by adding a negative marker to an affirmative sentence [Syntax – Section 1.1.]. The proposition that is denoted by a positive declarative sentence is cancelled by negation.

1.5.1. Manual marking of negation

The basic manual marker of negation, NOT, is described in [Lexicon – Section 3.11.1] and [Morphology – Section 3.1.5.1.1]. Other manual markers of negation are listed in [Syntax – Section 1.5.1.1].

1.5.1.1. Manual negative elements

Manual marking of negation is also described in [Lexicon – Section 3.11.1] and [Morphology – Section 3.1.5.1.1]. In addition to the basic negative marker NOT, there are other manual markers of negation. The following provides an overview of these other markers which are described in detail in their respective subsections:

(i) Negative particles [Syntax - 1.5.1.1.1.]

NO-NO

NO

EMPTY

PALM-UP

(ii) Irregular negatives [Syntax - 1.5.1.1.2.]

THERE.ISN'T

SHOULD.NOT/CAN.NOT

WANT.NOT

SUFFICE.NOT

(iii) Negative determiners and adverbials [Syntax - 1.5.1.1.3.]

NO(adv)

NOT.AT.ALL (HIÇ)

NULL (SIFIR)

1.5.1.1.1. Negative particles

NO-NO is a negative particle in TİD. It is used for contrast and canceling a presupposition.

POSS₁ FRIEND ALL RESTAURANT PLAY. IX₁ IX₁ NO-NO

‘My friends are all into dining out and entertainment, but I am not.’

(Zeshan 2006: 156)

NO-NO also occurs as a single-handed sign. In that use, it indicates an advice similar to a polite imperative [Syntax – Section 1.3.].

FOOD LEAVE_{ECL-bunch} LEAVE_{ECL-bunch} NO-NO. ALL EAT.

‘Don’t leave pieces of food behind. Eat all of it.’

(<http://tidsozluk.net/tr/Hepsi?d=0024>)

EMPTY is another negative marker that cancels a presupposition.

IX₁ TODAY GO.FOR.A.WALK GO. IX₁ LOOK.AT_{3a} CONFUSION_{++a} IX₁ THINK. EMPTY. IX_{3a}
CELEBRATION_a IX_{3a}.

‘I went for a walk today. I thought I noticed a confusion. Never mind, it was a celebration.’

[video example]

PALM-UP can also be used to encode a negative meaning. A head shake is used on PALM-UP and the preceding predicate.

_____ hs
IX₁ THIS COMPREHEND PALM-UP
‘I don’t get this.’

(Gökgöz 2011: 63)

1.5.1.1.2. Irregular negatives

Irregular negatives are also discussed in [Morphology – Section 3.5.2.]. An irregular negation can still show the negative component in a transparent way. Below we show two transparent negative verbs, WANT.NOT and SUFFICE.NOT.

WANT – WANT.NOT

[video example]

IX₁ DEAF GET.UPSET WANT.NOT

‘I don’t want the Deaf to get upset.’

(Gökgöz 2011: 21)

SUFFICE – SUFFICE.NOT

[video example]

MONEY SUFFICE.NOT

‘The money does not suffice.’

[video example]

(r.f. Dikyuva et al. 2015: 260-261)

CAN.NOT/SHOULD.NOT is an irregular negative modal. It is an opaque form because one cannot identify the positive form by looking at the negative form. Such forms are called suppletive forms [Morphology – Section 3.5.]. CAN.NOT/SHOULD.NOT includes modality and means either the negation of possibility or permission. An example is given below.

CAN.NOT/SHOULD.NOT

[video example]

The negative existential, THERE.ISN’T ([Morphology 3.5.2.]), is another suppletive negative form. An example is given below.

IX₁ SMALL, KINDERGARTEN THERE.ISN’T

‘While I was a small child, there wasn’t a kindergarten.’

(Gökgöz 2009: 49)

1.5.1.1.3. Negative determiners and adverbials

NO(adv) is a negative adverb that occurs at the beginning of a sentence and negates the entire sentence.

NO(adv) SPEAK THERE.ISN’T

‘No, I didn’t speak.’

[video example]

(Gökgöz 2009: 57)

NOT.AT.ALL (HIÇ) is another negative adverb that indicates a negative perfective meaning. It indicates that the event under discussion has never taken place. This adverb can negate a sentence on its own.

IX₁ TRY NOT.AT.ALL (HIÇ)

‘I never tried.’

(Dikyuva et al. 2017: 225)

The sign NULL (SIFIR), which is related to NOT.AT.ALL (HIÇ), can also negate a sentence on its own.

IX₁ DO NULL (SIFIR)

‘I did nothing.’

(Kubus 2016: 45)

NOT.AT.ALL (HIÇ) can also occur with the basic negative marker NOT. In that case, the adverb can be in a position preceding the negation or following it.

IX₁ NOT.AT.ALL (HIÇ) SEE[^]NEG

‘I have never seen (it).’

(Dikyuva et al. 2017: 225)

IX₁ SIGN KNOW[^]NEG NOT.AT.ALL (HIÇ)

‘I didn’t know (how to) sign at all.’

(Gökgöz 2011: 54)

1.5.1.2. Syntax of negative clauses

1.5.1.2.1. Position of negative elements

When the basic negative marker attaches to a predicate, it attaches to its right.

TURKEY IX_{3pl} GO GET.ASHAMED[^]NOT

‘Those people in Turkey are increasingly not getting ashamed.’

(Gökgöz 2009: 19)

When there is a modal marker [[Lexicon – Section 3.3.3.](#)], [[Morphology – Section 3.4.](#)], [[Semantics – Chapter 4](#)], negation attaches to it on the right. NEED below is the modal marker that negation attaches to.

NO THIS EVENING HOMEWORK PREPARE NEED[^]NOT

‘No, we don’t need to prepare homework this evening.’

(Gökgöz 2011: 56)

In a yes/no question, [[Syntax – Section 1.2.1.](#)], [[Pragmatics – Section 3.2.](#)], with negation, an index sign can follow a negated predicate.

SENTENCE READ KNOW[^]NEG IX₂

‘Don’t you know how to read a sentence?’

(Gökgöz 2011: 57)

A quantifier [Syntax – Section 4.4.], [Lexicon – Section 3.10.2.] can follow the negative marker.

BE.USED.TO NOT EVERYBODY

‘Not everyone is used to it.’

(Gökgöz 2011: 71)

The negative adverb NOT.AT.ALL (HIÇ) can follow the negated predicate.

IX₁ SIGN KNOW[^]NEG NOT.AT.ALL (HIÇ)

‘I didn’t know (how to) sign at all.’

(Gökgöz 2011: 54)

1.5.1.2.2. Doubling

1.5.1.2.3. Negative concord

1.5.2. Non-manual marking of negation

Backward head tilt, single head turn, head shake, non-neutral brow position, puffed cheeks and tongue out are the most common non-manual markers of negation.

1.5.2.1. Head movements

Backward head tilt occurs on the basic negative marker NOT [Morphology – Section 3.5.1.1.], transparent irregular negative forms [Syntax – Section 1.5.1.1.2.] and suppletive irregular negative forms [Syntax – Section 1.5.1.1.2.]. Below backward head tilt is used with the existential negative suppletive THERE.ISN’T.

_____ bht

SINAN HOUSE THERE.ISN’T

‘Sinan isn’t at home.’

(Kubus 2016: 45)

Backward head tilt can also occur on its own to negate a sentence.

_____ bht bht

MIX ONE ONE IX₁ SPEAK_{left} SIGN_{right} leftSIGN_{right}

‘For me to mix signing and speaking, it’s no good.’

(Zeshan 2003: 57)

A single head-turn (htrn) occurs with NOT.AT.ALL (HIÇ). ‘nbp’ stands for non-neutral brow position.

_____ bht
_____ re
IX₁ WORD KNOW^NOT
'I don't know the word.'

(Gökgöz 2009: 67)

_____ bht
_____ bl
IX₁ BANANA FRONT.THROW NOT
'I didn't throw the banana to the front.'

(Gökgöz 2011: 66)

Puffed-cheeks can be used on a verb to indicate something that is not completed yet (see also [Morphology – 3.5.1.2.]).

_____ pc
ASLI EAT
'Aslı didn't eat it.'

(Karabüklü 2016: 3)

Tongue out occurs in sentences with negative modality [Lexicon – Section 3.3.3.], [Morphology – Section 3.4.], [Semantics – Chapter 4]; 'm-to' stands for modality marking tongue out.

_____ m-to
THIS WORD TRANSLATE IMPOSSIBLE
'I cannot translate this word.'

(Dikyuva et al. 2017: 229)

1.5.2.3. Body posture

1.5.2.4. Spreading domain

Backward head-tilt occurs with the manual negative marker NOT in its non-cliticized, free form. Backward head tilt can spread over the predicate when the negative marker is cliticized to the predicate. Non-neutral brow position usually spreads over the entire negative sentence. The example below shows raised eyebrows (re) spreading over the entire sentence and backward head tilt (bht) spreading over the predicate and the cliticized negative marker.

_____ bht
_____ re
IX₁ SPEAK KNOW^NOT
'I can't speak at all.'

(Zeshan 2003: 63)

In addition to non-neutral brow position, head shake can also spread over more than two elements in a negative sentence:

hs
nbp
IX_{3PL} IX₁ SAY^NOT
'I didn't say these.'

(Gökgöz 2011: 72)

Non-neutral brow position (nbp) may also spread over parts of a subordinate clause of a main clause which is negated.

nbp
[POSS₁ SISTER]_a IX_a CAR DRIVE LIKE^NOT
'My sister does not know how to drive a car.'

(Göksel and Kelepir 2016: 11)

Information on data and consultants

The descriptions in this chapter are based on the references below. Please see the data and consultant information in these references. The linguistic data in images and video clips that were produced or reproduced for this chapter were provided by a near-native fluent signing consultant who was born and raised in Istanbul.

Authorship information

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References

- Açan, Zeynep. 2007. *A linguistic analysis on basic sentence types in Turkish Sign Language (TİD) with reference to non-manual activity*. Ankara, Turkey: Hacettepe University PhD dissertation.
- Arik, Engin. 2006. Nonmanual markers and constituency in Turkish Sign Language (TİD). Ms. Purdue University.
- Dikyuva, Hasan, Bahtiyar Makaroğlu & Engin Arık. 2015. *Türk İşaret Dili Dilbilgisi Kitabı [Turkish Sign Language Grammar Book]*. Ankara.
- Dikyuva, Hasan, Bahtiyar Makaroğlu & Engin Arık. 2017. *Turkish Sign Language Grammar*. The Republic of Turkey Ministry of Family and Social Policies. (248-262).
- Dikyuva, Hasan. & Ulrike Zeshan. 2008. *Türk İşaret Dili - birinci düzey. [Turkish Sign Language - level one]*. Nijmegen: Ishara Press.

- Gökgöz, Kadir. 2009. *Topics in Turkish Sign Language (Türk İşaret Dili – TİD) Syntax: Verb movement, negation, and clausal structure*. Istanbul, Turkey: Bogazici University MA thesis.
- Gökgöz, Kadir. 2011. Negation in Turkish Sign Language: The syntax of nonmanual markers. *Sign Language & Linguistics*, 14(1). 57.
- Gökgöz, Kadir. 2013. Negation in Turkish Sign Language: The syntax of nonmanual markers in Herrmann and Steinback (Eds.), *Nonmanuals in Sign Language*. John Benjamins Publishing.
- Gökgöz, Kadir. 2010. Licensing questions in Turkish Sign Language. Ms. Purdue University.
- Gökgöz, Kadir & Engin Arık. 2011. Distributional and syntactic characteristics of nonmanual markers in Turkish Sign Language (Türk İşaret Dili, TİD). *MIT Working Papers in Linguistics 62: Proceedings of the 7th Workshop on Altaic Formal Linguistics*, 63-78.
- Gökgöz, Kadir & Ronnie Wilbur. 2016. Olumsuz evet-hayır sorularında olumlu önyargı: Türk İşaret Dili'nde olumsuzluk başından tümleyici başa taşımamanın delili. In E. Arık, *Ellerle Konuşmak: Türk İşaret Dili Araştırmaları*, 253-274. İstanbul: Ko niversitesi Yayınları.
- Makaroğlu, Bahtiyar. 2012. *Türk İşaret Dili'nde Soru: Kaş hareketlerinin dilsel çözümlemesi [Question in Turkish Sign Language: Linguistic analysis of eyebrows]*. Ankara, Turkey: Ankara University MA Thesis.
- Makaroğlu, Bahtiyar. 2013. Interrogatives in Turkish Sign Language (TİD): The role of eyebrows. In E. Arık (ed.), *Current directions in Turkish Sign Language research*, 143-165. Newcastle upon Tyne, UK: Cambridge Scholars Publishing.
- Makaroğlu, Bahtiyar. 2016. Türk İşaret Dili'nde Soru Tümcelerinin Görünümü: Kaş Hareketlerinin Rolü. In E. Arık, *Ellerle Konuşmak: Türk İşaret Dili Araştırmaları*, 233-252. İstanbul: Ko niversitesi Yayınları.
- Göksel, Aslı & Meltem Keleş. 2011. The syntax of nested spreading domains. Poster presented at *Venice Feast: Formal Approaches to Sign Languages*. University of Venice. (20-22 June 2011.)
- Göksel, Aslı & Meltem Keleş. 2011. Issues in complexity: Sentential complementation in Turkish Sign Language. Complex sentences and beyond in sign and spoken Languages. University of Göttingen. (13-14 October 2011.)

- Göksel, Aslı & Meltem Keleşir. 2013. The phonological and semantic bifurcation of the functions of an articulator: HEAD in questions in Turkish Sign Language. *Sign Language and Linguistics*, 16(1). 1-30.
- Göksel, Aslı & Meltem Keleşir. 2016. Observations on complex clauses in Turkish Sign Language. In A. Herrmann, R. Pfau & M. Steinbach (Eds.), *A Matter of Complexity: Subordination in Sign Languages*, 73-102. Berlin: De Gruyter Mouton.
- Göksel, Aslı, Meltem Keleşir, & Ak-Tarhan. 2009. Interrogatives in Turkish Sign Language: The specific functions of head tilt, head shake and head nod. Paper presented at the *Workshop on Nonmanuals in Sign Languages*. Goethe University, Frankfurt am Main. (4-5 April, 2009.)
- Karabüklü, Serpil. 2016. *Time and aspect in Turkish Sign Language (TID: Manual and nonmanual realizations of 'Finish'*. Istanbul, Turkey: Boğaz University MA thesis.
- Nuhbalaoğlu, Derya. & A. Sumru Özsoy. (2014). Linearization in Noun Phrases in Turkish Sign Language. Paper presentation at *Formal and Experimental Advances in Sign Language Theory (FEAST Colloquium)*, Università Ca' Foscari. (9-11 June, 2014).
- Özsoy, A. Sumru, Meltem Keleşir, Derya Nuhbalaoğlu & Emre Hakgüder. 2015. Commands in Turkish Sign Language [Türk İşaret Dili'nde Emir Yapısı]. *Journal of Japanese Linguistics Society*, 146: 13-30. Gengo Kenkyu.
- Zeshan, Ulrike. 2003. Aspects of Türk İşaret Dili (Turkish Sign Language). *Sign Language and Linguistics*, 6(1), 43-75.
- Zeshan, Ulrike. 2002. Sign Language in Turkey: The story of a hidden language. *Turkic Languages*, 6(2), 229-274.
- Zeshan, Ulrike. 2006. Negative and interrogative structures in Türk İşaret Dili (Turkish Sign Language). In U. Zeshan (ed.), *Interrogative and Negative Constructions in Sign Languages*, 128-164. Nijmegen: Ishara Press.

Chapter 2. Clause structure

2.1. The syntactic realization of argument structure

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2.2.1.4. Null arguments for subject and object

2.2.2. Other grammatical functions: arguments vs. adjuncts

2.2.3. Types of adjuncts

2.3. Word order

Word order refers to the sequence in which the main constituents in a clause are articulated. The main constituents are the verb and its arguments [[Syntax - Section 2.1.](#)], although the position of the adverbials and other adjuncts in a sentence is also relevant.

The concept of word order applies only to cases where the subject, object, verb, and other constituents are articulated sequentially. Sometimes two constituents may be articulated simultaneously, e.g. a verb and its subject or a verb and an adverb. In these cases, the concept of word order is not relevant. Further, various categories, such as negation, can be expressed non-manually. Again, this is not part of word order. For these reasons, the examples below only show the signs that are ordered one after the other in a sentence without taking note of any form of simultaneous expression, be it manual or non-manual.

2.3.1. Identification of the basic order of constituents in the main declarative clause

2.3.1.1. Order of subject, object and verb

The basic word order in intransitive sentences [Syntax - Section 2.1.1.2.] in T1D is Subject-Verb when a lexical subject is present:

Subject-Verb

GIRL FRIEND SIBLING WALK

‘The girlfriends and siblings are walking.’

(adapted from Sevinç 2006: 153; ex. 15)

IX₁ SIT

‘I sat down.’

(adapted from Sevinç 2006: 32; ex. 12)

If the subject is indicated by a pronoun [Syntax - Section 2.1.1.2.], the pronoun can follow the predicate:

Verb (Predicate)-Index

... DEAF LIKE.THAT IX_{1pl}

‘We, the deaf are like this.’

(adapted from Dikyuva et al. 2017: 203; ex. 4.16)

The word order in transitive sentences [Syntax - Section 2.1.1.1.] depends on whether a NP that is an argument is a subject or an object [Syntax - Section 2.2.1.] and whether the NPs denote animate or inanimate entities. When both argument NPs are animate, the NP that is the subject comes first. The most frequent order in such cases is Subject-Object-Verb but Subject-Verb-Object is also possible.

Subject-Object-Verb (where both NPs are animate)

MAN_a IX_{3a} WOMAN_b IX_{3b} SHOUT_{3b}

‘This man shouted at that woman.’

(adapted from Sevinç 2006: 31; ex. 10)

Subject-Verb-Object (where both NPs are animate)

DOG SEE_{3b} CAT_b ...

‘The dog saw the cat...’

(adapted from Sevinç 2006: 33; ex. 14)

However, when the object is inanimate, the order is more flexible and the Object can be placed either after or before the Subject (this latter for topicalization purposes [[Pragmatics - Section 4.2.](#)]).

Object-Subject-Verb (where the Object NP is inanimate)

BICYCLE GIRL ENJOY

‘The girl enjoys riding bicycles.’

(adapted from Açıan 2007: 205; ex. 15)

BOOK CHILD BUY

‘The child bought a book.’

(adapted from Açıan 2007: 206; ex. 17)

Some signers accept the following orders as well:

Subject-Verb-Object

SINAN LOVE YAŞAM

‘Sinan loves Yaşam’

(Kubus 2015: 41; ex. 9b)

Object-Verb-Subject

TROUSERS LOOK.FOR IX₃

‘Is s/he looking for a pair of trousers?’

(adapted from Açıan 2007: 205; ex. 16)

Sentences where the verb is an agreement verb [[Syntax - Section 2.1.2.3.](#)] also have the same order. The unmarked case is for the Subject to come before the Object although Object-Verb-Subject order is also possible:

Subject-Object-Verb

SINAN_a YAŞAM_b aVISIT_b

‘Sinan visits Yaşam’.

(Kubus 2015: 43; ex. 11a)

Object-Subject-Verb (less common)

SINAN_a VISIT_b YAŞAM_b

‘Sinan visits Yaşam’.

(Kubus 2015: 43; ex. 11b)

As can be surmised from the examples above, Subject-Object-Verb is the unmarked order in TİD. The other orders are generally used for backgrounding, focalizing, and topicalizing particular constituents [Pragmatics - Section 4.1].

2.3.1.2. Order of auxiliaries (i.e. agreement, tense and aspectual markers) with respect to the verb

2.3.1.3. Order of modals with respect to the verb

The modals MUST, HAVE.TO, and CAN follow the main verb.

IX₂ TODAY TURKISH LANGUAGE SIGN COURSE GO MUST

‘You must to go to the TİD course today.’

(adapted from Gökgöz 2011: 33; ex. 30)

YES ALL SAFETY^BELT WEAR HAVE.TO

‘Yes, everyone has to wear a safety belt.’

(adapted from Gökgöz 2011: 33; ex. 31)

2.3.1.4. Order of negation with respect to verb, modals and auxiliaries

See [Syntax - Section 1.5.1.2.1].

2.3.1.5. Order of arguments of ditransitive verbs

In ditransitive verbs [Syntax - Section 2.1.1.1] the indirect object is usually placed before the direct object.

CHILD MOTHER MONEY TAKE

‘The child took the money from his/her mother.’

(Dikyuva et al. 2017: 213; ex. 5.12)

CHILD GRANDFATHER LETTER SEND

‘The child sent a letter to the grandfather.’

(Dikyuva et al. 2017: 213; ex. 5.13)

2.3.1.6. Position for different types of adverbs and adjuncts

2.3.2. Basic order of constituents in other clauses

Apart from declarative sentences with verbal predicates, word order is significant in other types of clauses. These are equative sentences, coordinated clauses, and sentences of other functional types, namely, interrogatives and imperatives.

2.3.2.1. Basic order in the different types of sentence

In equative sentences [[Syntax - Section 2.1.4.](#)] in TİD, there are no overt verbs. The predicate may be expressed simply by a noun phrase, and adverbial phrase, or an adjectival phrase. If the predicate is an adjectival phrase (e.g. HEAVY ‘(is) heavy’) the order is Subject- Predicate:

ALL FAMILY HAPPY

‘The whole family is happy.’

(adapted from Açıan 2007: 86; ex. 45)

BAG HEAVY

‘The bag is heavy’

(Dikyuva et al. 2017: 211)

If the predicate is expressed by a locative phrase (e.g. TABLE TOP ‘(is) on the table (top)’) then the order may be Predicate-Subject:

TABLE TOP BOOK

‘There is book on the table’

(Dikyuva et al. 2017: 212)

Another type of predicate occurs in existential sentences. Existential sentences TİD may indicate the presence (or absence, in the case of negative existential sentences) of an entity, or they may show possession, ownership, or part-whole relations [[Syntax – Section 2.1.5.](#)]. The sign THERE.IS is a 5-handshape sign with body contact [[Phonology - Section 1.2.](#)], and is most often placed at the end of the sentence, although it can sometimes occur at the beginning:

ROOM CHAIR THERE.IS

‘There is chair in the room’

(Dikyuva et al. 2017: 211)

SHE SISTER THERE.IS

‘She has a sister.’

(Dikyuva et al. 2017: 212)

THERE.IS.VIOLIN.MAKE

‘(Yes) there are violin players’

(Açıan 2007: 65; ex. 13)

Yes-no questions have the same word order as declarative sentences. They are distinguished from declaratives by non-manual markers [Syntax - Section 1.2.1.2.]. Another, less frequently used, alternative is to place a lexical sign, a morpheme that resembles the orthographic question mark sign, at the end of the sentence [Syntax - Section 1.2.1.3.].

In wh questions, which contain the words WHAT, WHO, WHEN, WHERE, WHY, WHICH, WHICH.ONE, HOW.MANY, HOW.MUCH, there are various positions for these items [Syntax - Section 1.2.3.5.].

In coordinated clauses, the word order of the second clause is usually copied from that of the first. For example, if in the first sentence, the verb is at the end, it is also at the end in the second clause. (Note that some constituents may be elided in coordinated clauses, which results in various interpretations of the sentences) [Syntax - Section 3.1.4.2.].

MAN SIT.DOWN AND WOMAN HUG

‘The man sat down and hugged the woman.’

CAT BE.FRIGHTENED AND WOMAN ATTACK

‘The cat was frightened and the woman attacked [it].’

(adapted from Sevinç 2006: 36; ex. 16a, b)

However, the word order in the two coordinated clauses may sometimes be different. The first clause below is verb-final, but the second one is verb initial:

MAN SHOUT.AT AND BECOME.SAD WOMAN

‘The man shouted at (the woman) and the woman became sad’

(adapted from Sevinç 2006: 40; ex. 24)

2.3.2.2. Basic order in the different types of subordinate clauses

2.3.3. Deviations from the basic order of constituents

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2.3.3.2. Non-manuals accompanying the deviations from the basic word order

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2.4.1. Subject and object null arguments

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2.4.1.2. Null objects

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2.4.4. Null arguments in embedded clauses

2.4.5. Pragmatic and semantic conditions licensing null arguments

2.4.6. Referential properties of null arguments

2.5. Clausal ellipsis

2.6. Pronoun copying

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2.6.2. Syntactic properties of pronoun copying

2.6.2.1. Possible subject-object asymmetry in pronoun copying

2.6.2.2. Position of the copying pronoun

2.6.3. Prosodic features of pronoun copying

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Information on data and consultants

The descriptions in this chapter are based on the references below. Please see the data and consultant information in these references.

Authorship information

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References

- Açan, Zeynep. 2007. *A linguistic analysis on basic sentence types in Turkish Sign Language (TİD) with reference to non-manual activity*. Ankara, Turkey: Hacettepe University PhD dissertation. (50-203) - [Syntax 2.3].
- Arik, Engin. 2006. Nonmanual markers and constituency in Turkish Sign Language (TİD). Ms. Purdue University. (5-9) – [Syntax 2.3].
- Dıkyuva, Hasan, Bahtiyar Makaroğlu & Engin Arık. 2017. *Turkish Sign Language Grammar*. The Republic of Turkey Ministry of Family and Social Policies. (207-213) - [Syntax 2.3].
- Gökgöz, Kadir. 2009. *Topics in Turkish Sign Language (Türk İşaret Dili – TİD) Syntax: Verb movement, negation, and clausal structure*. Istanbul, Turkey: Bogazici University MA thesis. (33-54) - [Syntax 2.3].
- Kubus, Okan 2016. *Relative Clause Constructions in Turkish Sign Language*. Hamburg, Germany: University of Hamburg PhD dissertation. (41-60) - Syntax [2.3].
- Sevinç, A. Müge. 2006. *Grammatical relations and word order in Turkish Sign Language TİD*. Ankara, Turkey: METU MA thesis. (28-30), (33-46) – [Syntax 2.3].

Chapter 3. Coordination and subordination

3.1. Coordination of clauses

3.1.1 Types of clausal coordination

3.1.2 Coordination by manual markers

3.1.2.1. Manual markers of coordination

3.1.2.1.1. Manual markers in conjoined coordination

3.1.2.1.2. Manual markers in adversative coordination

3.1.2.1.3. Manual markers in disjunctive coordination

3.1.2.2. Position of manual markers of coordination

3.1.2.2.1. Position of manual markers in conjoined coordination

3.1.2.2.2. Position of manual markers in adversative coordination

3.1.2.2.3. Position of manual markers in disjunctive coordination

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3.1.2.3.2. Optionality/obligatoriness of manual markers in adversative conjunctions

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3.1.3.1.2. Non-manual markers in disjunctive coordination

3.1.3.1.3. Non-manual markers in adversative coordination

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3.1.3.2.2. Spreading domain of non-manual markers in disjunctive coordination

3.1.3.2.3. Spreading domain of non-manual markers in adversative coordination

3.1.4 Properties of coordination

3.1.4.1. Extraction

3.1.4.2. Gapping

3.1.4.3. Scope

3.1.4.3.1. Scope of negation

3.1.4.3.2. Scope of yes/no questions

3.2. Subordination: distinctive properties

Subordination refers to the occurrence of a clause as a subject, an object, or an adjunct as a dependent constituent under a superordinate element. For example, in the sentence *John thinks Bill is a university lecturer*, the finite clause *Bill is a university lecturer* is a dependent of *John thinks*, specifically, an object complement of *thinks*. In the noun phrase, *Bill, who is a university lecturer*, the clause *who is a university lecturer* is a dependent of *Bill*, specifically, an adjunct that modifies *Bill*. Such dependent clauses are called subordinate clauses and they are embedded within other phrases or clauses. These can have one of the following functions: (i) subject or object clauses (clauses that occur as arguments of main verbs and that are embedded inside a main clause where the main verb is THINK, KNOW, WANT, and some others. These embedded clauses can be declarative or interrogative constructions.), (ii) relative clauses (adjectival clauses that modify nouns [[Syntax - Section 3.4.](#)]), and (iii) adverbial clauses (clauses that modify a verb or a whole sentence [[Syntax - Section 3.5.](#)]). Subordination is a strategy that is widely used in role shift (embedded clauses that are used in reported speech [[Syntax - Section 3.3.3.](#)]). Some examples of subordinate clauses are the following:

Object clause (embedded declarative):

_____ neg2 _____
TROUSERS FIND NOT WORRY

‘She is worried about not having found her trousers’.

(adapted from Açı̇an 2007: 152; ex. 10)

Object clauses (embedded interrogative):

_____ wh-q _____ sing.nod

FAMILY GO FOOD WHAT CURIOUS.ABOUT S-END

‘The family has left and they are wondering what food to make.’

(adapted from Açı̇an 2007: 156; ex. 27)

Relative clause:

_____ hn _____ hs

_____ br _____ sq _____ br

HOUSE ARRIVE [MOTHER SAME] HOUSE GO

‘(She) arrived home. She went to the house that belongs to her mother too.’

(Kubus 2016: 179; ex. 2)

Adverbial clause:

HOUSE APARTMENT LOOK GO

‘They have gone to look for a house.’

(adapted from Açı̇an 2007: 154; Ex. 20)

3.2.1. Subject pronoun copy

In some sentences with subordinate clauses in TİD, the main clause is followed by a pronominal copy of the subject. These are sentences where the main verb is WANT, LIKE, FORGET.TO and possibly other verbs in the same group [Syntax - Section 3.3.2.1].

ALI_a [IX₁ UNIVERSITY WORK] WANT IX_{3a}

‘Ali wants me to work at the university’.

IX_a POSS₁ SON IX_a [SWIM] MUCH LIKE IX_a

‘My son (he) likes swimming very much.’

(adapted from Göksel & Kelepir 2016: 9, ex. 11a, c)

In the other type of complex sentence, those where the main verb is KNOW.THAT or FORGET.THAT [Syntax - Section 3.3.2.1], a subject pronoun copy occurs only if it is followed by the main verb:

ALI_a IX_{3a} [IX₁ UNIVERSITY WORK] IX_{3a} KNOW.THAT

‘Ali knows that I am working at the university’.

(adapted from Göksel & Kelepir 2016: 9, ex. 12c)

Sentences with KNOW.THAT as the matrix verb behave the same when the subordinate clause is an interrogative. This applies to similar non-agreeing verbs. Here, the subject pronoun copy occurs before the second mention of the main verb.

IX₁ KNOW.THAT [WHO PASS EXAM] IX₁ KNOW.THAT

‘I know who passed the exam’.

(adapted from Hakgüder 2015b: 23; ex. 27)

3.2.2. Position of question signs

Question signs, specifically, wh-signs [Syntax - Section 1.4.2.2.], occur in two positions in embedded clauses: either in-situ, or at the end of the sentence (as opposed to the four possible positions in interrogatives that are simplex clauses [Syntax - Section 1.2.]). In the first two examples, the question signs occur in-situ.

IX₂ FORGET [IX_{dual1} WHEN MARRY] FORGET

‘You forgot when the two of us got married.’

(Hakgüder 2015a: 83; ex. 73)

ANN WONDER [WHO LIKE PHILIP]

‘Ann wonders who likes Philip.’

(Hakgüder 2015a: 89; ex. 81)

IX₁ KNOW.THAT [GÜNAY_a IX_{3a} AYŞE_b aCHEAT.ON_b WHO]

‘I know who Günay is cheating on Ayşe with.’

(adapted from Hakgüder 2015a: 83; ex. 74)

3.2.3. Spreading of non-manual markers

Some subordinate clauses are welded with their main clauses by non-manual markers [Syntax - Section 1.3.2.2.] that spread across clause-boundaries. There are at least three instances of such spreading in TİD. One of these is a single shared non-manual marker that runs over the whole main clause, the non-manual marker ‘static body posture’:

_____sb
HASAN KNOW.THAT [ELIF HORSE.RIDE WORK SUCCEED WORK++SUCCEED]

‘Hasan knows that Elif is working on and succeeding at horse riding.’

(adapted from Göksel & Kelepir 2016: 7; ex. 6b)

This is not just the lack of a break after KNOW, but a dedicated marker that is the indicator of syntactic complexity.

In the other two cases, spreading is local. One of these occurs in complex clauses with GUESS as the main verb. The other one occurs when the main verb is negative.

The verb GUESS has as part of it, a non-manual component, squint. When this verb has an object clause as its complement, squint can spread progressively into the first word of the complement clause:

_____sq
AYŞE GUESS [ÜLKÜ SLEEP]
'Ayşe thinks that she is sleeping.'

(adapted from Göksel & Keleşir 2016: 15; ex. 21)

Alternatively, squint can spread into the last word of a preceding complement clause:

_____sq
IX₂ [ELECTION WIN] GUESS WHO
'Who do you think will win the election?'

(adapted from Göksel & Keleşir 2016: 16; ex.

22)

In the case of negation, one of the non-manual markers associated with negation, non-neutral brow position (nbp), can spread into the verb phrase of the subordinate clause:

_____nbp
IX₁ POSS SISTER_a IX_{3a} CAR DRIVE LIKE.NOT
'My sister doesn't like driving a car.'

(adapted from Göksel & Keleşir 2016)

3.2.4 Interpretation of embedded negation in the matrix clause

In some complex sentences, the negative concept associated with the subordinate clause appears on the main verb. One place where this happens is with the main verb WANT. In the sentence below, what Melek wants is 'not to meet her friends today'. However, the negative marker NOT, instead of appearing in the embedded clause as the meaning suggests, appears in the main clause, negating the main verb (as it does in the English translation):

_____bht
MELEK TODAY FRIEND MEET WANT.NOT
'Melek doesn't want to meet her friends today.'

(Göksel & Keleşir 2016: 13; ex. 18)

3.3. Argument clauses

3.3.1. Subject clauses

3.3.1.1. Position(s) within the matrix clause

3.3.1.2. Special non-manual markers

3.3.1.3. Tense and aspectual marking

3.3.1.4. Anaphoric relations

3.3.1.5. Null arguments

3.3.2. Object clauses

3.3.2.1. Verbs taking object clauses

There are a number of verbs that can have clausal objects, such as *WANT*, *LIKE*, *THINK*, and others. These verbs form two distinct groups with respect to their syntactic behavior. Among the verbs in the first group are *WANT*, *LIKE*, *KNOW.HOW.TO*, *FORGET.TO*, *MAKE.AN.EFFORT*, and the other group contains, among others, the verbs *THINK*, *KNOW.THAT*, *FORGET.THAT*, *UNDERSTAND*, and *BELIEVE*. In the examples below, the embedded object clause is in square brackets and the main verb is in italics:

MELEK [CHILD GOOD SCHOOL GO] *WANT*

‘Melek wants her child to go to a good school.’

(Göksel and Kelepir 2016: p6; ex. 4a)

HASAN *KNOW* [ELIF HORSE.RIDE WORK SUCCEED...]

‘Hasan knows that Elif is working on and succeeding at horse riding.’

(adapted from Göksel and Kelepir 2016: p7; ex. 6b)

3.3.2.2. Position(s) within the matrix clause

The position of an object clause depends on the verb that takes it as an object. Object clauses of the verbs *WANT*, *LIKE*, *KNOW.HOW.TO*, *FORGET.TO*, *MAKE.AN.EFFORT* occur before the verbs that they are the object of:

MELEK [RUN] MUCH *LIKE*...

‘Melek likes running very much’.

(adapted from Göksel & Kelepir 2016: p19; ex. 24b)

In contrast, object clauses of the verbs THINK, KNOW.THAT, FORGET.THAT, UNDERSTAND, and BELIEVE, occur after the verbs that take them as objects:

ALI_i SELF_i THINK [AYŞE REST]

‘Ali himself thinks that Ayşe is resting.’

(adapted from Göksel & Kelepir 2016: p7; ex. 6a)

The object clauses above are declarative clauses. Object clauses can also be in the form of interrogative clauses. In this case, they behave somewhat differently in terms of their order with respect to the main verb. The verb FIND.OUT has free word order with respect to its complement. The object clause can come either after or before the main verb:

IX₂ FIND.OUT [WHO EXAM PASS]

‘Did you find out who passed the exam?’

IX₂ [WHO EXAM PASS] FIND.OUT

‘Did you find out who passed the exam?’

(Hakgüder 2015a: 72; ex. 62-63)

When the main verb is ASK and the sentence cast as indirect speech, the object clause can only come before the main verb, although it does not have to be strictly adjacent to it:

GIRL HALE [POSS₁ MOTHER NAME WHAT] BILGE_a ASK_a

‘Hale asks Bilge what my mother’s name is.’

(Hakgüder 2015a: 75; ex. 64)

In direct speech, the object clause can either follow or precede the main verb ASK. In the next example, the complement comes before the main verb ASK:

[GIRL HALE]_a [AYŞE WHAT HIGH SCHOOL GO] BILGE_b _aASK_b

‘Hale asks Bilge: ‘Which high school did Ayşe attend?’’

(adapted from Hakgüder 2015a: 75; ex. 65)

The following example has a different order. The complement object clause comes after the main verb ASK:

IX₂ ₂ASK₃ [BUTTERFLY HOW.MANY THERE.IS]

‘(You) ask him/her: How many butterflies are there?’’

(adapted from Hakgüder 2015a: 76; ex. 66b)

3.3.2.3. Factivity

3.3.2.4. Special non-manual markers

There is a special non-manual marker found in interrogative subordinate clauses that are the direct objects of ASK. This non-manual marker is head backward, and it is found in subordinate clauses that are cast both as indirect and direct speech. This marker is the same as that found in wh-constructions that are simplex clauses [Syntax - Section 1.2.3.4.]:

_____ hb
[H2-IX WHAT IS.THERE] WONDER
'I wonder what is there.'

(adapted from Hakgüder 2015a: 103; ex. 99)

3.3.2.5. Tense and aspectual marking

3.3.2.6. Anaphoric relations with the main clauses arguments

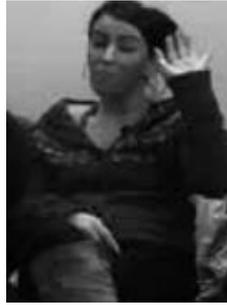
3.3.2.7. Occurrences of null arguments

3.3.3. Role shift

Role shift / role shift [Pragmatics – Chapter 6] is a phenomenon that involves the enacting and performing another person's speech or actions. Getting in the role of other animate beings such as animals or inanimate beings is also possible. Role shift may be used in contexts where direct speech is used but also in other contexts as well. In role shift the expressions that are signed are interpreted from another person's perspective or with respect to another context other than that of the actual conversation. Important properties of role-shift are body shift, change in the direction of eye gaze, and altered facial expressions. These signal to the addressee that the signer is adopting somebody else's perspective. Role shift may be used to report someone else's speech or thought (attitude role shift), alternatively it may be used to describe physical actions performed by someone else (action role shift).

3.3.3.1. Markers of role shift

The non-manual markers that signal role shift in TİD are optional body shift with head tilt and optional break of eyegaze. Below are two examples where the signer situates the original speakers of the quoted utterance by pronouns in spatial locations [Pragmatics – Chapter 8.1.]. These spatial loci are generally slightly to the left or to the right. During the quoted utterance, the body is oriented towards one of these points together with a slight head tilt:



(adapted from Kelepir & Göksel 2016: 341)

In relatively long narratives of quoted utterances, eye gaze is generally directed towards the locus associated with the original speaker of quotes and is optionally sustained towards the actual addressee in shorter quotes. These may be one or two utterance long segments of speech. Two examples are presented below respectively:



(adapted from Kelepir & Göksel, 2016:342)

The pronouns in quoted utterances are often used with a different reference than their canonical references, for example, a first person pronoun can indicate the speaker of the original utterance, rather than the signer herself. These cases of reference shift are described in [[Pragmatics – Chapter 6](#)].

3.3.3.2 Integration of the role shifted clause into the main clause

The complements of attitude role shift clauses have a unique positional character. While the sentential complements of TĪD verbs take sentential complements either before the verb (for example, control verbs such as WANT), or following the verb (for example verbs of cognition such as THINK), the role shift clauses introduced by SAY can occur in either position as in the examples below.

IX₃ SAY ... SISTER EAT GROW BEAT

‘He says my sister fed me, nurtured me, beat me’.

HOUR FIVE GO HOUR FIVE NECESSARY GO SAY

‘She said I must go at five o’clock.’

(Kelepir & Göksel, 2013: 200-201)

Moreover, specific non-manual markers and a prosodic break (pause) occurs between SAY and the role shifted complement clause.

3.3.3.3. Syntactic contexts introducing attitude role shift

Attitude role shifts are predominantly expressed by the verb SAY in the form of the index-finger hand shape moving from the mouth to forward neutral signing space or to the location associated with the goal. When the goal is pronounced, SAY functions as a single-agreement verb, agreeing with the goal. The mouthing that accompanies SAY is [de] or sometimes [söyle], the two verbs that mean SAY in spoken Turkish. In the following example, SAY is not inflected for goal.



SAY

‘He/She said “...”’

In the following example SAY is inflected for goal.



SAY₃

‘He/she said to him/her “...”’

(adapted from Kelepir and Göksel, 2013: 198)

To summarize, attitude role shift clauses appear in two types of constructions (QU means quoted utterance; pc means prosodic change):

ht__
SAY *pause* QU

pc_
QU *pause* SAY

3.3.3.4. Special signs introducing action role shift

3.3.3.5. Syntactic differences between action role shift and attitude role shift

3.4. Relative clauses

Relative clauses are sentence-like elements that accompany a noun and modify the meaning of that noun just like an adjective. In the examples in the following subsections, the head noun is shown in bold and the relative clause is shown in squared brackets.

3.4.1. Type of relative clause

According to the position of the head noun in a relative clause, TĪD possesses three different types of relative clauses: internally headed, postnominal, and free. The most frequent type is the internally headed relative clause. An example is provided for an internally headed relative clause below.

hs
sq re
[IX₃ **SON** BEFORE HUG KISS] NOW BRIDE CUT
'The son, who had regularly hugged and kissed the bride, didn't do this anymore.'

[link and time-code to the publically available video to be provided] (Kubus 2016: 190)

Squint spreads over the relative clause [Syntax - Section 3.4.6.1.]. In the example above, the head noun, SON, is inside the spreading domain of squint. This shows that this is a case of internally headed relative clause.

The head noun in TĪD can sometimes be located out of the relative clause, which resembles postnominal relative clauses. An example is shown below.

hs
sq
re ht

IX₁ HANGMAN [COMPETITION A-B-C] CL WANT[^]NEG
 'I didn't like hangman, a game which uses letters.'

[link and time-code to the publically available video to be provided] (Kubus 2016: 340)

In the example above, the head noun is HANGMAN and the modifying clause [COMPETITION A-B-C] follows it. Squint spreads only over the modifying clause, not over the head noun. So, the head noun is external to the relative clause. Raised eyebrows also sometimes occurs in relative clauses in TID, as in the example above. The head noun and the modifying clause, in this case, are topicalized.

In some cases in TID, the head noun is not overt. Such constructions can be categorized as free relatives. Free relative clauses might be related with TID's being a high-context-language. The referents can usually be derived from the context or shared information among interlocutors. An example of a free relative clause is shown below:

[o]
sq re hn

... IBRAHIM GO_a [FIRST WIFE GO_a IX_a]
 'İbrahim went to (the place) where his first wife went to.'

[link and time-code to the publically available video to be provided] (Kubus 2016: 183)

Sometimes, the head noun can be repeated either within the relative clause or external to it which results in doubling. An example of a head noun which is doubled within a relative clause is shown below:

sq

... [WATER BEFORE IBRAHIM BRING WATER] OVER PALM-UP
 'The water that İbrahim had brought earlier was gone.'

[link and time-code to the publically available video to be provided] (Kubus 2016: 206)

Relative clauses whose heads are external to the relative clause can also occur in TID as the following example shows. In such cases, the head noun can be before the relative clause, after the relative clause or both before and after the relative clause. The following example shows a head noun, MONEY.BAG, that is after the relative clause. (rh) and (lh) represent right and left hand respectively. In this example, MONEY.BAG is first introduced, then it is shown with index finger to the non-dominant hand of MONEY.BAG, which is actually a two-handed sign. After

pointing, the relative clause is introduced while the non-dominant hand remains in a hold. And then the signer continues to sign.

_____sq

(rh) AFTER MONEY.BAG_a [IX_a IX_a SORRY] MONEY.BAG_a GIVE
 (lh) MONEY.BAG_a----- MONEY.BAG_a
 'Afterwards, I gave back the money bag, which I was sorry about.'

[link and time-code to the publically available video to be provided] (Kubus 2016: 181)

Lastly, the head noun can occur both inside and outside the relative clause. Below, the head of the relative clause, GLASSES, occurs both inside the relative clause and outside it.

_____fbl
 _____re
 _____sq hn

[EYE OPTICIAN GLASSES DROP] AGAIN DOOR HIT BREAK GLASSES
 '(He) broke his glasses, which he had dropped at the optician's office earlier, again by hitting the door.'

[link and time-code to the publically available video to be provided] (Kubus 2016: 182)

3.4.2. Presence or absence of a relativization sign

The use of a relativization sign in TID is optional. While the following example has a relative clause, [BABY_b SLEEP], it does not contain any relativization sign.

_____sq hn

NURSE_a aLOOK-AT_b [BABY_b SLEEP]
 'The nurse looked at the baby, who was sleeping.'

[link and time-code to the publically available video to be provided] (Kubus 2016: 344)

3.4.2.1. List of relativization signs

The most common relativization sign is an index sign, IX, which can have a different phonetic realization as a B-Handshape. The sign SAME and sometimes a pointer or theme buoy [Lexicon - Section 1.2.3.] can also be used as a relativization sign in TID. These relativization signs are sometimes accompanied by raised eyebrows, head nod and [o] mouthing. An IX is used as a relativization sign in the following example, with a head-nod (hn), [o] and, raised-eyebrows (re).

hn
[o]
 _____ sq re
 SOFT [SPONGE HARD FRONT BACK SOFT ABOVE HARD IX₃] BUY
 'Buy a soft sponge, which has a hard substance on top, and a soft substance beneath.'

[link and time-code to the publically available video to be provided] (Kubus 2016: 348)

The sign SAME is the relativization sign in the following example.

_____ sq
 A-WEEK-LATER IN WOMAN SELF [DOOR SAME POOR VERY WALK DOOR SAME] LOOK
 'A week later, the girl looked at the door, through which the poor man was walking slowly.'

[link and time-code to the publically available video to be provided] (Kubus 2016: 346)

Lastly, the example below shows a pointer buoy [Lexicon - Section 1.2.3.] used as a relativization sign. (rh) and (lh) represent right and left hand respectively. The left hand, which is functioning as a relativization sign, is pointing to the CL-PERSON who is coreferential with the head of the relative clause.

(rh) [MAN₃ PERSON CL-COME-TOGETHER CL-PERSON HELP CL-PERS] TURKISH CITIZEN
 BIRTH
 (lh) IX₃..... IX₃.....
 'The man that I met, who was helping me, was a Turkish citizen.'

[link and time-code to the publically available video to be provided] (Kubus 2016: 322)

3.4.2.1.1. Human/non-human specificity of the relativization sign

3.4.2.1.2. Singular/plural specificity of the relativization sign

There are various forms of IX as a relativization sign in TID. This relativization sign may be in the forms of dual (two hands are used) or V-Handshape (TWO-OF-YOU/US) or else plural (repetitive/exhaustive form of IX) [Lexicon - Section 3.7.]. Two examples of IX used as a relativization sign in a form of dual with two hands is shown below. In these cases, both hands are used to refer to the two entities. Although the plural form of the [o] pronoun in Turkish is “onlar,” which is plural, the mouthing does not adapt to this. It remains singular.

re
[o]
 sq hn

:1st BUOY:2nd MARRIED MARRIED IX₂ SAME(2h) IX(2h)_(3a,3b)] VISIT_{recip(3a,3b)} CHAT
 'The second and third (person), both of whom are married, visited each other and
 chatted.'

(Kubus 2016: 312)

sq

[IX(2)_(3a,3b) FRIEND MUST EACH-OTHER FRIEND OTHER FRIEND IX(2)_(3a,3b)SAME(3a,3b)
[o]
re
 IX_(3a,3b)]
 MEVLUT GO FINISH
 'Two friends who had to be friends with each other, went to her mevlut.'

(Kubus 2016: 314)

In the example below, mouthing is repeated three times as the index finger moves repetitively in the plural form.

[o][o][o]

sq

RESEARCH [REFERENCE BOOK IX_{++3a,3b,3c} BOOK DIFFERENT₊₊ BOOK] MANY
 DEAF IX₁ SEE_{++3a,3b,3c}
 'I have researched several references, mostly different books, and I noticed that the
 word 'deaf' was used often.'

(Kubus 2016: 338)

3.4.2.2. Position of the relativization sign

An index sign can be used as a relativization sign in TĪD [Syntax - Section 3.4.2.1]. The index can be at the beginning of a relative clause, within the relative clause (in situ), or at the end of the relative clause. The relative-clause final position of the index is the most common among the three. Sometimes, a combination of the index in the clause initial and clause final positions of the relative clause can occur as the example below shows.

[o]
re sq
 [IX₃ MAN₃ PERSON ₁SWEAR₃ ALL] ₃IX₁ GOOD
 'The man, whom I had sworn at, was good to me.'

(Kubus 2016: 196)

3.4.3. Position of the noun phrase with the relative clause within the matrix clause

Three orders of noun phrases with relative clauses with respect to main clauses are possible. A noun phrase with a relative clause can precede the rest of the main clause; it can be embedded within the main clause or it can occur after the rest of the main clause. The most common order for both subject and object relativization is the order where the noun phrase with the relative clause precedes the rest of the main clause [Syntax - Section 3.4.5.].

3.4.4. Subject vs. object relativization

There is no differentiation with respect to the human/non-human specificity of the head noun and the relativization sign used and with respect to the order of the relative clause to the rest of the main clause. However, there is an interaction between animacy and the use of subject vs. object relative clause. Namely, there is a preference for subject relativization with an animate entity whereas an inanimate entity most often occurs with object relativization. Although all four combinations of the function of the noun+RC and what is targeted to be the head inside the RC (Subject-Subject, Subject-Object; Object-Object, Object-Subject) are possible in T1D, Subject-Subject relative clauses are commonly used with an animate head noun while Object-Object relative clauses are commonly used with an inanimate head noun. Example of a Subject-Subject relative clause with an animate head noun is provided below. The subject of relative clause is an animate entity which is referred to by a finger-listing buoy [Lexicon - Section 1.2.3.], i.e. the first woman. The relativization sign is the index pointed to the entity in neutral space.

[o]
hn hn
_____ sq re sq
[BUOY:1st MARRY FINISH IX3a] SINGLE3b CL-MEET3a,3b
'The first (woman), who was already married, met (the woman), who was single.'

[link and time-code to the publically available video to be provided] (Kubus 2016: 206)

Example of a Subject-Object relative clause with an inanimate head noun is provided below. An inanimate head, WATER, occurs at the beginning and the end of the relative clause and both the head nouns and the relative clause are in the scope of squint. The head noun is the object of relative clause; whereas, the complex noun modified by the relative clause is subject of the main clause.

sq
... [WATER BEFORE IIBRAHIIM BRING WATER] OVER PALM-UP
'The water that Ibrahim had brought earlier was gone.'

[link and time-code to the publically available video to be provided] (Kubus 2016: 206)

An example of an Object-Subject relative clause with an inanimate head noun is provided below. In this example, the head noun is animate, BABY, and it is the subject for the relative clause but the complex noun modified by the relative clause is object for the main clause.

_____ sq hn

NURSE_a LOOK-AT_b [BABY_b SLEEP]

'The nurse looked at the baby, who was sleeping.'

[link and time-code to the publically available video to be provided] (Kubus 2016: 344)

An example of an Object-Object relative clause with an inanimate head noun is provided below. The head of the relative clause is the inanimate entity, MONEY, which is the object targeted by relativization. In turn, the entire noun phrase [Syntax - Chapter 4] modified the relative clause is used as the object of the main clause predicate [Syntax - 2.1.1.], SPEND^NEG.

/bu/

_____ sq re _____ hs _____ ht

[SON_{3a} MONEY_{3b} GIVE_{3b} IX_{3b}] MONEY WHAT-DO SPEND^NEG

'The son did not save the money that he got (from his parents).'

[link and time-code to the publically available video to be provided] (Kubus 2016: 318)

3.4.5. Displacement of relative clauses

The preferred position of a relative clause is clause-initial. In-situ and post-verbal positions are less frequent. Below, the example shows a fronted noun phrase [Syntax - Section 4.1.] which is modified by a relative clause.

_____ hs

_____ sq _____ ht _____ hn _____ ht

[GIRL₃ EARNING₃ GIVE₁] IX₁ WANT^NEG IX₁ TELL^NEG

'I could not tell that I did not want the money that the woman had earned.'

[link and time-code to the publically available video to be provided] (Kubus 2016: 344)

The example below shows an in-situ noun phrase which is modified by a relative clause. The noun phrase, HANGMAN [COMPETITION A-B-C], is the object of the main clause and it is in its in-situ position after the subject of the main clause, IX₁.

hs
sq
re ht

IX1 HANGMAN [COMPETITION A-B-C] CL WANT^NEG
 'I didn't like hangman, a game which uses letters.'

[link and time-code to the publically available video to be provided]

(Kubus 2016: 340)

3.4.6. Special non-manual marking

Squint is the most frequent non-manual marker in relative clauses in TĪD. Other common non-manual markers used in relative clauses are headshake, raised eyebrows and head nod/forward body lean.

3.4.6.1. List of non-manual markers

Several non-manuals are important for marking relativization in TĪD.

	Potential relative clause non-manual markers	
Upper face		
	Raised Eyebrows	+
	Tensed eyes / squint	+
Lower face		
	Tensed cheeks	+
	Tensed lips	+
Head		
	Back head tilt	?
	Head forward	+
	Short headshake	+
Body		
	(Forward) Body lean	+

List of Non-manual markers in relative clauses

The most prominent non-manual marker in a relative clause in TID is a squint. The second and third most common non-manual markers are headshake and raised eyebrows respectively. These non-manual markers may occur on their own or they may be combined. The most frequent non-manual marker is the squint on its own which is followed by squint + head shake. Squint also combines with raised eyebrows. While squint and raised eyebrows on their own are capable of marking relative clauses, headshake cannot, rather it requires to combine with squint and/or raised eyebrows. Some other combinations are used less frequently such as raised eyebrows + head shake and raised eyebrows + head nod. Three non-manual markers are rarely used together.

3.4.6.2. The spreading domain of each non-manual marker

The most frequent non-manual marker squint usually spreads over the scope of the relative clause. However, this spread is not obligatory. In some rare cases, the spread is not full. A relativizer is present in most of those cases where the squint is not fully present. In short, the relative clause is marked either by a relativizer, a squint or the combination of these.

When present, raised eyebrows also tend to spread over the entire RC and rarely over an external head noun. Head shake needs to combine with another non-manual marker to be present in a relative clause. The position of this non-manual marker is not systematic.

Head nod tends to occur at the end of the RCs, marking the end of a prosodic Intonational Phrase [Phonology - Section 2.2.2.3.] as an edge marker [Phonology - Chapter 2] with its shorter duration compared to squint and raised eyebrows which are domain markers [Phonology - Chapter 2], marking the entire scope of the relative clause. Below we show an example where the edge marker head nod and the domain marker squint are present together.

_____hn
_____sq

 AFTER MORNING IN [MAN ADORE ALL F-I-G-U-R-E SAME_{loc1}] CL-GATHER_{loc1}
 'Afterwards, in the morning, the people gathered at the same (place) that they used to adore the cult figures.'

[link and time-code to the publically available video to be provided] Kubus (2016: 330)

3.4.7. Restrictive vs. Non-restrictive relative clauses

A restrictive relative clause is one which restricts the possible entities that the head noun of the relative clause can refer to. A non-restrictive relative clause provides additional information without narrowing down the set of entities that the head noun refers to. The first example below is a restrictive relative clause while the second example is a potential nonrestrictive relative clause:

_____sq

[GIRL FAR VILLAGE IN] BOY₃ IX₃ LOVE

'The girl who was from a village far away loved the boy.'

[link and time-code to the publically available video to be provided] (Kubus 2016: 209)

_____hs

_____sq

_____re _____ht

IX₁ HANGMAN [COMPETITION A-B-C] CL WANT[^]NEG

'I didn't like hangman, a game which uses letters.'

[link and time-code to the publically available video to be provided] (Kubus 2016: 340)

The preferred position of a head noun is inside the relative clause in a restrictive relative clause while the non-restrictive relative clauses are mostly observed with an external (postnominal) head noun or a doubled-head noun. The relativization sign does not depend on the semantics of the relative clause with the exception that SAME is limited to restrictive relative clauses. As for non-manual markers, squint is still the most common non-manual marker for both restrictive and nonrestrictive relative clauses while there is a small preference for raised eyebrows to be used more frequently with nonrestrictive relative clauses. Restrictive relative clauses can occur in fronted (most frequent), embedded and postverbal positions while nonrestrictive relative clauses only occur in fronted or embedded positions in almost the same ratio.

3.5. Adverbial Clauses

Adverbial clauses express an adverbial meaning such as reason, purpose and time, and function as modifiers of main clauses. Adverbial clauses are categorized into the following types: conditional, temporal, locative, manner, reason, purpose, concessive, substitutive, additive and absolutive.

The adverbial clause constructions that are found in TID are described in detail in the following sections. These constructions have some common properties: First, adverbial clauses obligatorily precede the main clause. Second, raised eyebrows and chin down are non-manual markers that are used to mark both conditional clauses and temporal clauses, chin down being the most frequent NMM across adverbial clauses. Lastly, no common non-manual markers accompany main clauses.

3.5.1. Conditional clauses

A conditional sentence consists of two clauses which are called antecedent and consequent clauses. An antecedent clause expresses the condition and it might be syntactically dependent on the consequent clause.

Semantically, conditional clauses can be mainly categorized into (i) factual conditionals, (ii) counterfactual conditionals, (iii) concessive conditionals, and (iv) non-predictive/peripheral conditionals. These, as well as other less canonical conditional constructions, are described in detail in the following sections.

3.5.1.1. The role of non-manual markers in conditional sentences

Common non-manual markers in conditional clauses are raised eyebrows, head orientation and head movement. Non-manual markers distinguish between different semantic types of conditionals.

3.5.1.2. Factual conditionals

If the realization of the condition is a realistic possibility in a conditional clause, then it is a factual conditional clause.

3.5.1.2.1. Non-manual markers and their properties in factual clauses

The non-manual markers used to mark the antecedent clause in factual conditional clauses are raised eyebrows on the predicate and chin down at the end of the antecedent clause.



PULL

‘If you pull...’

How these non-manual markers align and spread are shown in the example below:

re
cd

CAT TAIL PULL CAT ANGRY SCRATCH

‘If you pull the tail of the cat, it will scratch you.’

[video example]

There are no shared non-manual markers in the consequent clauses of factual clauses. Furrowed eyebrow, head nod, neutral eyebrow are among the non-manual markers that accompany consequent clauses.

3.5.1.2.2. Manual conditional signs in factual conditionals

There is a manual sign IF in factual conditionals in T1D but it is not obligatory.



IF

When IF is absent, the conditional meaning can still be maintained through the NMMs.

3.5.1.2.3. Order of the components of the factual conditional clause

The antecedent (subordinate) clause always precedes the consequent (main) clause.

YOU WEIGHT LOSE WANT YOU FOOD BREAD VERY LITTLE EAT NECESSARY

‘If you want to lose weight, you should eat less.’

3.5.1.3. Counterfactual conditionals

In contrast with factual conditionals, in counterfactual clauses, the fulfillment of the condition is unrealistic, unlikely or impossible.

3.5.1.3.1. Non-manual markers and their properties in counterfactual conditionals

The non-manual markers used to mark antecedent clauses in counterfactual conditional clauses are raised eyebrows on the predicate, repetitive head nod and chin down at the end of the antecedent clause.



BE

‘If I were...’

How these non-manual markers align and spread are shown in the following example:

__re
__hn
__cd

IX₂ COME IX₁ KNOW IX₂ AIRPORT IX₁ COME MEET IX₁

‘If I had known that you were coming I would have picked you up from the airport.’

[video example]

Repetitive head nod distinguishes counterfactual conditional clauses from factual ones. Moreover, there are no shared non-manual markers in the consequent clauses across different types of conditional clauses. So, the consequent clause is neutral in terms of the non-manual markers.

3.5.1.3.2. Manual conditional signs in counterfactual conditionals

The sign IF is not obligatory in counterfactual conditional clauses as in factual conditional clauses. When IF is absent, the conditional meaning is maintained through NMMs.

3.5.1.3.3. Order of the components of the counterfactual conditional clause

The ordering of components in counterfactual conditional clauses has the same restrictions as the components of factual conditional clauses. The antecedent (subordinate) clause must precede the consequent (main) clause in this type of conditionals, as well.

TEACHER IX₁ BE IX₂ READ WRITE IX₁ TEACH

‘If I were a teacher, I would teach you how to read and write.’

3.5.1.4. Concessive conditionals

Concessive conditional clauses have the semantics of both concession and conditionality:

‘Even if you are lucky, you have to work hard in order to get what you want.’

3.5.1.4.1. Non-manual markers and their properties in concessive clauses

The non-manual markers used to mark the antecedent clause in concessive conditional clauses are the same as the ones of factual conditional clauses. These are raised eyebrows on the predicate and chin down at the end of the antecedent clause:

cd
_____re

IX₂ IX₃ LOVE NOT EVEN IX₃ TOWARDS NICE BEHAVE KNOW IX₂
‘Even if you don't like him you can still be polite, you know.’

3.5.1.4.2. Manual conditional signs in concessive conditionals

There is a specific sign EVEN which is used in concessive conditionals.



EVEN

However, this sign is not compulsory in concessive conditionals.

3.5.1.4.3. Order of the components of the concessive conditional clause

As in the factual and counterfactual conditionals, in concessive conditionals as well the antecedent clause must precede the consequent clause.

JOB WORK LITTLE ALCOHOL EVEN TAKE IX₂ JOB FIRE
‘At work, even if you drink just a little, they will fire you.’

Regarding the position of the sign EVEN in the clause, it can precede the predicate as in the example above or it can follow the predicate as in the example below:

IX₂ IX₃ LOVE NOT EVEN IX₃ TOWARDS NICE BEHAVE KNOW IX₂
‘Even if you don't like him you can still be polite.’

3.5.1.5. Non-predictive/peripheral conditionals

3.5.1.5.1. Non-manual markers and their properties in nonpredictive/ peripheral conditionals

3.5.1.5.2. Manual conditional signs in non-predictive/peripheral conditionals

3.5.1.5.3. Order of the components of the nonpredictive/peripheral conditional clause

3.5.1.6. Other conditional constructions

3.5.2. Temporal clauses

Temporal clauses are the type of adverbial clauses which indicate the temporal relation between two clauses. This relation could be of anteriority, simultaneity or posteriority.

3.5.2.1. Internal structure of temporal clauses

There is no specific manual marker that encodes temporal simultaneity. Temporal simultaneity between two events is expressed by non-manual markers. One of these non-manual markers is chin down which is used to mark other types of subordinate clauses, as well.

cd

FRIEND HOME COME IX₁ HOLIDAY PLAN

‘When my friend came home, I was planning the holiday.’

Anteriority of an event with respect to another event is expressed by placing the subordinate clause denoting anteriority before the main clause. The subordinate clause contains a manual sign AFTER. The syntactic position for this manual sign is the right edge of the subordinate clause:

cd

____re

IX-POSS₁ FRIEND HOME COME AFTER HOLIDAY PLAN

‘After my friend came home, I planned the holiday.’

Before-clauses have the negative marker NOT even though they do not have negative meaning. The syntactic position for this manual sign is the right edge of the subordinate clause, right after negation:

cd

re

FRIEND HOME COME[^]NEG BEFORE IX₁ HOLIDAY PLAN

‘Before my friend came home, I planned the holiday.’

3.5.2.2. Manual signs marking subordination in temporal clauses

There are separate manual signs for anteriority and posteriority, namely, AFTER and BEFORE. However, there is no manual sign that encodes simultaneity.



AFTER

BEFORE

These two signs are obligatory in the adverbial clause in order to convey the relevant temporal relation.

3.5.2.3. Other markers of subordination in temporal clauses

3.5.2.4. Non-manual markers in temporal clauses

The non-manual markers used in temporal clauses are chin down and raised eyebrows. Chin down is observed in all three types of temporal clauses (and some other types of subordinate clauses) whereas raised eyebrows are observed only with the manual signs AFTER and BEFORE.

3.5.2.5. Position of the temporal clause with respect to the main clause

A temporal clause must precede the main clause in all three types of temporal relations.

3.5.2.6. Simultaneous expression of the main event and the adverbial clause

3.5.3. Locative clauses

Locative clauses convey information about the location of the main event. Here is an example of a locative clause in the form of free relative:

AFTER MORNING IN [MAN ADORE ALL F-I-G-U-R-E SAME_{LOCa}] CL-GATHER_{LOCa}

‘Afterwards, in the morning, the people gathered at the same (place) where they used to adore the cult figures.’ (adapted from Kubus, 2016: 202)

3.5.3.1. Internal structure of locative clauses

3.5.3.2. Manual signs marking subordination in locative clauses

3.5.3.3. Other markers of subordination in locative clauses

3.5.3.4. Non-manual markers in locative clauses

3.5.3.5. Position of the locative clause with respect to the main clause

3.5.3.6. Simultaneous expression of the main event and the adverbial clause

3.5.4. Manner clauses

Manner clauses describe the way main event is realized.

3.5.4.1. Internal structure of manner clauses

3.5.4.2. Manual signs marking subordination in manner clauses

There are no specific manual markers to mark manner clauses in T1D.

3.5.4.3. Other markers of subordination in manner clauses

3.5.4.4. Non-manual markers in manner clauses

There is no single non-manual marker that is specific to the manner clause type. But some non-manual markers such as head/torso lean right and head nod accompany manner clauses.

3.5.4.5. Position of the manner clause with respect to the main clause

Manner clauses precede the verb of the main clause.

3.5.4.6. Simultaneous expression of the main event and the adverbial clause

3.5.5. Reason clauses

A reason clause expresses a reason for the main event.

3.5.5.1. Internal structure of reason clauses

TID shows different preferences regarding the word order and clause order in adverbial clauses which denote reason. However, the subordinate clause must precede the main clause in general.

There are two strategies used in expressing reason clauses: subordination and juxtaposition. The following is an example of juxtaposition.

cd

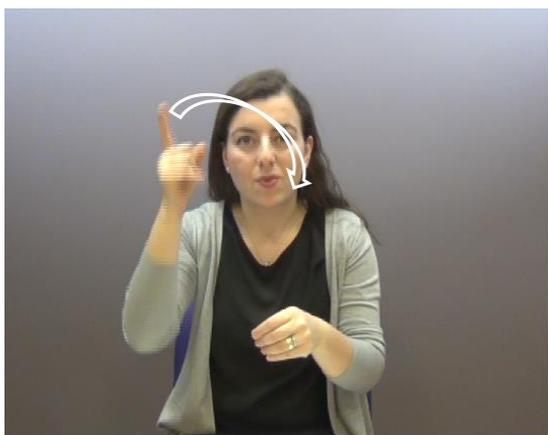
IX₁ WASHING MACHINE MUCH PUT IX₃ MACHINE BREAK IX

‘The washing machine was broken since I put too much in it.’

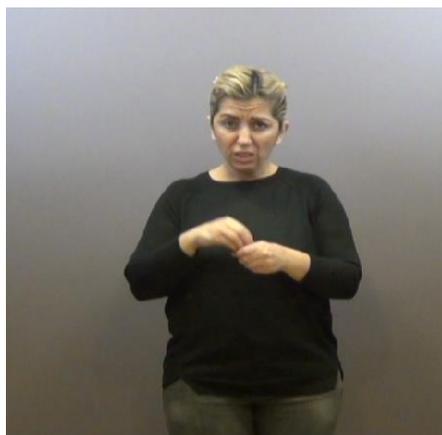
In this example, chin down accompanies the final sign of the reason clause PUT.

3.5.5.2. Manual signs marking subordination in reason clauses

The manual subordinating markers for reason clauses are FOR.THIS.REASON and FOR:



FOR.THIS.REASON



FOR

The subordinating morpheme FOR.THIS.REASON is followed by a pause when it is used as in the example below:

feb

VERY TIRED FOR.THIS.REASON IX₁ HOME RETURN

‘I went home because I was tired.’

[video example]

FOR.THIS.REASON can also function as a coordination marker and can occur in the main clause. In those cases, the pause is before FOR.THIS.REASON.

cd
 _____ re
 WEATHER NICE FOR.THIS.REASON CAMP MAKE
 ‘We did camping since the weather was nice.’
 [video example]

The second sign which is used in reason clauses is FOR. This sign functions only as a subordinating morpheme.

cd
 _____ feb
 WASHING MACHINE VERY OLD FOR BREAK
 ‘The washing machine was broken since it was very old.’

3.5.5.3. Other markers of subordination in reason clauses

3.5.5.4. Non-manual markers in reason clauses

One common non-manual marker used in reason clauses is chin down. Other non-manual markers such as furrowed eyebrows and raised eyebrows sometimes accompany the reason clauses.

_____ feb
 VERY TIRED FOR.THIS.REASON IX₁ HOME RETURN
 ‘I went home because I was tired.’
 [video example]

As shown in the example above, furrowed eyebrows spreads from the beginning of the reason clause and its spreading domain contains the subordinating morpheme FOR.THIS.REASON. Thus, both FOR.THIS.REASON and the furrowed eyebrows mark the end of the reason clause.

cd
 _____ feb
 WASHING MACHINE VERY OLD FOR BREAK
 ‘The washing machine was broken since it was very old.’

The common non-manual marker chin down at the end of the subordinate clause accompanies the manual sign FOR. In the example above, furrowed eyebrows is also observed partially on the subordinate clause.

3.5.5.5. Position of the reason clause with respect to the main clause

Reason clauses must precede the main clause.

3.5.5.6. Simultaneous expression of the main event and the adverbial clause

3.5.6. Purpose clauses

Purpose clauses describe the purpose of the main event.

3.5.6.1. Internal structure of purpose clauses

Purpose clauses are produced with the subordinating morpheme FOR. In the example below, the clause [IX₂ INVITE₁ FOR] IX₁ COME expresses the purpose of the speaker's coming.

[IX₂ 2INVITE₁ FOR] IX₁ COME
'I came here to invite you.'

3.5.6.2. Manual signs marking subordination in purpose clauses

Purpose clauses are marked by the subordinating morpheme FOR (IÇIN) 'for' which is also used to mark reason clauses. There is another sign FOR (DIYE), as well.



FOR (IÇIN)



FOR (DIYE)

3.5.6.3. Other markers of subordination in purpose clauses

3.5.6.4. Non-manual markers in purpose clauses

There is no non-manual marker specific to purpose clauses.

3.5.6.5. Position of the purpose clause with respect to the main clause

Purpose clauses precede main clauses.

3.5.6.6. Simultaneous expression of the main event and the adverbial clause

3.5.7. Concessive clauses

Concessive clauses express a fact in view of which the main clause event would not be expected.

3.5.7.1. Internal structure of concessive clauses

There is no sign that expresses the meaning 'although'. Concession is expressed with the adversative conjunction BUT.

IX₁ ENGLAND NEVER GO NOT BUT ENGLISH GOOD

Intended: 'Even though I have never been to UK, I speak English well.'

Produced: 'I have never been to UK, but I speak English well.'

3.5.7.2. Manual signs marking subordination in concessive clauses

There are no manual signs that mark subordination in concessive clauses.

3.5.7.3. Other markers of subordination in concessive clauses

3.5.7.4. Non-manual markers in concessive clauses

There are no non-manual markers specific to concessive clauses.

3.5.7.5. Position of the concessive clause with respect to the main clause

The clause which expresses concession always precedes the main clause.

3.5.7.6. Simultaneous expression of the main event and the adverbial clause

3.5.8. Substitutive clauses

Substitutive clauses express substitution as in the following example:

'They went to the seaside instead of staying at home.'

3.5.8.1. Internal structure of substitutive clauses

3.5.8.2. Manual signs marking subordination in substitutive clauses

3.5.8.3. Other markers of subordination in substitutive clauses

3.5.8.4. Non-manual markers in substitutive clauses

3.5.8.5. Position of the substitutive clause with respect to the main clause

3.5.8.6. Simultaneous expression of the main event and the adverbial clause

3.5.9. Additive clauses

Additive clauses express the presence of a second person/thing/event in addition to the first one.

‘Besides working for our company as a sales manager, she is a free lance translator.’

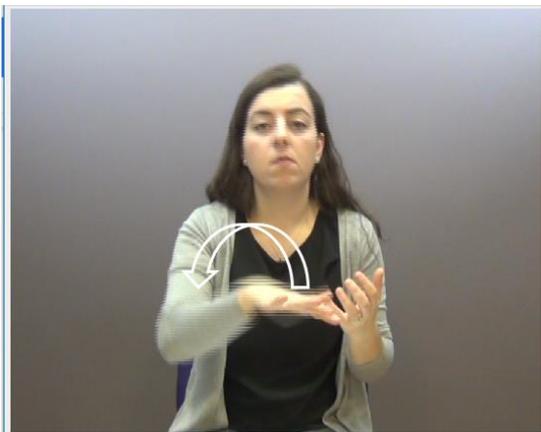
3.5.9.1. Internal structure of additive clauses

Two types of constructions are used to express addition. One is in the form of coordination with the conjunction "BOTH...AND...", see [Syntax - Section 3.1]. The other is an adverbial clause with the subordinating sign OTHER.

_____tr _____tl
MEAL COOK IX₁ COOK OTHER GARDEN IX₁ WORK LOOK LOOK
‘Besides cooking, I look after the garden.’

3.5.9.2. Manual signs marking subordination in additive clauses

The following shows the subordinating sign OTHER.



OTHER

3.5.9.3. Other markers of subordination in additive clauses

3.5.9.4. Non-manual markers in additive clauses

3.5.9.5. Position of the additive clause with respect to the main clause

The dependent clauses with OTHER must precede the main clauses.

3.5.9.6. Simultaneous expression of the main event and the adverbial clause

Signers make use of simultaneous expression of the main clause and the subordinate clause while expressing addition. In such utterances, the signer first introduces the event in the adverbial clause with the dominant hand, then the event in the main clause with the non-dominant hand. At the end, the signer refers to two events simultaneously by pointing at two contrastive loci with two index fingers as shown in the example below.

_____tr _____tl
MEAL COOK IX₁ COOK OTHER GARDEN IX₁ WORK LOOK LOOK
'Besides cooking, I look after the garden.'



LOOK (after this job) LOOK (after this job)

3.5.10. Absolute clauses

3.5.10.1. Markers of subordination in absolute clauses

3.5.10.2. Non-manual markers in absolute clauses

3.5.10.3. Position of the absolute clause with respect to the main clause

3.5.10.4. Simultaneous expression of the main event and the adverbial clause

3.6. Comparative clauses

Comparison [[Semantics – Section 8.1](#)] is a cognitive act where two entities are compared with each other based on their position on a scale. The scale is provided by a predicate [[Syntax - Section 2.1.1.](#)], which denotes a property. When the respective positions of the compared entities are different from each other on the relevant scale provided by the predicate, a comparison of inequality arises. This cognitive comparison then is expressed in language by comparative constructions. When the respective positions of the compared entities are the same, comparison of equality arises. This cognitive understanding of equality, in turn, is expressed in language by equative constructions.

There are four different structural ways of expressing comparative clauses across languages. These are exceed comparatives, location comparatives, conjoined comparatives and subordinated comparatives. Of these four possible linguistic structures, TİD employs Conjoined Comparatives and Locational Comparatives.

Conjoined comparatives are biclausal structures [[Syntax - Section 3.](#)], which include two juxtaposed clauses with parallel structures but without any overt signs of conjunction [[Lexicon - Section 3.9.1.](#)]. The predicate of these clauses can be either an adjective or a verb. The subject of the first clause is called the standard and the subject of the second clause is called the comparee.

[GIRL DOG SCARED] [MAN DOG MORE SCARED]

Standard Comparee

‘The girl is scared of the dog. The man is more scared of the dog.’

[video example]

(r.f. and adapted from Kaşıkara and Özsoy 2015: 16)

When the two clauses in a conjoined comparative construction have an adjectival predicate, the construction expresses absolute gradability which is expressed by using antonyms, as shown below.

[TWO MEN] [[ONE TALL] [ONE SHORT]]

‘(There are) two men. One is tall. One is short.’

[video example]

(r.f. and adapted from Kaşıkara and Özsoy 2015: 14)

Absolute gradability can also be expressed by negating the second sentence with NOT [[Syntax Section 1.5.](#)]:

[TWO PEOPLE] [[ONE OLD] [ONE OLD NOT]]

‘Two people. One is old. One is not old.’

(adapted from Kaşıkara and Özsoy 2015: 14)

The two strategies mentioned above can be combined for expressing absolute gradability. Below, the second sentence is negated and it also includes the antonym predicate of the first sentence.

[TWO WATER] [[[WATER IX] HOT] [[HOT NOT] COLD]]

'(There are) two (glasses of) water. This water is dirty. (This water) is not dirty. (It is) hot.'

[video example]

(r.f. and adapted from Kaşıkara and Özsoy 2015: 15)

When the conjoined construction has a verbal predicate, it expresses scalar gradability which compares two entities on a scale of a property. By using the conjoined construction with a verbal predicate, two possible comparisons can be made. First, two different subjects can be compared with respect to a single object:

[GIRL DOG SCARED] [MAN DOG MORE SCARED]

'The girl is scared of the dog. The man is more scared of the dog.'

(adapted from Kaşıkara and Özsoy 2015: 16)

Second, two different objects can be compared with respect to a single subject.

[SELF GIRL CAT SEE] [SCARED] [DOG SEE] [MORE SCARED]

'The girl sees the cat and is scared. (She) sees the dog and is more scared.'

(adapted from Kaşıkara and Özsoy 2015: 17)

There are two properties of scalar gradable comparisons. First, non-manuals and signing space are used to express comparison. Namely, the standard is on the contralateral side and is assigned a locus by indexing and/or body/head shift while the comparee is on the ipsilateral side. The comparee is also assigned a locus by indexing and/or body shift/head shift. Second, the parameter marker, (MORE, MOST, LESS) which expresses superiority or inferiority, occurs in the clause where the comparee is expressed.

The second structural way of expressing comparison is by locational comparatives. They express scalar gradability of adjectival predicates. The locational comparatives employ a special kind of index, IX_{COMP} (index of comparison), to express the relation between two NPs.

IX_{COMP}

[video example]

Expression of a comparison with IX_{COMP} includes three steps: Step 1 is assigning a locus to the standard; step 2 is assigning a locus to the comparee. Assigning loci to the compared items may be done in different ways. First, there can be an optional topic phrase [[Pragmatics - Section 4.2. and Syntax - Section 2.3.3.](#)] specifying the participants to be compared. Second, the localization of the two participants in the signing space can be expressed by indexing or body shift. Step 3 for the expression of a comparison with IX_{COMP} is arc movement from the locus of the standard to the locus of the comparee. Eye gaze may be used in the arc movement step. IX_{COMP} refers back to the standard and the Comparee and it expresses a relation between them.

eg-from-a-to-b

[[CAT IX _a]	[OTHER LION _b]]	[_a IX _{COMP} _b	MORE BRAVE]
Step-1	Step-2	Step-3	

‘The lion is braver than the cat.’
[video example]

(r.f. and adapted from Kaşıkara and Özsoy 2015: 22)

The arc movement of IX_{COMP}, from the locus of the comparee to the locus of the standard, can be infused into the sign which expresses the parameter of comparison as the following example shows. [_aBIGGER_b] involves movement from locus a to locus b.

[[TWO BALL]] [GREEN IX_a] [BLUE_b] [_aBIGGER_b]
‘Two balls. The blue is bigger than the green.’

(Adapted from Özsoy and Kaşıkara 2015: 23)

By locus assignment, the participants in the comparative structure are assigned to the opposite sides of the signing space. The standard is located in the contralateral side, which is where a signer's preferred hand is and the comparee is located in the ipsilateral side, which is the side where a signer's second hand is. Even when the standard is not stated explicitly, the comparee is still assigned to the ipsilateral side. Below, [TWO BALL] is in topic position and one understands that there is another ball that is compared to the blue ball. Nonetheless, this standard is not expressed but the comparee BLUE_b is assigned to the the ipsilateral side of the signing space. ‘eo’ is short for eyes-open.

_____ eo
_____ re

[TWO BALL] [[BLUE_b] _aBIGGER_b]
‘Two balls. The blue is bigger.’

(adapted from Özsoy and Kaşıkara 2015: 25)

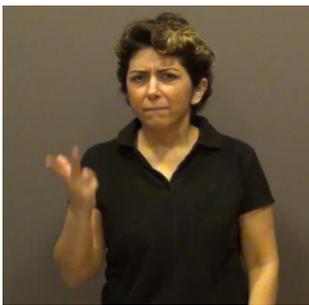
There are three distinct signs of degree of gradability used with locational comparatives in TİD: comparative marker MORE, superlative marker MOST and inferiority marker LESS. While

producing MORE, all the fingers of the dominant hand are selected and there is a wrist twist. The orientation changes from palm-down to palm-up. Also, two non-manuals, namely eye-opening and raised eyebrows, are used while producing this sign.



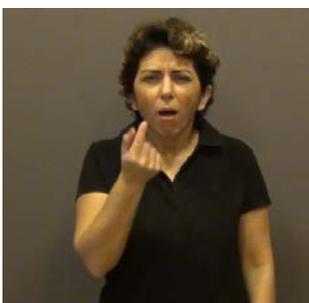
MORE

The sign MOST is articulated with thumb, index and middle fingers. The unselected fingers are closed. Again, the orientation is palm-up and there are non-manuals, squinted eyes, eyebrow lowering and lip bite, used while producing this sign.



MOST

The sign LESS is articulated with thumb and index finger. The index finger is extended and makes a narrow opening with thumb. Also, there are two non-manuals: squinted eyes and eyebrow lowering.



LESS

MORE can incorporate with some adjectival predicates. In the articulation of BIG, two hands are involved and they are open. All the fingers are extended and the hands are held apart from each other in the neutral space. Instead of signing MORE+BIG for the comparative, namely the

expression of bigger, the hands are pulled further apart, the eyes are open wider and the eyebrows are raised further. BIG and BIGGER in TİD are shown below.

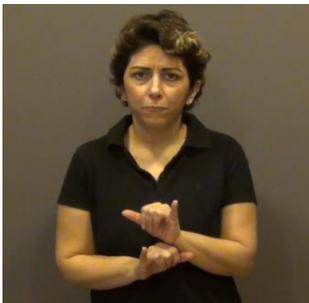


BIG

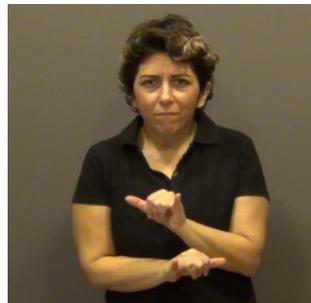


BIGGER

The comparative morpheme can be incorporated into the predicate THIN as well. However, there is semantic opposition between BIG and THIN which is reflected in articulation. THIN is articulated with both hands. The selected fingers of both hands are the thumb and the little finger. Unselected fingers are closed and the two hands are held close to each other in the neutral space. One hand is under the other. When THIN is incorporated with the comparative morpheme, the sign involves movement which lets the two hands cross each other even further. This time eyes are squinted instead of eyebrows are furrowed. THIN and THINNER are shown below.



THIN



THINNER

3.7. Comparative correlatives

Information on data and consultants

The descriptions in this chapter are partially based on the references below and partially on research done by the authors during the development of this chapter.

In general, please see the data and consultant information in the references. Unless stated otherwise below, the linguistic data in images and video clips that were produced or reproduced for this chapter were provided by a near-native fluent signing consultant who was born and raised in Istanbul.

More detailed information for some of the sections are also provided below:

[3.4] “Relative clauses”: All the examples in this section have been taken from Kubus (2016). The visuals of these examples will not be reproduced for the grammar since it is very difficult to get complex and context-dependent examples such as those to be reproduced naturally. As explained in detail in Kubus (2016: 152, 308-309), most of these data were taken from social media, such as Facebook, YouTube, Vimeo, Izlesene.com, which is a very common method for sharing stories and exchanging information among the Deaf community in Turkey. Links and time-codes will be provided for these examples in the next version of the grammar.

[3.5] “Adverbial clauses”: the descriptions in this chapter are based on preliminary findings of original research conducted by the author of this section as part of her PhD dissertation. The images and video clips were produced by a near-native fluent signer and a native hard-of-hearing signer, both raised in Istanbul. Additionally, the descriptions and the glossed examples are based on the data produced in natural conversations. These data are part of the BÜ-TİD (Boğaz iversity TİD) corpus.

[3.6] “Comparative clauses”: The data and the descriptions are mainly based on Kaşıkara & Özsoy (2015) and Özsoy & Kaşıkara (in press).

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References

Arık, Engin. 2016. Türk İşaret Dili’nde mekânsal dil. In E. Arık, *Ellerle Konuşmak: Türk İşaret Dili Araştırmaları*, 315-336. İstanbul: Ko iversitesi Yayınları. [3.3.3.6]

Dikyuva, Hasan, Bahtiyar Makaroğlu & Engin Arık. 2017. *Turkish Sign Language Grammar*. The Republic of Turkey Ministry of Family and Social Policies. (239-240). - [Syntax 3.2].

Göksel, Aslı & Meltem Kelepir. 2016. Observations on complex clauses in Turkish Sign Language. In A. Herrmann, R. Pfau & M. Steinbach (Eds.), *A Matter of Complexity: Subordination in Sign Languages*, 73-102. Berlin: De Gruyter Mouton - Syntax [3.2].

Hakgüder, Emre. 2015a. *Complex clauses with embedded constituent interrogatives in Turkish Sign Language (TİD)*. İstanbul, Turkey: Boğaz iversity MA thesis. (72-113) - Syntax [3.2]

Hakgüder, Emre. 2015b. On Wh-Complements in Turkish Sign Language. Presented at *Formal and Experimental Advances in Sign Language Theory (FEAST)*, Barcelona. (4 May, 2015.) - Syntax [3.2]

Kaşıkara, Hüner & A. Sumru Özsoy. 2015. Nonmanuals in Comparatives in Turkish Sign Language. *Workshop on Nonmanuals*, University of Göttingen (October 2015.)

Keleşir, Meltem & Aslı Göksel. 2013. Aspects of Reported Utterances in Turkish Sign Language. In E. Arık (ed.), *Current Directions in Turkish Sign Language Research*, 191-218. Newcastle upon Tyne, UK: Cambridge Scholars Publishing. [3.3.3]

Keleşir, Meltem & Aslı Göksel. 2016. Türk İşaret Dili'nde Aktarılmış Anlatımın Özellikleri. In E. Arık, *Ellerle Konuşmak: Türk İşaret Dili Araştırmaları*, 337-360. İstanbul: Ko niversitesi Yayınları. [3.3.3]

Kubus, Okan 2016. *Relative Clause Constructions in Turkish Sign Language*. Hamburg, Germany: University of Hamburg PhD dissertation. (178-179) - Syntax [3.2, 3.4, 3.5 & 3.6]

Özsoy, A. Sumru & Hüner Kaşıkara. in press. Comparatives in Turkish Sign Language (TİD). In: K. Wojtylak, Y. Treis & L. de Vries (eds.), *Comparative Constructions*. Free University of Amsterdam.

Chapter 4. The Noun Phrase

A Noun Phrase (NP) is a phrasal syntactic category in which the syntactic head, that is the most important element, is a noun [Lexicon - Section 3.1]. An NP can consist of only a noun without any modifiers, such as an Adjective [Lexicon - Section 3.4.] or a Numeral [Lexicon - Section 3.10.1]. The following is an example of a noun phrase with only the head noun.

CAT
'cat'

An NP can also include one or more modifiers which do not change the basic meaning of the NP but modify it in several ways including definiteness [Pragmatics - Section 1.2.], quality, quantity, spatial position and origin. A modifier can be a Determiner [Lexicon - Section 3.6.], an Adjective, a Numeral or certain combinations of these [Syntax - Section 4.6.]. Below, there is an example of an NP with the head noun SHEET.OF.PAPER and a demonstrative modifier THIS.



THIS SHEET.OF.PAPER
'This sheet (of paper)'

An NP can function as an argument of a predicate [Syntax - Section 2.1.], that is a Subject or an Object [Syntax - Section 2.2.]. The following NP, [POSS₁ CAR], functions as the Subject of the single argument, intransitive [Syntax - Section 2.1.1.2.] predicate WORK.



[POSS₁ CAR] WORK ^ NEG
'My car isn't running.'

An NP can also function as a Complement of a Postposition [Lexicon - Section 3.8.]. The postposition FOR takes an NP complement, [THIS CLASS], below.



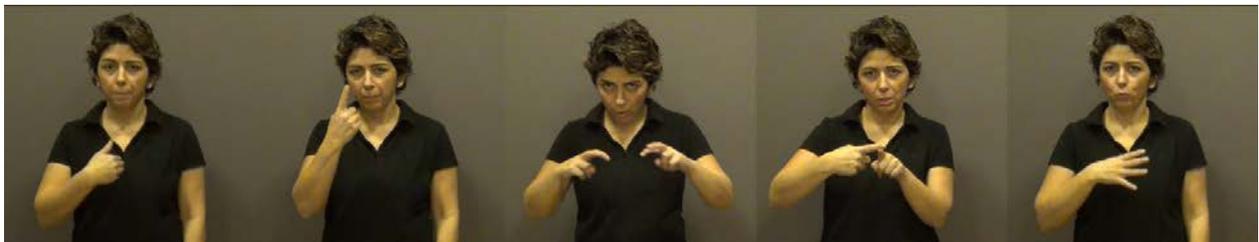
[THIS CLASS] FOR
'for this class'

4.1. Determiners

TiD has determiners which can be either an Article [Syntax - Section 4.1.1.] or a Demonstrative [Syntax - Section 4.1.2.].

4.1.1. Articles

The numeral ONE is used as an indefinite [Pragmatics - Section 1.3.] article in the following NP [ONE RESEARCH].



IX₁ [ONE RESEARCH] SHARE WANT
'I want to to share a (piece of) research with you.'

A pointing sign, IX, can be used to introduce a referent [Pragmatic - Section 1.]. This is called locus assigning (IX_{loc-a}). After this, a pointing pronoun (IX_{3a}) is directed to the same location. The pointing sign now functions as a pronoun [Lexicon - Section 3.7.] as given below.

[POSS₁ FRIEND_a IX_{loc-a}] EAR ACHE. TODAY IX_{3a} HOME STAY WANT
'My friend has an earache. She wants to stay home today.'
[video example]

(r.f. from Nuhbaloglu and Özsoy 2014: 9)

A noun phrase can contain both a possessive pronoun and a locus assigner as the following example shows.



POSS₃

FATHER

IX_{loc-a}

'His father (who I am assigning to this location a in space)'

The indefinite article ONE can also be used with a locus assigner.



ONE

MAN

IX_{loc-a}

'A man (who I am assigning to this location a in space)'

A definite article is used to refer to a referent that is already introduced into the discourse, namely both the signer and the addressee know about this referent. A pointing sign that accompanies a noun can be used as a definite article in TID.

[IX_{def} MAN] LOOK.FOR

'The man is looking for (the frog).'

[video example]

4.1.1.1. The position of the article

The indefinite article, ONE, occurs in the prenominal position.



IX₁ [ONE RESEARCH] SHARE WANT
'I want to to share a research with you.'

The locus assigning index, IX_{loc}, occurs in postnominal position.

[POSS₁ FRIEND_a IX_{loc-a}] EAR ACHE
'My friend has an earache.'

(adapted from Nuhbaloğlu and Özsoy 2014: 9)

The definite article, IX_{def}, can occur pre- or post-nominally.

IX_{def} BEE
'The bee'
[video example]

SEA REED [MAN IX_{def}] HOLD.RIFLE WAIT
'The man is holding a rifle and waiting in the reeds by the lake.'
[video example]

4.1.1.2. Simultaneous manual articulation

In TİD, a definite article can be articulated with the dominant hand while the head noun of the noun phrase is articulated with the nondominant hand. Below, the head noun is STUFFED-POTATO. This head noun is simultaneously articulated with the definite pointing sign. (rh) is short for right hand, which is the dominant hand here and (lh) is short for left hand, which is the nondominant hand here.



(rh) IX_{def} TASTE SUPERB

(lh) STUFFED-POTATO...

'The taste of the stuffed potato is superb.'

4.1.1.3. Non-manual marking

Eyegaze optionally occurs during the articulation of a locus assigning point, IX_{loc}.

eg
[POSS₁ FRIEND_a IX_{loc-a}] EAR ACHE
'My friend has an earache.'

(Adapted from Nuhbaloğlu and Özsoy 2014: 9)

Eyegaze optionally occurs during the articulation of the definite point, IX-def, too.

eg
[IX_{def} MAN] LOOK-FOR
'The man is looking for (the frog).'
[video example]

The corners of the mouth are sometimes pulled down [[Pragmatics - Section 1.3.](#)] (mouth corner down - mcd) during the articulation of the indefinite article, ONE.

mcd
ONE MAN
[video example]

4.1.1.4. Articles expressed by non-manual marking only

4.1.2. Demonstratives

Demonstratives provide deictic [[Pragmatics – Section 1.1.](#)] information with respect to proximity or distalness of the noun that is referred to [[Pragmatics - Section 5.1.3.](#)]. They are always definite in meaning. The following example shows a proximal referent to the signer, which is indicated by the demonstrative THIS.



THIS SHEET
'this sheet'

The demonstrative THIS above is articulated in the center of the signing space while the demonstrative THAT uses more peripheral space with respect to the midline of the body and it shows a distal referent to the signer.



THAT
'that pen'

PEN

4.1.2.1. The position of the demonstrative

A demonstrative precedes a noun in a noun phrase.

[THAT MAN] MONEY TAKE
'That man took the money.'

(Adapted from Nuhbaloğlu and Özsoy 2014: 8)

4.1.2.2. Demonstrative reinforcer construction

4.1.2.3. Non-manual marking

Sometimes non-manual markers accompany demonstratives. In the example below, eyegaze (eg) accompanies the demonstrative.



eg
THAT
'that pen'

PEN

4.1.2.4. Anaphoric usage

Anaphoric usage is referring back to a referent that was already introduced into the discourse. A demonstrative pointing sign can be used anaphorically as a pronoun [[Syntax - Section 2.1.2.2.](#)], [[Pragmatics - Section 2.1.](#)], [[Lexicon - Section 3.7.](#)].



THAT ONE BAD DO THAT
 'That does something bad.'

4.2. Possessive phrases

A possessive phrase is a noun phrase which includes a possessor, whom something belongs to, and a possessee, something that belongs to the possessor. There are different ways of expressing the possessive relation as we show in [Syntax - 4.2.1.].

4.2.1. Ways of expressing the possessive relation in the noun phrase

4.2.1.1. Attributive possessive pronouns

An attributive possessive pronoun indicates the possessor of a possessive noun phrase. It can be signed with a pointing handshape. This pronoun can precede the head noun.



[POSS₃] [NOVEL] VERY INTERESTING
 'Her/his novel is very interesting.'

An attributive possessive pronoun can also follow the head noun.

FATHER POSS₃

'Her father'

[video example]

There are two other possessive pronouns: one has the FLAT-5 handshape:



POSS₁

COMPUTER

'my computer'

The other has the K-handshape:



STEP.MOTHER

'her stepmother'

POSS₃

4.2.1.2. Possessive markers

Possessive pronoun with K-handshape can also be used as a possessive marker between the possessor noun and the possessed noun.



IX_{def-a}

HOUSE

POSS_{3a}

LOCATION

'The house's location'

4.2.1.3. Juxtaposition

The possessive relation between a possessor and a possessee can be expressed by putting these two together without any other markers as the following two examples show:

[PRINCIPAL COMPUTER] THERE.IS

'The principal has (a) computer'

(Adapted from Arik 2006: 6)

YESTERDAY [XXX HENNA] THERE.IS

'There was X's henna (party/ceremony) yesterday.'

[video example]

4.2.2. The position of the possessive pronoun

A possessive pronoun can occur prenominally.



POSS₁

SPOUSE

'my spouse'

A possessive pronoun can also occur postnominally.



IX_{def-a}

HOUSE

POSS_{3a}

LOCATION

'the house's location'

4.2.3. Agreement with the possessor

4.2.4. Agreement with the possessed

4.2.5. Possessive phrases with the possessed elided

4.3. Numerals

When a number sign [[Lexicon - Section 3.10.1.](#)] indicates the number of entities that are referred to, that number sign is called a cardinal numeral [[Lexicon - Section 3.10.1.1.](#)]. An example of a cardinal numeral, TWO, is provided below.

[POSS₁ DAUGHTER TWO] BE.LOCATED.AT
'My two daughters are here.'
[video example]

When a number sign indicates the order of a referent in a sequence, that number sign is called an ordinal numeral [Lexicon - Section 3.10.1.1]. Ordinal numbers are expressed with buoy signs.

(h1) TWO BOOK THERE.IS IX_{3a} BOOK YELLOW
(h2) BUOY_{1-3a}
'There are two books. The first one is yellow.'
[video example}

A plural sign can be reduplicated [Phonology - Section 3.3.1.] when used with a numeral.

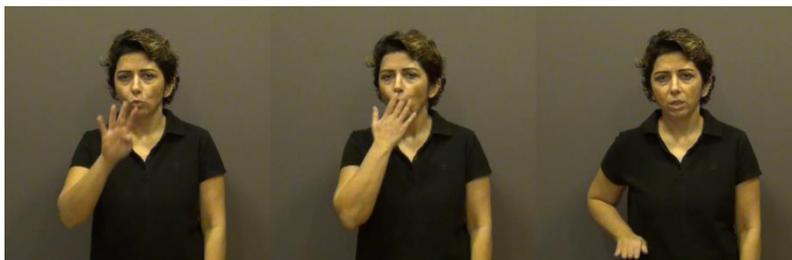


THREE
'three houses'

HOUSE+++

4.3.1. The position of the numeral

A numeral can precede a noun.



FOUR
'four students'

STUDENT

It can also follow a head noun.



PROJECT

TWO

THERE.IS

'There are two projects.'

4.3.2. Floating numerals

4.3.3. Definite and indefinite reading

4.3.4. Numeral incorporation

Numeral incorporation is the blending of the movement and place of articulation of a sign and the handshape of a numeral. In the following example, the numeral TWO is incorporated into WEEK.



TWO^WEEK

'Two weeks'

Signs that can be incorporated with a numeral are the following:

100s (200, 300, 400, 500, 600)

1000s (2000, 3000, 4000, 5000)

GRADE (2nd, 3rd, 4th, 5th, 6th)

HOUR (2, 3, 4, 5, 6)

WEEK (2,3,4,5,6^WEEK^AGO; 2,3,4,5,6^WEEK^LATER)

MONTH (2, 3, 4, 5)

YEAR (2, 3, 4, 5)

[video example]

(Kubus 2008: 88)

4.3.5. Measure Phrases

4.4. Quantifiers

Quantifiers [[Lexicon - Section 3.10.2.](#)] indicate the number or the amount of the set that the head noun in a noun phrase denotes. ALL, MANY, SOME, A.FEW and A.LITTLE are some of the quantifiers [[Lexicon - Section 3.10.2.](#)] that are found in TĪD.

4.4.1 The position of the quantifier

Quantifiers can occupy either a prenominal or a postnominal position. The following example shows the quantifier MANY occurring in prenominal position.

SCHOOL CLASS [MANY GIRL] THERE.IS
"There are many girls in class at school."

(adapted from Özsoy et al. 2012:8)

The following example shows the quantifier ALL occurring in postnominal position.

_____ yes/no q
SPOUSE+++ ALL IN
'All of the spouses included?'
[video example]

4.4.2. Floating quantifiers

4.5. Adjectives

There are different kinds of adjectives in TĪD [[Lexicon - Section 3.4.](#)]. An adjective in TĪD can denote quality, size, shape, color, origin, value, dimension, physical property, speed, human propensity and age.

4.5.1. Prenominal vs. postnominal adjectives

A prenominal adjective occurs before the noun.

[RED APPLE] EXIST
'There is a red apple.'

(Nuhbaloğlu and Özsoy 2014: 15)

A postnominal adjective occurs after the noun.

[RABBIT BIG] STRONG
'The big strong rabbit'

(Özsoy et al. 2012: 8)

The adjectives for size, age, color and value follow the head noun. YOUNG below expresses the age.

[PERSON YOUNG] INTERNET LIKE
'The young person likes internet.'

(Özsoy et al. 2012: 6)

COOL below expresses the value.

[MAN COOL] PUT-ON-COAT
'The cool man is putting on his coat.'

(Özsoy et al. 2012: 6)

Adjectives for physical properties, human characteristic/propensities and speed usually follow the head noun as well. The following are examples of a physical property and a human propensity, respectively.

SQUARE UNEVEN
'uneven square'

(Özsoy et al. 2012: 6)

[HUSBAND VERY JEALOUS] PROBLEM
'A very jealous husband is a problem.'

(Özsoy et al. 2012: 6)

Adjectives for difficulty, similarity and location also occur postnominally. The examples below exemplify adjectives of these notions respectively.

EXAM [QUESTION DIFFICULT] THERE.IS
'There was/is a difficult in the exam.'

(adapted from Özsoy et al. 2012: 6)

[PLACE DIFFERENT] STAY
'S/he lives in a different place.'

(Özsoy et al. 2012: 6)

SIBLING [BUILDING HIGH] LIVE
'My sibling lives in a high building'

(Özsoy et al. 2012: 7)

Adjectives can also occur preminally in TİD as the following examples show:

LONG BEARD
'long beard'

BROWN BEARD
'brown beard'

POINTED HEAD
'pointed head'

ROUND BOX
'round box'

HOT COFFEE
'hot coffee'

(Özsoy et al. 2012: 6)

Adjectives that indicate similarity or opposition can also occur prenominally. For instance, the adjective OTHER occurs prenominally below.

[OTHER DOG] FISH EAT^NEG
'The other dog didn't eat the fish.'

(Özsoy et al. 2012: 8)

4.5.2. Symmetric adjectives

Symmetric adjectives are those adjectives which can occur either in pre-nominal or post-nominal position. Colors are symmetric adjectives in TİD. In the examples below, YELLOW is post-nominal whereas RED is pre-nominal.

SUN YELLOW ROUND
'the yellow round sun'
(Özsoy et al. 2012: 8)

RED PANTS
'red pants'

(Özsoy et al. 2012: 8)

4.5.3. Reduplicated adjectives

An adjective can be repeated/reduplicated in the prenominal and postnominal position as the example below shows.

POINTED HAT POINTED
'A pointed hat'

(Özsoy et al. 2012: 9)

4.5.4. Ordering restrictions among adjectives

4.6. Multiple Noun Phrase Constituents

More than one modifier can precede or follow a noun in a noun phrase. The order of prenominal modifiers is shown in [Syntax - Section 4.6.1.] and the order of postnominal modifiers are shown in [Syntax - Section 4.6.2.].

4.6.1. Prenominal modifiers

An adjective and a numeral can precede a noun in either Numeral-Adjective-Noun order or in Adjective-Numeral-Noun order without any semantic difference.

[TWO BLACK DOG] SEE₃
'I saw two black dogs.'

(adapted from Nuhbalaoğlu & Özsoy 2014: 16)

[BLACK TWO DOG] SEE₃
'I saw two black dogs.'

(adapted from Nuhbalaoğlu & Özsoy 2014: 16)

Both Demonstrative-Adjective-Noun and Demonstrative-Numeral-Noun orders occur.

[IX BLACK DOG] SEE₃
'I saw the black dog.'

(adapted from Nuhbalaoğlu & Özsoy 2014: 16)

[IX TWO DOG] SEE₃
'I saw two dogs.'

(adapted from Nuhbalaoğlu & Özsoy 2014: 16)

Some orders where one modifier precedes the noun while another modifier follows the noun are also possible as exemplified below.

[BLACK DOG TWO] SEE₃
'I saw two black dogs.'

(adapted from Nuhbalaoğlu & Özsoy 2014: 18)

[TWO DOG BLACK] SEE₃
'I saw two black dogs.'

(adapted from Nuhbalaoğlu & Özsoy 2014: 18)

[IX CHILD LITTLE] TAKE

(adapted from Nuhbalaoğlu & Özsoy 2014: 18)

[IX DOG TWO] SEE₃

'I saw the two dogs.'

(adapted from Nuhbalaoğlu & Özsoy 2014: 18)

Two possible orders where two modifiers precede the head noun while a modifier follows the head noun are possible as the following examples show.

[IX BLACK DOG TWO] SEE₃

'I saw the two black dogs.'

(adapted from Nuhbalaoğlu & Özsoy 2014: 19)

[IX TWO DOG BLACK] SEE₃

'I saw the two black dogs.'

(adapted from Nuhbalaoğlu & Özsoy 2014: 19)

When all modifiers precede the head noun, the order Demonstrative-Numeral-Adjective-Noun is the preferred one. There are also two less preferred orders as shown below:

[IX TWO BLACK DOG] SEE₃

'I saw the two black dogs.'

(adapted from Nuhbalaoğlu & Özsoy 2014: 18)

[IX BLACK TWO DOG] SEE₃

'I saw the two black dogs.'

(adapted from Nuhbalaoğlu & Özsoy 2014: 18)

[TWO BLACK IX DOG] SEE₃

'I saw the two black dogs.'

(adapted from Nuhbalaoğlu & Özsoy 2014: 18)

4.6.2. Postnominal modifiers

Two modifiers can occur postnominally in the following orders:

[MALE ONE LITTLE] THERE.IS

(adapted from Nuhbalaoğlu & Özsoy 2014: 16)

[DUCK BABY LITTLE NINE] THERE.IS

(adapted from Nuhbalaoğlu & Özsoy 2014: 16)

There are two possible orders where a demonstrative occurs prenominally while two modifiers occur postnominally as exemplified below:

[IX DOG BLACK TWO] SEE₃
'I saw the two black dogs.'

(adapted from Nuhbalaoğlu & Özsoy 2014: 16)

[IX DOG TWO BLACK] SEE₃
'I saw the two black dogs.'

(adapted from Nuhbalaoğlu & Özsoy 2014: 16)

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Information on Data and Consultants

The descriptions in this chapter are partially based on the references below and partially on research done by the authors during the development of this chapter. In general, please see the data and consultant information in the references. The linguistic data in images and video clips that were produced or reproduced for this chapter were provided by a near-native fluent signing consultant who was born and raised in Istanbul.

The data for the original research are from the TİDBİL database which is part of the B - TİD (Boğaz rsity TİD) corpus.

References

Arik, Engin. 2006. Nonmanual markers and constituency in Turkish Sign Language (TİD). Ms. Purdue University.

Dikyuva, Hasan, Bahtiyar Makaroğlu & Engin Arık. 2015. *Türk İşaret Dili Dilbilgisi Kitabı [Turkish Sign Language Grammar Book]*. Ankara.

Nuhbalaoğlu, Derya. & A. Sumru Özsoy. (2014). Linearization in Noun Phrases in Turkish Sign Language. Paper presentation at *Formal and Experimental Advances in Sign Language Theory (FEAST Colloquium)*, Università Ca' Foscari. (9-11 June, 2014).

Özsoy, A. Sumru, Aslı Göksel, Meltem Kelepir & Derya Nuhbalaoğlu. 2012. NP structure and linearization in Turkish Sign Language [Türk İşaret Dilinde Ad Öbeği Yapısı ve İşaret Dizimi] Paper presented at the *7th International Turkish Language Conference (7. Uluslararası Türk Dili Kurultayı)*. Ankara, Turkey. (24-28 September, 2012)

Zeshan, Ulrike. 2002. Sign Language in Turkey: The story of a hidden language. *Turkic Languages*, 6(2), 229-274.

Zwitserslood, Inge, Pamela M. Perniss & Aslı Özyürek. 2012. An empirical investigation of multiple entities in Turkish Sign Language: Considering the effects of modality? *Lingua*, 122(14), 1636-1667. doi:10.1016/j.lingua.2012.08.010

Chapter 5 The structure of Adjectival Phrase

5.1. Intensifiers and other modifiers

5.1.1 Manual modifiers

5.1.2. Modifications of manual signs and non-manual modifiers

In TĪD, there are several ways of modifying a sign to intensify its meaning. The modification can occur by changing the internal structure of the sign such as changing the movement pattern, increasing the tension of the face and hand, and adding non-manuals such as eyebrow lowering, tilting the head back or puffed cheeks.

Changing the movement pattern into a slower movement generally denotes intensification. For instance, the sign RICH has a downward movement [Phonology - Section 1.3.] of V-handshape [Phonology - Section 1.1.1.] on the cheek [Phonology - Section 1.2.] but when this movement is produced at a slower rate, the sign VERY.RICH is derived.

RICH

[video example]

VERY.RICH

[video example]

(r.f. and adapted from Dikyuva et. al. 2015: 200)

Changing muscle tension on the face and the hand also denotes intensification. For example, the sign FAST is produced with 7-handshape [Phonology - Section 1.1.1.] and it has a repetitive movement but when the movement of the hands and non-manuals are exaggerated, the sign VERY.FAST is derived.

FAST

[video example]

VERY.FAST

[video example]

(r.f. and adapted from Dikyuva et. al. 2015: 200)

Lastly, adding some non-manuals to the signs can denote intensification as well. For example, the sign COLD is produced with both hands with ASL S-handshape and it has an inward movement from the wrist. However, when the movement becomes slower and puffing is added to the sign, it means VERY.COLD.

COLD

[video example]

VERY.COLD

[video example]

(r.f. and adapted from Dikyuva et. al. 2015: 201)

5.1.3. Iteration and stacking

5.1.4. Degree Comparatives

Degree comparatives express gradation between two or more items. They involve an adjectival predicate [Syntax - Section 2.1.1.]. This adjectival predicate is used to compare the subject of a first clause to the subject of a second clause [Syntax - Section 3.6].

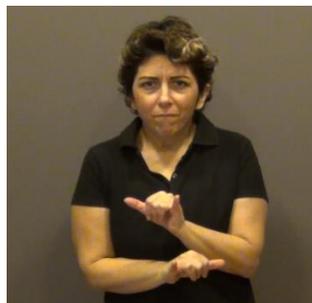
Degree comparatives are expressed in two allomorphic variations the use of which depend on the nature of the adjectival predicate used. The first allomorphic variant is the use of lexical degree signs, which are also called, parameter markers [Syntax - Section 3.6]. Two of these parameter marker signs are MORE and MOST, which express relative and absolute superiority. These markers are coarticulated with raised eyebrows and eye opening.

Another parameter marker is LESS which expresses relative but not absolute inferiority. This marker is coarticulated with eyebrow furrowing and eye squint.

The second morphological variant used in expressing degree comparatives is incorporation of the degree into the predicate sign, namely expressing BIGGER rather than MORE BIG. As can be seen from the examples below, these comparative signs consist of both manual and non-manuals. For the manual part the comparative morpheme is incorporated with the adjectival predicate. We illustrate this way of expressing comparison with two signs below. There is a semantic difference between these two signs and this is reflected in the way they are expressed. In the expression of BIGGER, the movement is outward but in the expression of THINNER, the movement is inward. For the non-manual part, the eyes are wide open with BIGGER and the eyebrows are raised whereas the eyes are squinted and the eyebrows are furrowed for THINNER.



BIGGER



THINNER

(r.f. Özsoy& Kaşıkara 2015: 22)

5.1.5. Superlatives

5.2. Arguments

5.3. Adjuncts

Information on data and consultants

Please see the data and consultant information in the references. The linguistic data in images and video clips that were produced or reproduced for this chapter were provided by a near-native fluent signing consultant who was born and raised in Istanbul.

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Burcu Saral

References

Dikyuva, Hasan, Bahtiyar Makarođlu & Engin Arık. 2015. *Türk İşaret Dili Dilbilgisi Kitabı [Turkish Sign Language Grammar Book]*. Ankara.

Özsoy, A. Sumru & Hüner Kaşıkara. in press. Comparatives in Turkish Sign Language (TİD). In: K. Wojtylak, Y. Treis & L. de Vries (eds.), *Comparative Constructions*. Free University of Amsterdam.

Pragmatics

Chapter 1. Reference

1.1. Deixis

1.1.1. Pointing

1.1.2. Social deixis

1.1.3. Lack of deixis

1.2. Definiteness

1.2.1. Manual marking

1.2.2. Non-manual marking

1.3. Indefiniteness

When a speaker assumes that his/her addressee does not know a discourse referent, s/he uses an indefinite noun phrase. Indefinite noun phrases can be of different forms: a full noun phrase [Syntax - Chapter 4.] with an indefinite determiner such as *a* or *some* plus a common noun as in *a student*, a noun phrase with a common noun but no determiner as in “*There is snow on the roads.*”, and an indefinite pronoun [Lexicon - Section 3.7.7.] with the meaning ‘someone’. Indefinites are usually used to introduce new referents into the discourse [Pragmatics - Chapter 5.].

In T1D, indefinite discourse referents can be expressed in the following ways: (i) common nouns with no determiner, (ii) noun phrases with an indefinite determiner, and (iii) pronominal forms which are usually indefinite determiners functioning as pronouns. The first type is described here whereas the latter two will be described in the following sections.

Existential and possessive constructions [Syntax - Section 2.1.5.] typically contain common nouns with no indefinite determiner that are interpreted as indefinite expressions. MILK is an indefinite expression in the existential clause in (a) and so is SISTER in the possessive construction in (b).

- a. FRIDGE_a IX_a MILK THERE-IS
‘There is milk in the fridge.’
- b. IXPOSS₁ SISTER THERE-IS
‘I have a sister.’

It is also possible to have indefinite noun phrases in the object position.

IX₁ MILK WANT
'I want milk.'

1.3.1. Manual marking

Nouns can be preceded by indefinite determiners. Common indefinite determiners are ONE, SOME and OTHER.



ONE

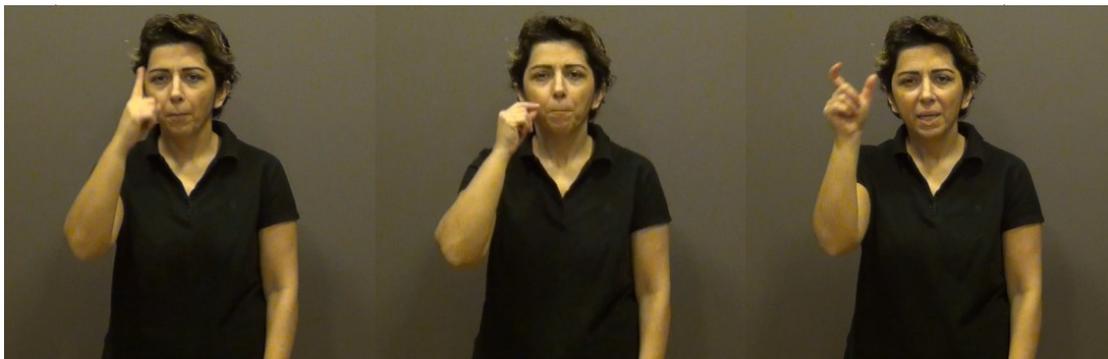
SOME

[video example]

OTHER

[video example]

These can also occur alone or with signs meaning 'person' and function as indefinite pronouns with the meaning 'someone'. A common such form of the latter type is ONE^PERSON^C_PERSON.



ONE

'someone'

PERSON

C_PERSON

(r.f. Kelepir et al. in press-a: xx)

PERSON has the narrowed-O-handshape and is articulated on the cheek on the ipsilateral side with one quick movement. C_PERSON, on the other hand, has the C-handshape and is articulated with a downward movement in the frontal plane.

ONE^PERSON^C_PERSON DOORBELL PRESS

‘Someone is ringing the door.’ (adapted from Kelepir et al. in press-a: xx)

The following combinations are also possible: PERSON^C_PERSON, ONE^PERSON and ONE^C_PERSON, the last one used very infrequently.

These forms can be interpreted as specific and non-specific, depending on the non-manual markers (see [Pragmatics - Section 1.4.2.]). There are other indefinite forms that can only be interpreted as non-specific. Those are discussed in [Pragmatics - Section 1.4.1.].

1.3.2. Non-manual marking

1.4. Specificity

As mentioned in [Pragmatics - Section 1.3.] indefinites are used when the speaker assumes that the addressee is not familiar with a certain individual/thing. Indefinites are further divided into specific and non-specific. A speaker uses a specific indefinite when s/he knows the referent or has a certain individual/thing in mind and a non-specific indefinite when s/he does not know the referent or does not have a certain individual/thing in mind.

The indefinite forms described in [Pragmatics - Section 1.3.] can be used to express both specific and non-specific individuals/things. The difference is expressed through the presence vs. absence of non-manual marking of non-specificity which is described in [Pragmatics - Section 1.4.2.] below.

1.4.1. Manual marking

There are no manual signs that express specificity but there are signs that unambiguously express non-specificity. These are the following determiners: OTHER and ONE_{lateral-high}. These can combine with common nouns to derive indefinite noun phrases as well as with PERSON and C_PERSON to derive indefinite pronominals. They can also occur alone functioning as indefinite pronominals. As mentioned above, these forms are used when the signer does not know the referent or has no referent in mind. Sentences with these forms can be followed by ‘... but I don't know who.’.

The first set of the following examples illustrate different forms with OTHER. It is articulated with a movement towards the lateral signing space, as shown in the Figure below.

OTHER ‘someone’

OTHER^ONE^C_PERSON ‘someone’

ONE^OTHER 'someone'



OTHER
'someone'

ONE

C_PERSON

(r.f. Kelepir et al. in press-b: xx)

ONE_{lateral-high} can function as an indefinite pronominal or combine with PERSON and C_PERSON. It has the same handshape as the numeral ONE but it is articulated by pointing the index finger towards the higher region of the (ipsi-) lateral signing space.

ONE_{lateral-high}
'someone (non-specific)'

ONE_{lateral-high} ^PERSON ^C_PERSON
'someone (non-specific)'



ONE_{lateral-high}
'someone'

(r.f. Kelepir et al. in press-b: xx)

For some signers, potential referents of these forms with OTHER and ONE_{lateral-high} exclude the addressee and also perhaps other people socially or physically close to the signer such as the co-workers. Non-specific indefinite referents in contexts that involve, for instance, inappropriate acts such as throwing bottles into the sea, leaving trash on a desk, stealing, smoking etc., are expressed more frequently with these forms than with the more neutral forms such as the ONE^PERSON C_PERSON described in [Pragmatics - Section 1.3.1.] This exclusive reading is represented as 'someone (non-specific, exclusive to our group)' in the translations of the examples below. These examples have been adapted from Kelepir et al. (in press-b: xx).

non-sp

PHONE OTHER ₁STEAL₃

'Someone (non-specific, exclusive to our group) has stolen my phone.'

non-sp

ONE ^ OTHER SHOE ₁STEAL₃lateral-high

'Someone (non-specific, exclusive to our group) has stolen my shoe.'

non-sp

OTHER ^ ONE ^ C_PERSON SEA WATER BOTTLE THROW FINISH

'Someone (non-specific, exclusive to our group) has thrown the water bottle into the sea.'

non-sp

POSS-IX₁ PHONE ONE lateral-high ^ PERSON ^ C_PERSON ₁STEAL₃lateral-high

'Someone (non-specific, exclusive to our group) has stolen my phone.'

When an argument is non-specific indefinite (and exclusive in the sense explained above) and the verb is an agreement verb [[Lexicon - Section 3.2.2.](#)] that inflects for that argument, the agreement marker is also articulated in the higher region of the ipsilateral side of the signer.



₁STEAL₃lateral-high

'Someone stole.'

(r.f. Kelepir et al. in press-a: xx)

1.4.2. Non-manual marking

The non-manual markers of non-specificity are brow furrowing, lowered mouth corners and averted eye gaze.



non-manual markers of non-specificity

(r.f. Kelepir et al. in press-a: xx)

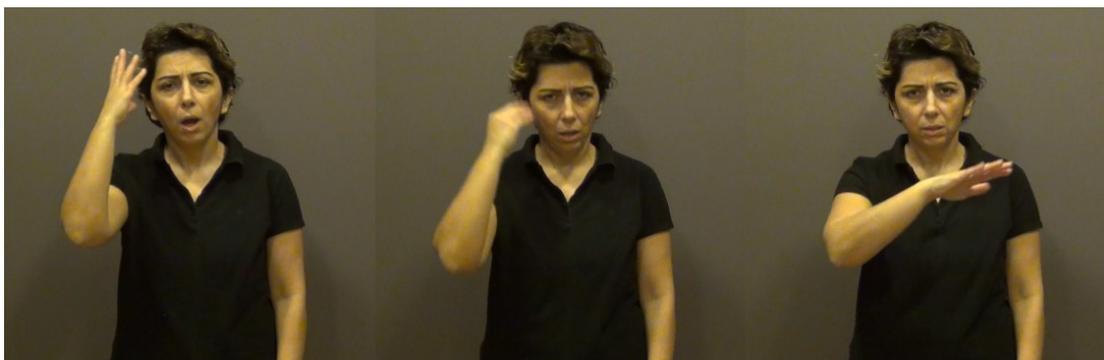
1.5. Impersonal reference

Impersonal reference refers to cases where the referent of an individual in the discourse is not clear or its degree of reference is very low. Such referents are usually expressed by the following: non-specific indefinite pronouns, see [Pragmatics - Section 1.4.]; a multiple/plural marker on the verb [Morphology - Section 3.1.2.] that does not refer to a referential set of individuals; 1st or 2nd person pronominal marking with impersonal reference, either with pronouns [Lexicon - Section 3.7.] or with person agreement [Morphology - Section 3.1.] on the verb.

In the following example, the verb UNDERSTAND is marked with multiple/plural. However, the subject of the verb is understood not to refer to a definite set of people.

FEDERATION PRESIDENT_{3a} TEN MINUTE LATE SAY IX_{3a} DRUNK LATE Ø UNDERSTAND-3pl
 'They said the president of the federation was ten minutes late and they/people (impersonal) understood that he was drunk.'

(Kelepir et al. in press-a: xx)



UNDERSTAND

3pl

(r.f. Kelepir et al. in press-a: xx)

Information on data and consultants

The descriptions in this chapter are based on the references below. Please see the data and consultant information in these references. The linguistic data in images and video clips that were produced or reproduced for this chapter were provided by a near-native fluent signing consultant who was born and raised in Istanbul.

Authorship information

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References

- Arık, Engin. 2013. Expressions of space in Turkish Sign Language. In E. Arık (Ed.), *Current directions in Turkish Sign Language research*, 219-242. Newcastle upon Tyne, UK: Cambridge Scholars Publishing.
- Arık, Engin. 2016. Türk İşaret Dili'nde mekânsal dil. In E. Arık, *Ellerle Konuşmak: Türk İşaret Dili Araştırmaları*, 315-336. İstanbul: Koç Üniversitesi Yayınları.
- Dikyuva, Hasan, Bahtiyar Makaroğlu & Engin Arık. 2015. *Türk İşaret Dili Dilbilgisi Kitabı [Turkish Sign Language Grammar Book]*. Ankara.
- Kelepir, M., A. Özkul & E. Tamyürek Özparlak. in press-a. Agent-backgrounding in Turkish Sign Language (TİD). In *R-Impersonals in Sign Languages. Special Issue. Sign Language and Linguistics* ed. by G. Barberà & P. Cabredo Hofherr.
- Kelepir, Meltem, Aslı Özkul & Elvan Tamyürek Özparlak. In press-b. Clusivity distinction in indefinites in Turkish Sign Language (TİD). *Proceedings of the 53rd Annual Meeting of the Chicago Linguistic Society*, May 25-27, 2017, University of Chicago.
- Kubus, Okan 2016. *Relative Clause Constructions in Turkish Sign Language*. Hamburg, Germany: University of Hamburg PhD dissertation.

Chapter 2. Reference tracking

Reference tracking is about the cues according to which addressees keep track of the identity of referents in discourse. A referent is usually introduced to the conversation with an indefinite form [Pragmatics - Chapter 1.3.]. After the introduction, it is usually inappropriate to use long chunks of words (such as noun phrases) for a referent that is mentioned again. Instead, a shorter underspecified form is used such as pronouns [Lexicon – Chapter 3.7.]; verbal agreement [Morphology - Chapter 3.1.]; classifiers [Morphology - Chapter 5]; and buoys [Pragmatics - Chapter 2.2.3.]. The meaning of these forms are understood by referring back to the original introduction (antecedent) of the referent. The referent is expressed via different linguistic strategies depending on its place in the discourse and common ground between the interlocutors [Pragmatics - Chapter 5.3].

2.1. Pronouns

The pronoun types in TĪD are person, honorific, possessive, locative/demonstrative, emphatic, reciprocal, interrogative, and relative [Lexicon - Chapter 3.7.]. Person pronouns distinguish first person and non-first person (2nd or 3rd person). The number information can either be singular, dual, or plural. Locative/demonstrative pronouns can be topographical or abstract pointings. Reflexive pronoun SELF in TĪD is combined with a personal pronoun, or the referent is identified from the previous context. It is generally used with emphatic (intensification) meaning.

IX₃ SELF KNOW^NOT

‘S/he himself doesn’t know.’

[video example]

(adapted from Zeshan 2002: 263)

THINK BETTER SELF CLEAN

‘(I) would rather do the cleaning myself.’

[video example]

(adapted from Zeshan 2002: 263)

Reciprocal pronouns refer to multiple entities where both parties do an action and get effected by the action. Interrogative pronouns are question words such as WHAT/HOW, WHERE, HOW-MANY, WHEN, WHO, and WHY [Syntax - Section 1.2.3.2.]. Relative pronouns in TĪD occur clause-finally which are phonetically identical to indexical signs.

2.2. Other means

The most prototypical device for reference tracking is pronouns. However, various other strategies are used in TĪD such as spatial agreement, classifier handshapes, and buoys.

2.2.1. Agreement

TİD has spatial verbal agreement [Morphology - Chapter 3]. Agreement verbs change their direction of movement and sometimes hand orientation. In this way certain spatial loci are associated with arguments (agent, patient, etc. [Semantics - Chapter 6]). Generally, the referents are assigned distinct loci in the beginning of discourse. In following utterances, the referents are not articulated overtly, but rather inferred from the initial and final locations of verbs. One such stretch of discourse is exemplified below:

BOY_a GIRL_b BOOK_a GIVE_b
'The boy gave the book to the girl'
[video example]

While agreement verbs generally denote agent and patient, spatial verbs agree with topographic information, source and goal [Morphology - Chapter 3 and Lexicon - Section 3.2.3].

SCHOOL_a HOME_b WALK_b
'I walked from school to home'
[video example]

2.2.2. Classifier handshapes

Classifier handshapes indicate the shape features of an entity such as vehicles, flat objects, long thin objects, etc. Alternatively, classifier handshapes copy the shape of a body-part or hands during object manipulation [Morphology - Chapter 5]. The former category is called entity classifiers [Morphology - Section 5.1.1.], whereas the latter two are body-part [Morphology - Section 5.1.2.], and handle classifiers [Morphology - Section 5.1.3.] respectively. Felicitous usage of classifiers require lexical introduction of the referents as in the sentence below.

h1: GAS-STATION CL.GENERAL.ENTITY_b CAR_a CL.VEHICLE.MOVE_b
h2: GAS-STATION CAR CL.GENERAL.ENTITY_b
'The car entered the gas station.'

2.2.3. Buoys

Buoys are forms produced on the non-dominant hand for purposes of listing a number of referents (such as items in a schedule or family members), or denoting a salient referent by pointing to the referent by the non-dominant hand or alternatively holding the non-dominant hand component of the referent's lexical sign [Lexicon - Chapter 1.2.3].

Buoys that list referents are called list buoys. In the example below, the signer lists her relatives. The dominant hand is later used to refer back to a single or multiple items in the list.

h1: THREE SIBLING EXIST IX_{b,c} WOMAN IX_a MAN

h2: THREE _____

‘I have three siblings. Two of them are female, the other one is male.’

[video example]

A prominent discourse referent, that is, a topic that has been continuously referred to during a conversation is held constant by pointer buoys.

h1: IX SOMETHING IX MISTAKE EXIST

h2: IX _____

‘That (person) made a mistake’

[video example]

In fragment buoys, the non-dominant hand of a lexical sign is held stationary to maintain a repeatedly mentioned referent. In the example below, the referent (FILM for the TV series Spartacus) is mentioned for the fourth time in total by the interlocutors:

h1: FILM MAN DIE PALM-UP

h2: FILM _____

‘The man dies in that film.’

[video example]

Information on data and consultants

Please see the data and consultant information in the references. The linguistic data in images and video clips that were produced or reproduced for this chapter were provided by a near-native fluent signing consultant who was born and raised in Istanbul.

Authorship information

Süleyman S. Taşçı

References

Dikyuva, Hasan, Bahtiyar Makaroğlu & Engin Arık. 2015. *Türk İşaret Dili Dilbilgisi Kitabı [Turkish Sign Language Grammar Book]*. Ankara.

Kubus, Okan 2016. *Relative Clause Constructions in Turkish Sign Language*. Hamburg, Germany: University of Hamburg PhD dissertation.

Sümer, Beyza. 2015. *Scene-setting and Referent Introduction in Turkish and Turkish Sign Language (Türk İşaret Dili, TİD): What Does Modality Tell Us?*. Istanbul, Turkey: Boğaziçi University MA Thesis.

Zeshan, Ulrike. 2002. Sign Language in Turkey: The story of a hidden language. *Turkic Languages*, 6(2), 229-274.

Chapter 5. Discourse structure

5.1. Coherence and discourse markers

5.1.1. Manual discourse markers

5.1.2. Non-manual discourse markers

5.1.3. Strategies using signing space

5.2. Cohesion

5.2.1. Manual strategies

5.2.2. Non-manual strategies

5.2.3. Strategies using signing space

5.3. Foregrounding and backgrounding

TiD uses non-manual (squint in relative clauses) or manual strategies (fingerspelling and mainly entity classifiers) to identify the foregrounded and backgrounded information (See also [Pragmatics - Chapter 2]). Foregrounding information refers to highlighting the most salient piece of discourse. The less-salient stretch of discourse, which does not make the discourse advance, is considered backgrounded. In simple terms, a foregrounding strategy tells the addressee that “this is a new information and I will most probably say more about it” (introduction) or “I have talked about this information some time before and now I bring back the topic again” (reintroduction). Conversely, a backgrounding strategy tells the addressee that “This is an information that I have given you earlier, please keep this information in mind for a while since I might say something about it” (maintenance).

Generally, foregrounded and salient information is expressed by relatively long units (e.g. noun phrases) whereas backgrounded information is typically expressed by shorter units such as pronominals, classifiers, role shift, or not expressed at all. The latter forms generally denote previously mentioned referents or referents that are already known, perceived or attended by both the signer and the addressee (e.g. an object in the room where the conversation takes place).

One typical backgrounding strategy is holding the non-dominant hand of a sign while the dominant hand keeps on signing. In the example below, the demonstrative pronoun in the non-dominant hand is kept active during the whole utterance, backgrounding the person information who is introduced earlier in the narrative [Lexicon - Chapter 1.2.3].

h1: IX SOMETHING IX MISTAKE EXIST

h2: IX _____

‘That (person) made a mistake’

[video example]

When talking about temporally advancing events (narratives), relative clauses are occasionally used for foregrounding, that is, introducing a referent into discourse. The last line in the example below is such an utterance where a relative clause is used for introducing the referent ‘the girl’.

“A woman and her son live in a house in a village.

The son wants to get married.

However, the mother is a very bad person.

She has complained about the girlfriends that he has had so far.

The girl, who is from a village far away, loves the boy.”

_____sq

[GIRL FAR VILLAGE IN] BOY_i IX_i LOVE

The girl, who was from a village far away, loved the boy.

(adapted from Kubus 2016: 209)

As another strategy of foregrounding, relative clauses in narratives are usually used for reintroducing a referent that has been mentioned before:

“(…) There were three women, who had known each other for years. One woman was married. Another woman married soon after. The other woman was still single. (…).

The first (woman), who was already married, met the single woman.”

_____br
_____hn hn
_____sq ‘o’ _____sq

[BUOY:1 MARRY FINISH IX_i] SINGLE_j CL-MEET_(i,j)

The first (woman), who was already married, met the single woman.

(Kubus 2016: 192)

Occasionally, relative clauses fulfill backgrounding function when it gives extra background information about an already mentioned referent:

_____hn _____hn
GERMANY IX IN ONE YOUNG PERSON E-V-E-N-T GOOD WATCH

_____br _____hn

[IX_i HEARING ONE FRIEND_i FILM_i ;GIVE₁] IX₁ CHANGE SIGN FILM₁ ;TELL₂

“I heard a good and thrilling story about a young boy in Germany. I changed the story, which a hearing friend told me, and will tell the story to you all.”

(Kubus 2016: 264)

Information on data and consultants

Please see the data and consultant information in the references. The linguistic data in images and video clips that were produced or reproduced for this chapter were provided by a near-native fluent signing consultant who was born and raised in Istanbul.

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References

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Sümer, Beyza. 2015. *Scene-setting and Referent Introduction in Turkish and Turkish Sign Language (Türk İşaret Dili, TİD): What Does Modality Tell Us?*. Istanbul, Turkey: Boğaziçi University MA Thesis.

Chapter 6. Reporting and role shift

6.1. Attitude role shift and (in)direct speech

Attitude role shift indicates that the signer quotes from another person's utterances, thoughts or attitudes such as actions, gestures, and facial expressions. The markers of role shift are body shift, change in the direction of eye gaze, and altered facial expressions [Syntax - Chapter 3.3.3].

During quotation (direct speech), the loci of referents in signing space might shift from that of the actual signer to the perspective of the quoted person. First and second person pronouns as well as the person reference of agreement verbs are shifted to the perspective of the quoted person. In the attitude shift sentence below, the goal of the verb ASK is the quoted person, yet the spatial goal is the body of the signer.

²ASK₁

'Ask me'

[video example]

(adapted from Kelepir & Göksel 2013: 196)

SAY is a frequently used agreement verb to introduce (in)direct speech. It behaves differently than regular agreement verbs in two respects: SAY is sometimes repeated within a single utterance, and SAY can be articulated with the non-dominant hand. These are exemplified below respectively:

SEMRA SAY MELEK WHAT DO SAY

'Semra asked "What is Melek doing?"'

_____hold

GUEST ARRIVE SAY

[H1.....] [H2]

'... said that guests arrived.'

(adapted from Kelepir & Göksel 2013: 205-206)

Rarely, the non-dominant hand is held stationary while the dominant hand produces the quoted utterance. The intermittent or continuous nature of SAY helps the procession of discourse as the addressees should get "who says to whom" information that change frequently during a narrative that has plenty of attitude role shift.

6.2. Action role shift

In action role shift or constructed action, the signer imitates real world actions and facial expressions. This special type of 'quotation' or reported action involves a considerable degree of facial expressions, head and body movements as expressive means to narrate an event in a

vivid manner. Eye-gaze break and body rotation are important characteristics in constructed action as in attitude role shift. The spatial arrangement of referents and actions is based on the vantage point of the reported actor in character perspective, or role shifted utterance can involve elements from both character and observer perspectives yielding an interaction with transitivity and classifier types [Pragmatics - Chapter 8.3]. The amount of visual detail is up to the signer's narrative style. See below two examples where the same event is produced without and with action role shift respectively:

DOG MAN_a IX_a BITE_a
[video example]

rs: DOG
DOG MAN IX_a BITE_a
[video example]

Here is an example with an intransitive verb WALK:

MAN WALK
[video example]

The same event can be expressed with more visual details as in the example below:

rs: MAN, JOYFUL
MAN WALK
'The man walks joyfully.'
[video example]

The action role shift portion of the sentences above only contains the imitation of an animate entity (the dog, the man). Action role shift can also incorporate lexical and classifier predicates [Morphology - Chapter 5]. The two events in the examples above are presented with alternative realizations with various combinations of role shift with lexical, and classifier predicates.

Action role shift combined with classifier predicates:

rs: MAN-SLOW____
MAN SELF SLOW CL.PERSON.WALK
'The man is walking slowly.'
[video example]

Action role shift combined with both lexical and classifier predicates:

rs: MAN-AFRAID _____
... CL.EYES-BACK OBSCURE DOG IX-3 FEAR CL.PERSON.WALK RUN-AWAY

‘He looked back and feared whether there is a dog. He walked with fear and ran away.’

Information on data and consultants

The descriptions in this chapter are partially based on the references below and partially on research done by the author during the development of this chapter [Section 6.2.]. Please see the data and consultant information in the references. The linguistic data in images and video clips that were produced or reproduced for this chapter were provided by a near-native fluent signing consultant who was born and raised in Istanbul.

Authorship information

Süleyman S. Taşçı

References

- Arik, Engin. 2013. Expressions of space in Turkish Sign Language. In E. Arik (Ed.), *Current directions in Turkish Sign Language research*, 219-242. Newcastle upon Tyne, UK: Cambridge Scholars Publishing. [6.2]
- Arik, Engin. 2016. Türk İşaret Dili’nde mekânsal dil. In E. Arik, *Ellerle Konuşmak: Türk İşaret Dili Araştırmaları*, 315-336. İstanbul: Koç Üniversitesi Yayınları. [6.2]
- Kelepir, Meltem & Aslı Göksel. 2016. Türk İşaret Dili’nde Aktarılmış Anlatımın Özellikleri. In E. Arik, *Ellerle Konuşmak: Türk İşaret Dili Araştırmaları*, 337-360. İstanbul: Koç Üniversitesi Yayınları. [6.1]
- Kelepir, Meltem & Aslı Göksel. 2013. Aspects of Reported Utterances in Turkish Sign Language. In E. Arik (ed.), *Current Directions in Turkish Sign Language Research*, 191-218. Newcastle upon Tyne, UK: Cambridge Scholars Publishing. [6.1]
- Kubus, Okan 2016. *Relative Clause Constructions in Turkish Sign Language*. Hamburg, Germany: University of Hamburg PhD dissertation. [6.2]

Chapter 8. Signing space

8.1. Uses of signing space

Signing space is the three-dimensional area where the hands can move during signing. The spatial locations of referents [Pragmatics - Chapter 1] involve either an abstract or topographical use. Abstract use assigns referents arbitrarily to certain locations. In other words, the meaning of the sentence does not change if a referent is assigned a different location. Topographic use makes an analogy between the spatial arrangement of entities in the real world and that of hands in the signing space. In addition, signing space can be used as a metaphor for the abstract concept time. Certain timelines in signing space are used to express concepts such as past, present, future, before, and after [Morphology – Section 3.2.1.]. Finally, events can be narrated via various perspectives and frames of reference.

8.1.1. Abstract use

8.1.2. Topographic use

Topographic use of space renders signing space a small-sized model of entities and their spatial arrangements. When talking about static spatial interrelations of entities, the most typical construction is in the form of GROUND FIGURE GROUND.FIGURE. In this construction, first the GROUND is mentioned, and then it is followed by the FIGURE. Finally, the FIGURE is localized with a downward movement with respect to the GROUND. See below an example in this typical construction pattern:

h1: TABLE BOWL APPLE CL.ROUND.OBJECT_{LOCATION: LEFT-HAND}
h2: BOWL-CL.ROUND.OBJECT_____

‘There is a bowl (on the) table. The apple is in the bowl’
[video example]

Another but less common construction type involves producing lexical signs followed by locative predicates that express the loci of entities with respect to each other.

h1: SHIP TWO CL.GENERAL.ENTITY-LOC_a CL.GENERAL.ENTITY-LOC_b
h2: SHIP CL.GENERAL.ENTITY_a_____

‘Two ships are side by side’
[video example]

Describing locative relations may involve Size-and-Shape-Specifiers [Morphology - Section 5.2.] to express figure information but rarely. In other words, FIGURE element can be expressed by a tracing outline of the entity:

WALL_a SASS.RECTANGULAR.OBJECT RECTANGLE-LOC_a

‘The painting is on the wall.’

[video example]

As for ON and NEXT.TO relations between entities, TĪD uses simultaneous or sequential constructions with equal tendency. In other words, the entities might be expressed by each hand at the same time, or one after another with the same hand. Alternatively, the same sign can be repeated in different locations.

Another aspect of ON and NEXT.TO relations is that simultaneous constructions are more commonplace in NEXT.TO relations than ON. In sequential constructions the two entities are localized in separate time slots with a repeating locative predicate in separate loci [Morphology - Chapter 4.1.]. In the example below a sequential construction is followed by a simultaneous localization of the four entities with the numeral FOUR which incorporates a locative downward movement.

[video]

SHIP_a SHIP_b SHIP_c FOUR-LOC

(adapted from Perniss, Zwitserlood, & Özyürek 2011: 1595)

In simultaneous constructions the entities are represented at the same time with either a single hand (as in the example below) or two classifier handshapes [Morphology - Chapter 5]. Both unimanual and bimanual simultaneity are used with equal tendency when talking about NEXT.TO relations. See below an example sentence with bimanual simultaneity:

h1: APPLE CL.ROUND.OBJECT-LOC_a

h2: CL.ROUND.OBJECT-LOC_b

‘Two apples are side by side.’

[video example]

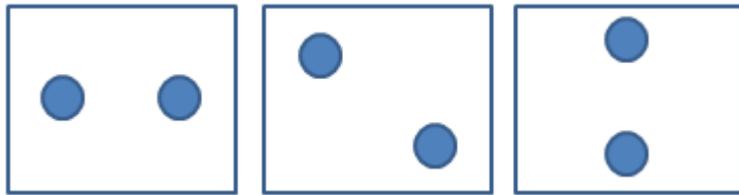
Besides classifier constructions, alternatively (or in addition to classifiers), relational lexemes are sometimes used to express relations such as NEXT.TO, ON, UNDER, IN. The order in these constructions are typically in GROUND FIGURE RELATIONAL-LEXEME format. See below an example with a relational lexeme:

TABLE TELEPHONE ABOVE

‘The telephone is on the table’

[video example]

If there are two entities TĪD may use certain classifier constructions [Morphology - Chapter 5] to differentiate lateral, saggital, and diagonal configurations when describing static spatial relations and dynamic spatial events. See below signed descriptions of two apples in three axial configurations: lateral, diagonal, and saggital:



lateral axis diagonal configuration saggital axis

(adapted from Arik 2003: 66-67)

lateral

[video example]

diagonal

[video example]

saggital

[video example]

Generally, the spatial layout in the real world is reflected faithfully in signing space as in the examples above. However, the orientation and location of entities might not directly reflect real arrangement of entities. For example, the orientation of the set of objects described may use different axes, namely frontal or lateral, in order to describe the same spatial arrangement. See below two sentences which denote the same spatial arrangement on lateral and saggital axes. The first sentence is not faithful to the real-world layout in terms of location, and the second one in terms of orientation.

h1: CAR

CL.VEHICLE_{location left, orientation right}

h2: CAR

CL.VEHICLE_{location right, orientation right}

[video example]

(adapted from Arik & Nadolske 2006: 8)

h1: CAR

CL.VEHICLE_{location proximal, orientation away}

h2: CAR

CL.VEHICLE_{location distal, orientation away}

[video example]

(adapted from Arik & Nadolske 2006: 9)

In static configurations of two animate-like entities with intrinsic frontness and backness (the front of an animal is its head), orientation information is always expressed. Whether location, axis, situation (static vs. dynamic) information is faithfully represented in sign depends on the axial and facing configuration of two entities in the real world. For example, more spatial information is likely to be represented in sign, if two entities face each other on the lateral axis than two entities facing opposite sides on saggital axis. See below two examples respectively:

NEAR-PAST

[video example]

FAR-PAST

[video example]

When timepoints are described with respect to a reference point, generally the *sequence time line* is used which is from contralateral to ipsilateral signing area (lateral axis). This time line is observed in lexical items such as AFTER which is used as a connective between consecutive events:

AFTER

[video example]

In construction level, when giving information about a specific time interval, *sequence time line* can be used. See below an example where two dates and the interval between them are located with a downward movement along the lateral axis.

h1: FIFTEEN AUGUST IX_A UNTIL_B THIRTY AUGUST IX_B-LOC VACATION

h2: IX_a _____ IX_a-LOC VACATION

‘I am on vacation from 15 August to 30 August’

[video example]

8.3. Perspective

Narrating a spatial event requires a preference of a certain perspective or viewpoint. In turn, the particular perspective goes parallel with certain grammatical structures (such as the type of classifier to be used) and localization of referents. Two main perspectives are used in TĪD: *character perspective*, and *observer perspective* (See also [Pragmatics - Chapter 6]). To exemplify, see below an event (a woman carrying a tray) from character and another event (a woman approaching) with observer perspective:

WOMAN CL.PERSON-APPROACH

‘The woman approached me.’

[video example]

WOMAN SELF CL.HANDLING-CARRY.TRAY

‘The woman carried the tray.’

[video example]

In character perspective, the event is narrated from the vantage point of the character in the utterance (which is *the woman* in the examples below). The signer's body is integral to the signing space since the whole body of the signer assumes the role of the referred character. The size of movements and entities are close to real world size. Observer perspective on the other hand, takes a vantage point external to the signer. The signing space does not include the signer's body, but includes the area in front of the signer. The size of movements and entities in events are scaled down to the size of the area in front of the signer. In the examples above, the movement of arms during walking are visible in character perspective, but not in observer perspective. *The man* is represented by hand, not the whole body. Another difference between character and observer perspective is that the former usually uses the sagittal axis whereas the latter resorts to the lateral axis.

As for classifier types, handling classifiers generally co-occur with character perspective. The hands animate the hands of referents in handling classifiers while signer's body represents the body of referents (as in the example above where a woman carries a tray). As entity classifiers are small-sized models of entities, they commonly occur in observer perspective (as in the example above where a woman approaches to the signer).

This type of *aligned constructions* generally represent a single animate character and a single inanimate entity. Typically, character perspective with handling classifiers denotes a transitive event where an agent manipulates an object, whereas observer perspective with entity classifiers refer to intransitive events where the agent gets involved in a non-manipulative action.

Rarely, entity classifiers can be produced with character perspective, and handling classifiers with observer perspective. The former commonly expresses intransitive activities of inanimate characters whereas the latter represents intransitive actions of two animate entities at the same time. See below examples for these two types of *non-aligned constructions* respectively.

Character perspective with entity classifier (inanimate, intransitive)

h1: ...

h2: CL.ENTITY-CAKE-FALL

'The cake fell in front of the mouse (the signer)'

[video example] (adapted from Perniss & Özyürek 2008: 363-364)

h1: MOUSE-LOC_a CL.HANDLING-HOLD-PAN

h2: ELEPHANT-LOC_b CL.HANDLING-HOLD-PAN

'The mouse and the elephant are flipping the pancake back and forth between each other'

[video example] (adapted from Perniss & Özyürek 2008: 362)

Besides character and observer perspectives, *fused perspective* combines two perspectives together. The head and torso of the signer represents the activity of the character and at the same time orient towards locations according to observer perspective, whereas the frontal

signing area represents the zoomed-out entities or movements of events. See below a sentence which is produced in fused perspective:

Fused perspective

h1: FALL-ON-FLOOR-IN-FRONT-OF-MOUSE (signer/observer)

h2: CL.ENTITY-PANCAKE_____

‘The pancake fell in front of the mouse’

[video example]

(adapted from Perniss & Özyürek 2008: 65)

Besides the character/observer distinction, when describing the location of an entity with respect to another one, there are mainly two strategies of specification which are called *frames of reference*. When *egocentric frame of reference* is used, the objects are located as seen by the narrator or the addressee. *Allocentric frame of reference* allows to represent entities with respect to other fixed entities, or alternatively intrinsic features of objects. The realization in signing space is influenced by the frame of reference choice.

Along the frame of reference distinction, two alternative descriptions are possible which denote two entities that are located on, for example, the saggital axis according to the signer’s viewpoint. In a description of this layout with egocentric perspective, the saggital axis in signer’s viewpoint is faithfully represented on the saggital axis of signing space. See an example sentence below:

h1: WOMAN THERE MAN CL.PERSON_{location proximal}

h2: CL.PERSON_{location distal}_____

‘The woman and the man are side-by-side in the middle and facing left’

[video example]

(adapted from Arik 2013: 222)

If allocentric perspective is adopted to represent the same layout, the objects are localized in signing space only with respect to each other. Since lateral axis is used instead of saggital axis in the real scene, the axial information is omitted.

h1: (...) CL.PERSON_{location proximal}

h2: CL.PERSON_{location proximal}

[video]

(adapted from Arik 2013: 223)

The preference for one frame of reference is not influenced by the sitting orientation of interlocutors. However, when addressees respond to narrators, the addressees tend to adopt the perspective of narrators.

Information on data and consultants

Please see the data and consultant information in the references. The linguistic data in images and video clips that were produced or reproduced for this chapter were provided by a near-native fluent signing consultant who was born and raised in Istanbul.

Authorship information

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References

- Arık, Engin. 2016. Türk İşaret Dili'nde mekânsal dil. In E. Arık, *Ellerle Konuşmak: Türk İşaret Dili Araştırmaları*, 315-336. İstanbul: Koç Üniversitesi Yayınları.
- Arık, Engin & Marie A. Nadolske. 2006. Conceptualization of space in Turkish Sign Language (TID). Paper presented at the *8th Conference on Conceptual Structure, Discourse, and Language: Language in Action (CSDL8) at UCSD*. La Jolla, CA. (November 3-5 2006.)
- Arık, Engin & Marina Milkovic. 2007. Perspective taking strategies in Turkish Sign Language and Croatian Sign Language. In R. Shields (Ed.), *LSO Working Papers in Linguistics 7: Proceedings of WIGL 2007*. 17-31.
- Arık, Engin. 2003. *Spatial representations in Turkish and Sign Language of Turkey (TID)*. Amsterdam, Netherlands: University of Amsterdam MA thesis.
- Arık, Engin. 2006, December. Locative constructions in Turkish Sign Language (TID). Poster presented at *Theoretical Issues in Sign Language Research 9*. Florianapolis, Brazil. (9-12 December 2006)
- Arık, Engin. 2008. Body and space in representing space in Turkish, Croatian, Austrian, and American Sign Languages. *Working Paper Series: 9th Conference on Conceptual Structure, Discourse, & Language (CSDL9)*. Social Science Research Network.
- Arık, Engin. 2009. *Spatial Language: Insights from sign and spoken languages*. West Lafayette, IN: Purdue University PhD dissertation.
- Arık, Engin. 2010. *A crosslinguistic study of the language of space: Sign and spoken languages*. Newcastle upon Tyne, UK: Cambridge Scholars Publishing.

- Arik, Engin. 2010. Describing motion events in sign languages. *Poznań Studies in Contemporary Linguistics*, 46(4). 367-390.
- Arik, Engin. 2011. Left/right and front/back in sign, speech, and co-speech gestures across languages: What do data from Turkish Sign Language, Croatian Sign Language, American Sign Language, Turkish, Croatian, and English reveal? *Poznań Studies in Contemporary Linguistics*, 47(3). 442-469.
- Arik, Engin. 2012. Expressions of space during interaction in American Sign Language, Croatian Sign Language, and Turkish Sign Language. *Poznań Studies in Contemporary Linguistics*, 48(2). 179-202.
- Arik, Engin. 2012. Space, time, and iconicity in Turkish Sign Language (TID). *Trames: A Journal of the Humanities and Social Sciences*, 16(4). 345-358.
- Arik, Engin. 2013. Expressions of space in Turkish Sign Language. In E. Arik (Ed.), *Current directions in Turkish Sign Language research*, 219-242. Newcastle upon Tyne, UK: Cambridge Scholars Publishing.
- Arik, Engin. 2015. Expressing manner, location, and orientation in manner-only motion events in Turkish Sign Language. *Trames: A Journal of the Humanities and Social Sciences*, 19(3). 205-220.
- Özyürek, Asli & Pamela M. Perniss. 2011. Event representations in signed languages. In J. Bohnemeyer, & E. Pederson (eds.), *Event representations in language and cognition*, 84-107. New York: Cambridge University Press.
- Özyürek, Asli, Inge Zwitserlood & Pamela M. Perniss. 2010. Locative expressions in signed languages: A view from Turkish Sign Language (TID). *Linguistics*, 48(5), 1111-1145.
- Perniss, Pamela. M. & Asli Özyürek. 2008. Representations of action, motion and location in sign space: A comparison of German (DGS) and Turkish (TID) sign language narratives. In J. Quer (ed.), *Signs of the time: Selected papers from TISLR 8*, 353-376. Seedorf: Signum Press.
- Perniss, Pamela. M., Inge Zwitserlood & Asli Özyürek. 2011. Does space structure spatial language? Linguistic encoding of space in sign languages. In L. Carlson, C. Holscher, & T. Shipley (eds.), *Proceedings of the 33rd Annual Meeting of the Cognitive Science Society* 1595-1600. Austin, TX: Cognitive Science Society.
- Sümer, Beyza, Inge Zwitserlood, Pamela Perniss & Asli Özyürek. 2012. Development of locative expressions by Turkish deaf and hearing children: Are there modality effects?

Proceedings of the *36th Annual Boston University Conference on Language Development*, VOLS 1 AND 2, 568-580. Cascadilla Press.

Sümer, Beyza, Inge Zwitserlood, Pamela Perniss & Aslı Özyürek. 2013. Acquisition of locative expressions in children learning Turkish Sign Language (TİD) and Turkish. In E. Arik (ed.), *Current directions in Turkish Sign Language research*, 243-272. Newcastle upon Tyne, UK: Cambridge Scholars Publishing.

Sümer, Beyza. 2015. *Acquisition of spatial language by signing and speaking children: A comparison of Turkish Sign Language (TİD) and Turkish*. Nijmegen, NL: Radboud University PhD dissertation.

Chapter 9. Figurative meaning

Sometimes a word, a phrase, or a sentence is used not to express its literal meaning but a different meaning implied by it. This is called figurative meaning or indirect meaning. Metaphor [Pragmatics – Chapter 9.1.] and Metonym [Pragmatics – Chapter 9.2.] are two major means to express figurative meaning.

9.1. Metaphor

Metaphors are used in poetry as well as in everyday language. Metaphors map concrete concepts to abstract concepts. They may be formulated in the following sentence form: X is Y. "Life is a stage" is an example of this from English. Here, the concrete concept of *stage* is mapped to the abstract concept of *life*. This mapping also applies to parts of these concepts: people correspond to actors, life corresponds to stage and people's actions correspond to actors' actions. In this mapping, the more concrete domain is the "source" and the more abstract domain is the "target".

9.1.1. Cognitive basis of metaphors

Fixed idiomatic expressions such as "Life is a stage." are not common in TID. However, there are single signs which map abstract notions to concrete concepts which are iconically depicted.

The agreement verb [Lexicon – Chapter 3.2.2] INFORM is an example. It is articulated on the mouth area and it contains a movement from the mouth of the signer towards the locus of the recipient of the news and the handshape changes [Phonology – Chapter 1.3.2.] from the O-handshape to the open hand. This is a metaphorical expression since the abstract notion, transfer of news, is mapped to concrete, physical movement of throwing.

INFORM

[video example]

9.1.2. Types and combinations of metaphors

Since metaphors map concrete concepts to abstract concepts, many such concrete concepts are related to the body of the signer. For instance, the physical area in the back of the body is mapped to concepts related to past, the area near the signer's chest is mapped to concepts related to present, and the area in front of the signer's body is mapped to concepts related to future. Thus, temporal adverbs such as YESTERDAY, NOW and TOMORROW are signed in these respective parts of the signing space [Lexicon – Section 3.3.1. and Morphology – Section 3.2.].



YESTERDAY



NOW



TOMORROW

(r.f. Dikyuva et al. 2015: 299)

Another set of metaphorical signs are verbs of cognition such as UNDERSTAND, LEARN and FORGET. These are articulated near the head, and the handshape and the movement of the sign involves metaphorical mapping. The articulation of UNDERSTAND resembles capturing of an object:

UNDERSTAND

[video example]

(r.f. Dikyuva et al. 2015: 299)

Thus, concrete action of capturing of an object and putting it in the head is mapped to the abstract concept of understanding something.

Similarly, LEARN resembles pulling objects towards the head continuously where objects are mapped to the abstract concept of information and pulling action is mapped to the cognitive process of learning.

LEARN

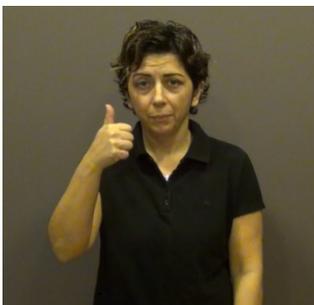
[video example]

FORGET is articulated by snapping the fingers near the head, and during finger snapping the hand undergoes a short movement that goes from the head outwards.

FORGET

[video example]

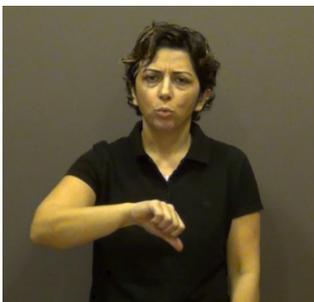
Direction in the signing space also plays a metaphorical role: usually good things are signed above and bad things are signed below. Since WINNER and SUCCESS are considered to be positive concepts, they are articulated by an upwards movement whereas LOSER and DIRT by downwards movement.



WINNER



SUCCESS



LOSER



DIRT

(r.f. Dikyuva et al. 2015: 302-303)

Even though it is rare, verbs can also be used with figurative meaning. One such example is the metaphoric use of the verb EAT.

PHONE IMMEDIATELY BATTERY EAT

Lit. 'The phone immediately eats the battery.' 'The phone uses up the battery immediately.'

(adapted from Dikyuva et al. 2015: 300)

In this example, the physical consumption via eating is mapped to the consumption of the energy of the battery.

9.1.3. Metaphors in grammar

9.2. Metonymy

Metonymy is the expression of an entity standing for another related entity. In the following example, the writer Orhan Pamuk stands for the actual works by him.

People like to read Orhan Pamuk.

In the following, the capital city of Turkey, Ankara, stands for the government.

Ankara announced the decision.

9.2.1. Metonymy vs. metaphor

Metaphoric usage of linguistic expressions involves two domains: concrete and abstract, and concrete concepts are mapped to abstract concepts. Metonymy, on the other hand, involves substituting one concept with another related one.

Metonymy is also possible in TİD. In the following example, FEDERATION, which is an institution stands for the members of that institution.

FEDERATION YESTERDAY REPORT ACCEPT
'Federation accepted the report yesterday.'

In the following, a city, DENIZLI, stands for the Deaf association in that city.

DENIZLI T-I-D EDUCATION START
'Denizli has started TID education.'

In the following, a vehicle, BICYCLE, stands for its driver.

MORNING BICYCLE IX₁ HIT
'A bicycle hit me in the morning.'
(adapted from Dikyuva, et al., 2015: 304)

9.2.2. Body as metonymy

Information on data and consultants

Please see the data and consultant information in the references. The linguistic data in images and video clips that were produced or reproduced for this chapter were provided by a near-native fluent signing consultant who was born and raised in Istanbul.

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References

- Aslan Demir, Sema. 2010. Sessizliğin dili: Türk İşaret Diline dair gözlemler. *Bilig*, 54. 1-20.
- Aslan Demir, Sema. 2016. Sessizliğin Dili: Türk İşaret Dili'ne dair gözlemler. In E. Arık, *Ellerle Konuşmak: Türk İşaret Dili Araştırmaları*, 141-156. İstanbul: Koç Üniversitesi Yayınları.
- Dikyuva, Hasan, Bahtiyar Makaroğlu & Engin Arık. 2015. *Türk İşaret Dili Dilbilgisi Kitabı [Turkish Sign Language Grammar Book]*. Ankara.