

A Grammar of German Sign Language (DGS)

Edited by

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The book is published with open access at <https://www3.thesignhub.eu/grammar/dgs/pdf>

We recommend that you cite the entire grammar or sub-parts of it as in the following examples.

The entire grammar: Branchini, Chiara and Lara Mantovan (eds.). 2020. A Grammar of Italian Sign Language (LIS). 1st ed. (SIGN-HUB Sign Language Grammar Series). ([http://sign-hub.eu/grammars/...](http://sign-hub.eu/grammars/)) (Accessed 31-10-2021) A

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SIGN-HUB Sign Language Grammars

Sign language grammars are available for these languages:

Topics in the Grammar of Spanish Sign Language (LSE)

A Grammar of German Sign Language (DGS)

Topics in the Grammar of French Sign Language (LSF)

A Grammar of Sign Language of the Netherlands (NGT)

A Grammar of Turkish Sign Language (T İD)

A Grammar of Catalan Sign Language (LSC)

A Grammar of Italian Sign Language (LIS)

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Introduction



The grammatical descriptions presented here are the first parts of a comprehensive reference grammar of German Sign Language (DGS). The chapters are thus an important step towards a first comprehensive description of the grammatical and sociohistorical properties of DGS.

The grammar follows the *SignGram Blueprint*, which is the first comprehensive guide to sign language grammar writing with detailed descriptions of all levels of grammar: Phonology, Lexicon, Morphology, Syntax, and Pragmatics. In addition, it also includes a description of the sociohistorical background of sign languages.

The *SignGram Blueprint* has been implemented as a grammar writing tool on the SIGN-HUB platform, which was developed by the Horizon 2020 SIGN-HUB project and is available online as open access. In the SIGN-HUB project, first grammatical descriptions of 7 sign languages have been created. The goal of this project is twofold: in the near future, the grammatical description of the first 7 sign languages will be extended and further elaborated and new sign languages will join the repository with new descriptions of comprehensive reference grammars.

Goals and coverage

The DGS reference grammar should serve as a tool for DGS signers, students, interpreters, researchers, linguists, and whoever is interested in the study of DGS. Reference grammars are necessary for many different scientific and applied goals, ranging from the development of teaching materials to language assessment, and the current reference grammar tries to address this need in a substantial way.

Using the reference grammar requires general knowledge about linguistics and grammatical terminology. However, basic concepts are explained in a glossary and in the text where necessary. This reference grammar intends to be accessible to a general reader, in particular through the extensive use of visual examples provided as videos and/or pictures. As a digital online product, *A Grammar of DGS*, radically differs from other, more traditional grammatical descriptions since it provides hundreds of visual examples, which makes sign language grammar description much more accessible to the readers.

To date the study of the grammar of DGS is still fragmentary and some grammatical phenomena have not yet been or only partially described. This reference grammar incorporates existing research results and adds new research on selected topics.

The task of writing a comprehensive reference grammar is never complete, and this one does not cover all possible aspects either. Hopefully, future research will be integrated in future versions of this grammar and thus contribute to enlarging and deepen our knowledge about DGS.

Methodology

This grammar has been developed by a team of senior and junior researchers, both Deaf and hearing, coordinated by the University of Goettingen over a duration of 4 years, thanks to the SIGN-HUB project.

By following the *SignGram Blueprint*, many terminological and analytical choices were already settled. In accordance with the objectives of the *SignGram Blueprint*, reference grammar intends to be mostly descriptive and informed by basic insights of well-established theories in sign language linguistics, but not theory-loaded.

Use

The grammar is divided into 5 parts, each part divided into chapters, sections, and subsections. Content about one phenomenon is often distributed across different modules of the grammar. We recommend therefore to follow the hyperlinks for connected content and to use the search function as well. The Table of Contents should serve as a basic navigation tool through the whole work. Many sections are still void of content because further research is necessary to provide a first description of the basic facts.

Information about the empirical basis and data elicitation can be found at the end of the relevant chapter or section. This is important because it might give information about empirical limitations or the particular variety described in the respective chapter or section. It is well known that the DGS community is subject to linguistic variation in various dimensions (region, age, gender, education, register, ...) but – especially on the levels of morphology, syntax, and pragmatics – hardly studied. Hence, the information about the empirical basis might help to identify the variety certain generalizations have been drawn on. In the near future, new corpus studies on DGS will provide a more complete picture of the grammatical properties of the different varieties of DGS.

A list of references and the author(s) of the chapter or sections are also reported at the end of each chapter or section. At the end of the reference grammar, you find appendices and a complete list of references. Note finally, that for basic concepts, a glossary of grammatical terms gives a brief explanation of the meaning of each term.

So far, for resource limitations, this reference grammar can only be offered in English. However, for the future, additional versions in German and DGS are in the process of planning. We invite everyone interested in this project to contribute to the reference grammar to create a fully trilingual comprehensive reference grammar of DGS.

The SIGN-HUB project

SIGN-HUB was carried out by a European research consortium to provide an innovative and inclusive resource hub for the linguistic, historical, and cultural documentation of the heritage of Deaf communities and for sign language assessment in clinical intervention and school settings.

To this end, we created an open state-of-the-art digital platform with customized accessible interfaces. The project initially fed that platform with core content in the following domains, expandable in the future to other sign languages: (i) digital grammar descriptions of 7 sign languages, produced with a new online grammar writing tool; (ii) an interactive digital atlas of linguistic structures of the world's sign languages; (iii) online sign language assessment instruments for education and clinical intervention, and (iv) the first digital archive of life narratives by elderly signers, partially subtitled and annotated for linguistic properties.

These components, made available for the first time through a centralized platform to specialists and to the general public, should (a) help to explore and to value the identity and the cultural, historical, and linguistic assets of Deaf signing communities, (b) advance linguistic knowledge on the natural languages of the Deaf, and (c) impact on the diagnosis of language deficits within these minorities.

The project involves participation of 10 teams from 7 countries: France, Germany, Italy, Israel, The Netherlands, Turkey, and Spain.

Website of the platform: sign-hub.eu

List of abbreviations

Abbreviations of functional morphemes

ATEL	atelic
AUX	auxiliary
BEN	benefactive
CAUS	causative
COM	comitative
COMP	complementizer
COMPL	completive
COND	conditional
CONT	continuous
COP	copula
DECL	declarative
DEF	definite
DEM	demonstrative
DET	determiner
DISTR	distributive
DUR	durative
EXCL	exclusive
FOC	focus
FUT	future
IMP	imperative
INCL	inclusive
IND	indicative
INDEF	indefinite
INF	infinitive
INS	instrumental
IMPFV	imperfective

IRR	irrealis
LOC	locative
NEG	negation, negative
NMLZ	nominalizer
PFV	perfective
PL	plural
POSS	possessive
PRF	perfect
PRS	present
PROG	progressive
PST	past
Q_PRT	question particle/marker
QUOT	quotative
RECP	reciprocal
REFL	reflexive
REL	relative
RES	resultative
SG	singular
TEL	telic
TOP	topic
VOC	vocative

Abbreviations of non-manual markers

<u>top</u>	topic marker
<u>wh</u>	wh-question marker
<u>y/n</u>	yes/no-question marker
<u>neg</u>	syntactic negation marker
<u>cond</u>	conditional marker
<u>foc</u>	focus marker
<u>rel</u>	relative clause marker
<u>rs</u>	role shift
<u>re</u>	raised eyebrows
<u>fe</u>	furrowed eyebrows
<u>le</u>	lowered eyebrows
<u>eg</u>	eye gaze
<u>eg-straight</u>	straight directed eye gaze
<u>eg-right</u>	eye gaze to the right
<u>eg-down</u>	eye gaze directed downwards
<u>sq</u>	squint
<u>we</u>	widened eyes
<u>b</u>	blink
<u>wrn</u>	wrinkled nose
<u>cu</u>	chin up
<u>cd</u>	chin down
<u>cb</u>	chin back
<u>pc</u>	puffed cheeks
<u>hs</u>	headshake
<u>hn</u>	head nod
<u>hth</u>	head thrust
<u>ht-b</u>	head tilt backward

<u>ht-f</u>	head tilt forward
<u>ht-left</u>	head tilt to the left
<u>ht-right</u>	head tilt to the right
<u>hp</u>	head position
<u>bl-f</u>	body lean forward
<u>bl-b</u>	body lean backwards
<u>bl-left</u>	body lean to the left
<u>bl-right</u>	body lean to the right

List of notational conventions

EXAMPLE OF CONVENTION	FUNCTION/MEANING
s-i-g-n	fingerspelling
sign++	reduplication
₁ sign ₃ ₂ sign ₁ _{3a} sign _{3b}	verb agreement
iX ₁	1st person singular, 'I'
iX _{1pl}	1st person plural, 'we'
iX _{1+2pl}	'two of us'
iX _{1+2pl-incl}	'two of us' (inclusive)
iX _{1+2pl-excl}	'two of us' (exclusive)
IX _a	pointing sign referring to a location
ix(loc) _a	pointing sign referring to a location
IX _{a(here)}	'here'
ix(def) _a	definite determiner
ix(dem) _a	demonstrative determiner
IX _{a[distal]} , IX _{a[proximal]}	index sign, pointing towards a distal or proximal location in signing space

iX _{3pl-arc}	3rd person plural with arc movement
iX(b) ₁ , iX(,) ₁	first person singular pointing sign with the depicted handshape
iX _a [ipsi_down]	index sign pointing to the lower ipsilateral area
iX(poss) ₁	index sign, 1st person possessive
poss ₁	not an index sign, 1st person possessive
show_off, there_is_not, doesn't_have	one sign translated into English with more than one word
aux_1, aux_2, not_1, not_2	a functional sign with more than one alternative form
q_prt	question particle
who^some	a sign consisting of more than one morpheme
car-pl	plural marker suffixed to a noun
eat^place	a compound consisting of two roots
phone(h1)^type(h2) 'minicom'	a simultaneous compound. h1 represents the dominant hand and h2 represents the non-dominant hand
Pòhead 'psychology'	a compound. The dominant hand represents a letter and touches a part of the body such as the head
exist.not, have.not	a suppletive form with two morphemes
go.impfv	a sign internally modified to express an grammatical function

cl(6): 'head_bowing'	classifier with this handshape with this meaning
cl(fist): 'head_bowing'	classifier with this handshape with this meaning
cl(s): 'head_bowing'	classifier with this handshape with this meaning
[...]	mouthing, the representation of the actual phonetic production
/.../	mouthing, the phonological representation of the mouthed word
[pa]	mouth gesture
'pa'	mouth gesture
rs:3a	role-shift into the role of the person represented as 3a
h1	dominant hand
h2	non-dominant hand

PART 1 Socio-Historical Background

Chapter 2. The sign language community

The World Federation of the Deaf (WFD) reports that there are over 70 million deaf people in the world, coming from over 135 member states of the United Nations. One of their members is Germany with a number of deaf people ranging between 80,000 to 300,000 in total. Indeed, the number of deaf people living in Germany differs with respect to the 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 people (in German: *Deutscher Schwerhörigenbund – DSB*) claims that 16 million people are hearing impaired and around 140,000 of them need access to sign language. The German Federal Statistical Office reports approx. 310,000 strongly hearing-impaired people living in Germany in 2015. This includes both deaf as well as hard of hearing people, and also those, who experience a hearing loss later in life. The spectrum and definition of hearing loss is broad. Here, the focus lays solely on sign language usage, instead of the exact hearing status. Deaf, hearing impaired and hearing people can be members of a sign language community, if their first language or preferred language is a sign language. Here, we report on the sign language community of the German Sign Language, also called *Deutsche Gebärdensprache (DGS)*.

2.1. Community characteristics

To be a member of a sign language community, the most identifying characteristic is to regularly use the national sign language of the country, e.g. German Sign Language, DGS, in Germany. The individual members can be deaf, hard of hearing, people with a cochlea implant, and hearing people, who work as teachers, interpreters, reverends, social workers, or who are so-called CODAs (hearing Children Of Deaf Adults, who acquired a sign language as their first language).

The Deaf Community represents the core of the Sign Language Community. The members of the Deaf Community share other essential criteria that group them together: mainly shared experiences. Most of the deaf people went to a deaf school together; nearly all of them go to deaf clubs and to associations with national and international events; and most of the deaf people fight together for equality and their human and linguistic rights in a hearing mainstream society. These shared experiences unite deaf people and lead to an established and visible community with a collective history and common experiences, values, traditions and codes.

In Germany, there are currently around 70 deaf schools, mainly in bigger cities with >200.000 habitants (e.g. Hamburg, Berlin, Munich, Köln, Essen), but also in middle-size cities with <200.000 habitants (e.g. Würzburg, Halberstadt, Nürtingen). Some of these schools are vocational schools specialized for deaf apprentices. These schools offer a small range of chosen and adapted professions like, for example, tailor, dental technician and carpenter. Many of the deaf children and teenagers are first exposed to structured DGS in these schools and make friends with deaf peers for the first time. During their time in school or after graduation, they attend the deaf club or association to have their own recreational place. In many cases, this is a deaf sport club for football, basketball, tennis, bowling or shooting. Here, deaf people exchange information about politics, health issues, news around the world, they play games or do sports and look for a partner in an environment free of communication barriers. The DGB (German Federal Association of the Deaf) represents around 600 deaf clubs and associations with 30,000 members in total. At the moment, the number of these clubs and their members is decreasing, either because more and more elderly members die, or because the younger generation is not that interested in becoming a member anymore. Younger deaf people exchange and organize themselves via social media channels on smartphones and computers. The deaf clubs in smaller and middle-sized cities are facing the danger of losing their members and eventually closing down. However, there are still other gatherings of (younger) deaf or/and signing people such as the youth camps by the National Deaf Youth Association (Deutsche Gehörlosen-Jugend) and the CODA and KODA (Kids Of Deaf Adults) meetings organized by coda d.a.ch. e.V. (an association in the German-speaking area, i.e. Austria, Germany and Switzerland) and by deaf parents for their hearing and deaf children.

2.2. Sign language users

Sign language users of the German Sign Language Community differ greatly in a wide range of sociolinguistic features such as living circumstances, age and migration background. The German population is not centralized as the population of France (in which approx. 20% of the whole French population lives in the metropolitan area of Paris). Instead, Germany has four big cities with over one million habitants (Berlin, Hamburg, Munich and Köln) and several hundred cities that are medium-sized. In general, 35% of the German population lives in bigger cities and 42% in medium-sized cities. This means

that deaf Germans are settled in big cities as well as in more rural regions. Hence, there are a high number of deaf schools, associations and interest groups in urban and rural areas, which leads to many regional varieties in German Sign Language.

If we look at the age distribution in the German Sign Language Community, we can see that the number of older Deaf people (<65 years and older) and Deaf people with a migration background is comparatively high. With regard 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 out of 80,000 deaf persons are more than 65 years old (according to the statistics of the DGB). That means, every fifth deaf person is within this age group. However, it is not clear whether the number of deaf people is actually decreasing due to the forced sterilization of deaf people by the former Nazi government. The advancements in medical technologies and the early medical interventions in (younger) deaf people downsizes the potential members of the German Deaf Community. Older deaf people also sign a variety of DGS that differs from the current mainstream DGS because they were not allowed to sign openly in their school time. Due to the oralist tradition, sign language was forbidden in German deaf schools fifty and more years ago. Hence, deaf senior citizens often use a manual communication system, a form of "Signed Exact German", called LBG (in German: *Lautsprachbegleitendes Gebärden*), similar to SEE (Sign Exact English). For example, many elderly deaf do not know the one-handed manual alphabet for finger spelling, which was introduced in the 1980s and is in frequent use in modern German Sign Language today.

The German Sign Language Community is also influenced by migration movements. During World War II, many German speaking Sudetes and Silesian refugees fled to Germany. After the war, immigrants from Turkey, Poland, Greece, and Italy came; and even years later repatriates from Russia and Kazakhstan returned to Germany. In the last 5 years, refugees from Syria, Afghanistan, Iraq and other countries sought refuge in Germany. So, in general, Germany has a long history of migration. All immigrants bring their culture and language with them. Families migrating also include many deaf members or families who have deaf descendants and who grow up in both cultures. This way deaf immigrants usually grow up in multi-cultural and multi-lingual environments and require a different linguistical approach during their language acquisition in Germany. Around 16,000 deaf members within the German Sign Language Community come from such a multicultural and/or multilingual background, that is 1/5 of all German deaf people. They have sometimes learned 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 etc.), or a mixture of DGS and another national sign language, or even International Sign. In some cases, we encounter illiterate and/or semi-lingual Deaf with migration background, because they could not learn a sign language and/or written language before the age of 6. This situation either has its origin in the educational and social circumstances of their background countries and/or the German education system in many cases is not able to offer special resources adapted to their situation.

2.3. Deaf culture

The German sign language community is a linguistic and cultural minority group. As mentioned in [Socio-Historical Background 2.1](#), deaf people in Germany come together primarily in schools for deaf, vocational schools, deaf clubs and associations.

However, Deaf culture is also expressed in other ways in Germany: The well-known 30-minute TV-program *Sehen statt Hören* ('seeing instead of listening') is broadcasted every Saturday at 9:30 am at the *Bayerischer Rundfunk* (BR, the Bavarian TV channel, broadly accessible in all of Germany, Austria and Switzerland, even via the internet). First broadcasted in 1975, this program is presented by deaf moderators and shows news from the Deaf world, current political events, which can impact the sign language community as well as sport and cultural events with deaf participants. It is broadcasted in DGS with German subtitles and dubbing. Additionally, some popular German news journals such as *Tagesschau* and *heute journal* present their shows with a (Deaf) sign language interpreter on the TV channel *Phoenix*. There are more and more podcasted Deaf-TV-programs with Deaf moderators such as the sign language talkshow *Fingerzeig* (via ALEX Berlin, it can be watched on youtube), which is also subtitled and dubbed.

Currently there is an increase in TV-programs and online videos for deaf children. At the TV-channel *Norddeutscher Rundfunk* (NDR, the northern German channel) deaf children and teenagers from the Deaf School in Hamburg product a news broadcast program called *Kindernachrichten in DGS* ('children news in DGS') which is being broadcasted every day at 7:50 pm. Another example for a children program at TV is the *Sandmännchen* ('little sand man') at the *Rundfunk Berlin-Brandenburg* (rbb, TV-Channel of Berlin and Brandenburg), which is shown every day at 5:55 pm via internet, translated by deaf children, teenagers and interpreters. This publication has become very popular, over 1,5 million viewers since its first appearance in April 2017.

Two well-known websites, who provides an adequate language input in DGS for deaf children and CODAs, are the *DGS Kids* and *Kinderbücher in Gebärdensprache* ('children books in sign language'), organized by the Deaf and Hard of Hearing Association of Hessa (HVGHM, located in Frankfurt am Main) and the Deaf Association of Munich and Suburbs (GMU, in Munich). Famous children's books are translated by deaf translators and sign language instructors, then produced in sign language with added visual elements like background pictures and costumes. These are popular for deaf infants and children because they are still not able to read subtitles and many of them are born in hearing families with less DGS-input.

A very prominent platform for the sign language community for sharing information about cultural and sport events such as festivals, discussions, poetry slams, DGS-courses, interpreting courses at universities, parents counseling, surveys and more, is the website *Taubenschlag* (www.taubenschlag.de). The monthly magazine *Deutsche Gehörlosen-Zeitung* (DGZ, established in 1872 and re-established in 1950) is also a very popular medium to inform and discuss about various and current topics within the sign language community and worldwide. Editors and journalists of these are mainly deaf persons. In addition, there exists also newspapers from diverse local deaf associations such as the "Doven Klönschnack" from the Hamburg Deaf association.

The Association of Deaf Culture and History called *Kultur und Geschichte Gehörloser* (KUGG) provides research, exchanges and disseminates information about the German Deaf history and culture. The KUGG comprises information, for example, about the attitudes and experiences of deaf people during the fascistic Nazi regime 1933-1945 (i.e., 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*, etc.). Another website, www.taubwissen.de, is a resource offered by the University of Hamburg for the sign language community as well as the wider general public to learn about history, organization, sports, sign language and literature.

An additional highly relevant cultural event is a three-day culture celebration called *Gehörlosen-Kulturtag*, which takes place every four or five years since 1993 in different cities across Germany and which is organized by the German Federal Association of the Deaf (DGB). This is the biggest event related to the German Deaf Community with around 3,000 visitors. Other well-known 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. Here, theatre groups with Deaf actors (and a few hearing bilingual actors) can enter a competition for the best performance in sign language. For example, the DGT - *Deutsches Gehörlosentheater* or *Theater Türkis* are commonly known and have won the competition in the last years. One other festival in Berlin is a sign language contest and famous poets such as Jürgen Endress, Giuseppe Giuranna, Gunter Trube (1960-2008), newcomers, and even signing children, teenagers or groups compete for a “golden hand” award.

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 moving picture industry, the deaf twins Reiner and Manfred Mertz are well known with their movies “Lautlose Flucht” (2013) and “Stille Angst” (2015), which are performed mainly by deaf actors.

2.4. Deaf education

The history of German deaf education and 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 chose to teach deaf children with the oralist approach, later referred to as the ‘German method’. Through this method, the focus of education lay intensely on teaching deaf children how to orally articulate spoken language (e.g. through feeling speech vibrations) and how to lip read. Articulation training stands even before teaching reading and writing. The assumption behind that method was that deaf children are only intellectually stimulated by spoken language. Until 1900, around 90 deaf schools were founded in the area of the whole German territory (Germany as it is today was established later in 1949, and its borders differ a lot to those in the 19th and early 20th century), and many of them adopted the oral method.

Up until 1880, the oral method was well-known, but various other teaching methods also existed in some deaf schools across Germany and Europe, too. Many deaf schools also had a deaf teacher, who used a sign language to communicate in class and was thus a role model for deaf children. Famous German deaf teachers are: Johann Karl Habermaß (1783-1826, Germany’s first documented deaf teacher at the “Königliches Taubstummensinstitut” in Berlin), Margaretha Hüttmann (1789-1854, Germany’s first female deaf teacher at the school for the deaf in Schleswig), Otto Friedrich Kruse (1801-1880, another deaf teacher from the school for the deaf in Schleswig well-known as a writer), Carl Heinrich Wilke (1800-1876, a deaf teacher at the school for the deaf in Schleswig and a famous illustrator for school books and picture boards for the deaf) and Carl Teuscher (1803-1835, a deaf teacher at the school for the deaf in Leipzig). The so-called “combined method”, i.e. a mixture of signed and written language, which also includes spoken language at times, was very common until 1880. However, after the Congress of Milan in the same year, deaf teachers and the usage of sign language at these schools were expelled. The oral method became dominant, although even sporadically hearing teachers (such as Johann Heidsieck (1855-1942) in his later years in Breslau) were arguing against the preoccupying oral method.

In the 20th century, a new educational idea was born, which tried to combine the oral method with new elements of hearing training through musical instruments, rhythm exercises, and listening-speaking training. This new method came to being as hearing aid technologies became more common and led to a separation of former deaf schools into schools for the deaf and schools for the hard of hearing. This differentiation of schools is a unique phenomenon in the German history of deaf education, which might explain the origin of the long oral tradition in Germany.

In the 1970s, deaf people began to provide sign language in courses and protest against the oral tradition. Then, during the 1980s, the first research on the Deaf Community and on DGS was carried out, 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 on sign language linguistics and interpreting. In 1992, as a result of that activities and even public demonstrations, the first official bilingual sign language class was set up at the school for the deaf in Hamburg, currently known as the bilingual school experiment.

Since the 1990's, the separation of deaf and hard-of-hearing-schools has disappeared. New *Special Schools for Communication and Hearing* have gradually become more common and are using diverse methods with sign language, sign supported speech and spoken/written language. Recent statistics showed that there is at least one Deaf teacher in about three quarters of that schools but only third of the schools has an official sign language curriculum.

Germany ratified the *UN-Convention on the Rights of Persons with Disabilities* in 2008. Afterwards, starting around 2010, there is a visible trend to include deaf children with sign language interpreters in the mainstream schools for an equal and higher education.

Nowadays in most cases, deaf children have three options to attend a school: a deaf school with either the bilingual approach or with sign supported oral methods, or a mainstream school with sign language interpreters, depending on their communicative and educational needs. There is currently one mainstream school (in Erfurt) teaching Deaf and hearing children together with the bilingual method.

Information on data and consultants

See the references below for information on data and consultants.

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3.2. Language policy

In this section we illustrate and discuss the concrete actions put forward by public and private institutions and organisations with respect to DGS and the community of its users in Germany. Language policy is commonly differentiated into activities related to (a) status planning, (b) corpus planning, and (c) acquisition planning. Status planning comprises all activities pertaining to the status of the language in a given social context, including the status of the language in legislation, the dissemination of knowledge about the language and its visibility in the public space. Corpus planning comprises activities regarding the codification of the language as well as measures taken toward its standardisation. Finally, acquisition planning concerns activities affecting the vitality of the language, its maintenance and use.

Although the language planning activities sketched are commonly related, the manner in which they are orchestrated in a given social space depends on several factors, such as the legislation upon which they are based, and the stakeholders involved. Language policy targeting DGS in Germany needs to be understood against the backdrop of

the federal organisation of the country. Basically, this means that decision-making processes are determined partly at the federal, that is, national level and partly at the regional level of the individual federal states. The sixteen states (*Länder*) have legislative and executive responsibility for a wide range of matters, notably education. Decentralised administration and local self-government in Germany are also reflected in the decentralised structure of non-governmental organisations involved in the demand for and implementation of activities related to sign language policies and planning.

Language policy and language planning activities targeting the status of DGS have been driven by different actors (social agents) and stakeholders and different views of the language. Activities undertaken by deaf associations and related interest groups, have been guided by the view of DGS as a minority language and its users as members of a linguistic minority group. At the institutional level, by contrast, the status of the language has been addressed in terms of a supportive means to overcome the accessibility barriers deaf people face owing to hearing loss.

Over the last decades, DGS has not only become a symbol of identity for its users. The provision of sign language interpretation in the public space and the offer of DGS courses for second language learners in schools for adult education have contributed to an increased public awareness of the language in the society at large. National and regional deaf associations, non-governmental interest groups such as the *Bundeselternverband gehörloser Kinder e.V.* ('National federation of parents of deaf children') as well as research groups have been instrumental for the evolution of the status of DGS. In particular, they have promoted

- its legal recognition and increasing visibility in the public space
- its inclusion in sign bilingual education programmes
- the dissemination of the knowledge about its properties
- the development of qualifications, trainings, and materials available.

Knowledge gathered on theoretical and practical issues in all sign language related research areas is disseminated through the journal *Das Zeichen* ('the sign'), published three times per year by the Society for Sign Language and Communication of Deaf Individuals (*Gesellschaft für Gebärdensprache und Kommunikation Gehörloser*) since 2003. The journal is the reference publication in Germany for research on DGS and the linguistics of sign languages, Deaf Studies, deaf education, and sign language interpreting.

Other journals are focused on deaf pedagogy, such as *Hörgeschädigtenpädagogik* ('hearing impaired pedagogy'), *hörgeschädigte kinder* ('hearing impaired children') and *Forum*. Contributions cover a broad range of issues in the domain of deaf education including sign bilingual education which remains an exception in Germany.

As of the 1980s the status of DGS has been affected by the rising academic interest in its linguistic properties, and the way it is acquired and used. For example, research groups at the universities of Hamburg, Berlin, Frankfurt, Cologne and Aachen have been dedicated to the study and the teaching of DGS. In addition, scholars engaged in activities oriented toward the recognition of the language in legislation, and its inclusion in deaf education, service provision etc. thereby promoting the status of the language.

The professionalisation of sign language interpretation in Germany since the 1980s has led to the establishment of various sign language interpreter education programmes with different degree options (bachelor, master, diploma). Hamburg University was the first to offer a DGS interpreter education programme in 1993, followed by the

universities in Magdeburg (1997), Zwickau (2000), Berlin (2003), Landshut (2015) and Cologne (2017). Further education courses, particularly designed for interpreters that have been in the profession for a longer time, are offered at Fresenius University in Idstein and the GIB Institute in Nürnberg. There are also private language schools offering sign language interpreter trainings that are not always officially recognised. A further education programme for deaf sign language interpreters is offered at Hamburg University.

Quality standards were elaborated by the national association of sign language interpreters (*Bundesverband der GebärdensprachdolmetscherInnen Deutschlands, BGSD*) in collaboration with the German Federation of the Deaf (*Deutscher Gehörlosenbund*). Independently of the training, interpreters can be certified through the state at the state examination offices (*staatliche Prüfungsämter*) in Darmstadt and Munich. Deaf sign language interpreters may also be certified through the state in Darmstadt.

Though still limited, the presence of sign language interpreters in the media in Germany contributed to an increase of the visibility of DGS in the public space. Granting deaf sign language users accessibility to information is a crucial issue, in particular regarding information on public health issues, emergencies, and other news.

DGS is used in two different types of TV programmes. In DGS-interpreted public broadcasters' programmes a picture-in-picture window is superposed on the original programme to provide a video of a sign language interpreter. This is the case of the daily news programmes *Tagesschau* and *heute journal* broadcast live on phoenix, a public TV channel operated jointly by public-service broadcasters ARD and ZDF that has broadcast programmes with signing since 1997.

Programmes broadcast in DGS, by contrast, involve the use of DGS as the main language of communication (at times, they are produced with additional sub-titles in German). Such programmes remain an exception. This is the case of *Sehen-statt-hören*, a weekly magazine produced for the deaf community broadcast on regional channels for more than 25 years. Only few programmes produced by public national and regional broadcasters are interpreted into DGS. The nationwide broadcasters ARD and ZDF offer some news programmes, weekly news magazines, children's programmes (e.g. *Sendung mit der Maus*, *Sandmännchen*) and talk shows with DGS interpretation. These are not broadcast live with DGS interpretation, but are available via the TV channels' websites or hybrid digital TV HbbTV (Hybrid Broadcast Broadband TV). Parliamentary debates with simultaneous DGS interpretation are streamed during the live debates on the national parliament's (the *Bundestag*) website.

Information and communication technology (ICT) has provided new opportunities to use and disseminate knowledge about DGS and its users. Online portals dedicated to the dissemination of the latest news on deaf issues, such as *Taubenschlag*, cover a wide range of areas including education, media, politics, and interpretation. Programmes in DGS are being produced and disseminated by DGS users on digital platforms in the internet. The *Fingerzeig* talk show is produced monthly and shown twice from Tuesdays to Saturdays on Alex TV.

Information in DGS is included on the official websites of public institutions following the Ordinance on the Creation of Barrier-Free Information Technology in Accordance with the Act on Equal Opportunities for Disabled Persons (*Barrierefreie Informationstechnik-Verordnung – BITV*). The decree, whose goal is to guarantee a barrier-free design of information and communication made available to the public by the authorities and public institutions, stipulates that the homepage of a public webpage has to include information in DGS on the main contents of the site, indications on the navigation and other information available in DGS on this site.

DGS corpus planning activities involving documentation, standardisation and modernisation are carried out with a view to expanding the language and its social functions [see [Socio-Historical Background 4.3.](#)].

Founded in 1987, the Centre (now Institute) of German Sign Language and Communication of the Deaf (*Institut für Deutsche Gebärdensprache und Kommunikation Gehörloser*, IDGS) at Hamburg University has played a central role not only in raising awareness of and knowledge about DGS and its users, but also in the documentation of the language. The IDGS pioneered the provision of training in sign language linguistics, deaf pedagogy and sign language interpreting. Furthermore, it has been engaged in the creation of DGS lexica, educational materials, and a notational system (the Hamburg Sign Language Notation System, HamNoSys). Signum press, established in the late 1980s by Sigmund Prillwitz, founding director of the IDGS, served to promote the dissemination of knowledge about DGS and other sign languages and their users at the national and international levels.

Following the pioneering work at the IDGS, research on DGS and its users as well as teacher and interpreter training programmes and degrees have also been offered at the universities of Aachen, Berlin, Frankfurt, Göttingen, Cologne, Magdeburg and Zwickau.

The need for a standardised DGS norm has been subject to debate in the community of DGS users. Standardisation of a language results from diverse activities related to the evolution of a variety of the language that adopts the status of a standard or the norm, including those that represent prescriptive interventions into the language and other measures that affect the development of the varieties of the language in the long term. As for DGS, there is no variety that would have been codified in teaching/learning materials as the norm or standard. Despite the advantages that might be attributed to a norm for teaching purposes users also have addressed their reservations about the creation of a standard whose use would be imposed to all users. Critiques of standardisation have warned against the intervention into the language that would primarily serve the hearing community, emphasising also the value of preserving linguistic diversity. To date, however, the range of variation in DGS related to educational institutions, region, socioeconomic status, migration, and education, among others remain unexplored.

Even though explicit standardisation efforts have not taken place, standardising effects need to be acknowledged resulting from the materials used for the teaching and learning of DGS by young first and second language learners of DGS, as well as through their use by interpreters. Dictionaries [see [Socio-Historical Background 4.2.](#)] compiled in Hamburg and elsewhere over the last decades, such as the *Hamburger Fachgebärdenlexika* ('Hamburg sign dictionaries for specialist terminologies') or Kestner's big dictionary of DGS (*Das große Wörterbuch der Deutschen Gebärdensprache*) are used as resources in the teaching of the language. The elaboration of various specialist dictionaries (*Fachgebärdenlexika*) included the creation of new signs for the expression of specialist terminology. More recently, a broader project aiming at the documentation of the language has been launched by the German Academy of Sciences, the DGS-Korpus project [[Socio-Historical Background 4.3.](#)]. The long-term project, carried out at the IDGS, aims at building a reference corpus of DGS and compiling a corpus-based dictionary DGS–German. During the project term of 15 years, a corpus-based electronic DGS–German dictionary will be developed. The corpus is meant to be representative for the everyday language of Deaf people all over Germany.

Acquisition planning commonly aims at increasing the number of language users in a given social space to ensure the vitality of the language over time. Education [[Socio-Historical Background 2.4.](#)] gains a prominent role among the measures taken to promote the acquisition and use of DGS.

With regard to the teaching/learning of the language, different acquisition scenarios need to be distinguished, namely,

- first language acquisition by deaf children born to parents native in the language
- the acquisition of DGS as the first or primary language by deaf children born to non-signing parents
- the acquisition of DGS as a second language by parents of deaf children and sign language interpreters
- the acquisition of DGS as a foreign language in school or at university.

In Germany, there is no holistic policy dedicated to the promotion of DGS, its vitality and use. This lack needs to be understood against the backdrop of the function attributed to the language in current legislation. The recognition of DGS as a language in its own right in German legislation has been oriented toward the removal of barriers to the accessibility of deaf individuals. Both the Book IX of the Social Code 'Integration and Rehabilitation of Disabled People (SGB IX, 2001)' and the Act on Equal Opportunities for Persons with Disabilities (BGG, 2002) provide a legal framework for the implementation of the anti-discrimination provision contained in Article 3 of the Basic Law for the Federal Republic of Germany. The 2002 Act aims at ensuring the equal rights of disabled people and the elimination of barriers to equal opportunities through the creation of barrier-free environments. It recognises DGS and the right to use it.

As a consequence, administrations at the national and regional levels have taken measures to reduce accessibility barriers in the health, education, administration, and information provision areas.

Special education legislation applied in the individual federal states recognises DGS as a communication means (in equal terms with spoken language). However, bilingual education of deaf children in DGS and German remains the exception in Germany. The implementation of the first bilingual class in the 1993/4 school year was the result of the collaboration between parents of deaf children, professionals engaged in deaf education and academics involved in research on sign language linguistics and deaf pedagogy at Hamburg University.

The teaching of DGS in adult education is available as of the late 1980s. The professionalisation of DGS teaching is a relatively recent phenomenon reflecting also the evolution toward the recognition of DGS as a language in its own right:

1. From the 1970s to the 1980s, courses basically focused on the teaching of signs accompanying speech (*Lautsprachbegleitendes Gebärden*, LBG). Most teachers were CODAs. The so-called “blue book”, a collection of signs, was used as a basis. The first teaching book published in the late 1970s was used for the teaching of LBG.
2. Toward the end of the 1980s DGS courses were offered in addition to LBG courses and more deaf teachers were engaged, but they knew little about the language.
3. During the 1990s, demands for professionalisation of the teaching of DGS were expressed, which was later documented in the “*Berufsbild Gebärdensprachdozent/-lehrer*” (Sign language teacher job description). This included an appropriate training and qualification.

The professionalisation of the teaching of DGS outside the school took shape as of the early 2000s, following the increasing demand for qualified teachers of DGS. The DGS teachers’ national association (*Verband der Dozenten für Gebärdensprache*) in collaboration with the regional and national Deaf associations were involved in the elaboration of the job description (*Berufsbild*) and their professional ethics (*Berufsbildungsordnung*). Training, qualification and

degrees are organised at the level of individual federal states. In Bavaria, this is regulated through the ordinance on the recognition of the examination for sign language teachers (*Verordnung über die Anerkennung der Prüfung für Gebärdensprachdozentinnen und Gebärdensprachdozenten*).

The state-certification for the qualification as a DGS-teacher can be obtained at the state examination office in Darmstadt (*Staatliches Prüfungsamt für Sprachen in Darmstadt*). The Bavarian institute for the promotion of communication of people with hearing impairment (also referred to as GIB, *Gesellschaft Inklusion Bildung*, 'society inclusion education'), a publicly funded institution founded in 1999 to improve the communication between deaf and hearing people, is the only institution in Germany offering a continuing education DGS teacher training programme.

DGS courses for adult learners are offered at private and public schools. Commonly, courses are available at the so-called folk high-schools (*Volkshochschulen*), that is, non-profit making institutions offering a broad range of courses for adult learner education. The first DGS e-learning platform in Germany, manimundo, offers a wide range of online signing courses. DGS skills and knowledge are practised also in one-to-one tutorials with DGS teachers.

The DGS teaching materials available serve different functions and are based on different didactic approaches. Hence, the *Grundkurs Deutsche Gebärdensprache* ('base course DGS', authored by Beecken et al. 1999) as well as *Fliegende Hände* ('flying hands', authored by the Desire-Deaf and Sign Language Research-Team Aachen 2002) are rather oriented toward the development of communicative competence. *Deutsche Gebärdensprache: ein Lehr- und Arbeitsbuch* ('German Sign Language: a textbook', authored by Happ and Vorköper 2006), by contrast, focuses on the grammar of DGS, in analogy to traditional foreign language teaching materials. Roughly, it follows a contrastive approach, by contrasting the properties of German and DGS after explanatory introductions of the relevant grammatical phenomena. Only few teaching materials are available for the teaching of DGS in sign bilingual education programmes with deaf children. The lack is even more pronounced when it comes to the teaching of subject matter in DGS. Commonly, teachers develop their own materials. Only a third of the schools evaluate the students' DGS competences, some of them regularly throughout the year.

With respect to the inclusion of DGS in school, legal requirements concerning the inclusion of DGS on the curriculum are mostly valid for special schools only (and only for a minority of the students enrolled at regular schools that are taken care of by special schools professionals). Because education in Germany is in the responsibility of the individual federal states, there is no state-wide curriculum or framework for the training and qualification of sign language teachers. Framework curricula for the teaching of DGS in schools (*Rahmenpläne*) are available in Berlin-Brandenburg, Bavaria, Hamburg, Baden-Württemberg and Sachsen-Anhalt.

Deaf teachers involved in the teaching of DGS do not only represent important role models for their students. They also serve as key ambassadors for the language. Moreover, DGS teachers play a central role regarding language standardisation as they convey the norm. However, among the professionals involved in deaf education deaf professionals remain the exception rather than the norm, and, often, the deaf teaching professional remains the sole deaf role model in the educational institution.

PART 2 Phonology

Chapter 1. Sublexical structure

For the sublexical phonological structure of signs in DGS, the following 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 errors. Hence, they are psychologically testified elements within the language planning process. The parameters are defined by distinctive features. The detailed properties of the manual and non-manual components in DGS are discussed below and illustrated with examples.

1.1.1. Contrastive handshapes

The lexicon comprises a specific handshape inventory, i.e. not every physically and structurally possible handshape is part of DGS. Approximately 28 to 34 different handshapes with a distinctive function are used in DGS.



The signs family and room illustrate 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: n versus B.

family – room



Further minimal pairs regarding handshapes are:

a. DUCK – BIRD



b. POSS₁ – COURAGE



c. BROKEN – FRESH



d. WHEN – EVIL



e. YES — RIGHT



f. SIGN — MACHINE



g. SALAD — PRACTICE



h. ELECTRICITY — CONTROL



i. THANK — SAY



Handshapes are defined by the following four categories of features:

- Activated fingers: thumb, index finger, middle finger, ring finger, pinkie, and combinations thereof
- Thumb: opposed (thumb in opposition to the other fingers), closed (contact between thumb and activated fingers)
- Form of the activated fingers: angled, arced, straddled
- Non-activated fingers: stretched

Whereas the activated fingers can be specified for different features, the non-activated fingers exhibit solely the feature [+/-stretched]. According to the so-called Finger Selection Rule, a handshape change in a conventionalized simple sign concerns only the fingers involved in the first handshape. 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 (👊).

FIND



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 more likely 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). 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:

a. MONTH – ONE_HUNDRED



b. BICYCLE – MACHINE



1.1.3. The manual alphabet & number signs

The handshapes of the manual alphabet represent letters of the Latin alphabet. In DGS, at least partially, these handshapes imitate the forms of the letters, e.g. C, D, I, and O. In contrast, the manual alphabet signs B, G, and S are examples without a 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.

Not every handshape of the manual alphabet occurs in a lexical sign 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. In DGS, the manual alphabet is not frequently used for the creation of signs. It is mainly used for the explanation of unknown signs (e.g. foreign words, technical terms, proper names) or nonexistent signs and abbreviations. Overall, the manual alphabet is used rather scarcely in DGS.

Manual alphabet



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 starting with the thumb through to the pinkie finger. 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.

Within the numbers one to ten, the hand is orientated with the palm towards the torso. In some dialects, the numbers eleven (and twelve) are articulated with a rotation of the wrist: the sign starts with palm orientation towards the bottom and changes towards signer's torso. The numbers from twenty to ninety are

performed with the same handshape 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 reduplicated secondary movement in the form of a change in degree of flexion. The numbers two hundred, three hundred, four hundred etc. are also signed with the same handshape as the numbers two to nine but in combination with another hand orientation. The number one hundred is articulated with the index finger instead of the thumb used within number one. From six hundred to nine hundred, the palms of the dominant and non-dominant hand face each other. The path movement of the numbers one hundred to nine hundred is specified as a straight downward movement in the neutral signing space. The numbers one thousand, three thousand etc. are also articulated with the same handshape as the numbers two to nine. In these cases, the palm is orientated away from the body towards the addressee. The straight path movement is performed from the contra-lateral side (= side of the non-dominant hand) to the ipsi-lateral side (= side of the dominant hand). The number one thousand is articulated with the index finger instead of the thumb used within number one. The numbers in DGS show high dialectal variation.

a. 1-10



b. 11-19



c. 20, 30, 40, 50, ...- 90



d. 100, 200, 300, ...- 900



Repdigits like 22 and 44 may be articulated by the respective single digits next to each other.



44



Ordinals are signed with a rotation of the wrist. This is only possible for ordinals from first to tenth.


1. - 10.



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 aspects:

- 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
- vertical → 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, fingertip, 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:

a. BIRD – MEANING



b. 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 side of the articulating hand or the opposite side in the signing space.

The following phonological restriction is essential for locations in DGS: 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 are 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 *GERMANY* and *PIPE* which are both articulated without a manual path movement or a manual secondary movement. *GERMANY* 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 puffed cheek with air output, chin raiser, and lip presser (for further information on non-manuals, see [[Phonology 1.5.](#)]).

a. GERMANY



b. PIPE



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
- shape: straight, bend, circle etc.
- manner: 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 downwards and occurs in a usual tempo, intensity, and size.

a. FATHER



b. CHRISTMAS



Moreover, it is essential whether a movement is reduplicated or not. The minimal pair FINISH – ALREADY is distinguished solely by this property. Whereas the sign FINISH is articulated with a single downwards movement to the non-dominant hand, within the sign already this movement is reduplicated.

FINISH - ALREADY



Further examples of minimal pairs with respect to movement are:

a. SON – DAUGHTER



b. YELLOW – GOLD



c. SECURE – WHAT_A_PITY






d. CALCULATE – HOW_MUCH



e. IDEA – IDEOLOGY



1.3.2. Secondary movement

Within this movement type, one can distinguish 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, WHAT

Rotating movement

KEY, INTERNET, TREE

Bending movement

CAN, YES

Types of secondary movement in the form of changes in orientation

a. WHO



b. WHY



c. WHAT



d. KEY



e. INTERNET



f. TREE




g. CAN



h. YES



Signs may be articulated solely by a change in orientation (e.g. `KEY`). In other cases, a change in orientation may be combined with a path movement. For example, 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 wiggling

WALK, COUNT, SNOW, THINK_ABOUT, A_LOT, RAIN

Rubbing

SALT, MONEY, FEEL, SILK

Change in degree of curvature

JELLYFISH, CATERPILLAR, BALL_PEN

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

Opening/closing handshapes:

a. PICK_UP



b. SPEAK



c. JUICE



d. BIRD



e. BEGIN



f. LAMP



g. FLOWER



Finger wiggling:

a. WALK



b. COUNT



c. SNOW



d. THINK_ABOUT



e. A_LOT



f. RAIN



Rubbing:

a. SALT



b. MONEY



c. FEEL



d. SILK



Change in degree of curvature:

a. JELLYFISH



b. CATERPILLAR



c. BALL_PEN



Gradual change in the angle/kinking:

a. SOFT



b. MUD



c. NAME




d. CRY



Shift between straddling and lateral contact of the fingers:

a. SCISSORS



The sign SNOW is articulated with the -hand, orientation of the palm away from the body, a curved path movement downward in the neutral signing space and a secondary movement in the form of finger wiggling. Other signs such as BIRD 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 the absence of a path movement (for syllables in DGS, see the section on [[Phonology](#) 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 as in a. or with two hands as in b.

a. BEAUTIFUL



b. GRAMMAR



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 (simultaneous 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 it has the same handshape as the dominant hand.

One-handedness and two-handedness do not 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 observed with the sign CAN in DGS, for instance.

CAN (one-handed) – CAN (two-handed)



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`.

a. `HELP`



b. `SYNTAX`



c. `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`



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. One example is the sign `SHOW` illustrated below.

SHOW



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

ICONIC



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 [[Phonology 1.5.2.](#)].

With respect to the articulation of non-manuals, they appear in two different action types: (i) constant (no change in configuration of non-manuals) and (ii) dynamic (change in configuration of non-manuals). An example of constant non-manuals is the sign *TEASE*.

TEASE



The sign *BITE_OFF* is an example of dynamic non-manuals.

BITE_OFF



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 puffed cheek with air output.

SUPER



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.

RECENT(1) – RECENT(2)



Below further examples of signs with an obligatory mouth gesture are shown.

a. RELIEF



b. LIFE-PARTNER



c. KISS



d. SPIT



e. POSSESS




f. THIN



g. NO-DESIRE



The signs *ALWAYS* – *LEAD* form a minimal pair for the component lower face. Whereas the sign *ALWAYS* is articulated with puffed cheek with air output 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.

ALWAYS – *LEAD*



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.

Mouthings in DGS are often associated with the former dominant oral educational system in Germany [Socio-Historical Background 2.4.]. They reveal quantitative variations because signers use them to differing extents. Here different sociolinguistic variables play a role (e.g. 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 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 visible movements of the mouth alone. For 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.

BIRD – BLACKBIRD



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 at 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:

a. SAD



b. ANGER



Examples for lexical non-manuals which are not related to affective states are the signs WINK, SLEEP, and PROTECTION. The sign WINK 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).

a. WINK



b. SLEEP



c. PROTECTION



One example of a non-manual minimal pair are the signs *PROUD* – *ARROGANT*. 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.

One example of a non-manual minimal pair are the signs *TIRED* – *EFFORT*. Whereas the sign *TIRED* is articulated with an upper face action and a head action, the sign *EFFORT* includes additionally a lower face action.

TIRED – *EFFORT*



Information on data and consultants

See the references below for information on data and consultants.

The sign language data provided in the videos and images in this chapter were discussed, produced or recreated with a support of one deaf native consultant of DGS (male, 31). He was born and raised in Germany, is located in the Northern Germany and is using DGS as his primary means of communication.

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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. DGS shows phonological processes such as assimilation and reduction, and uses prosodic markings for expressing speech acts such as questions and commands 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 as sign lengthening, tense articulation and changes in velocity, which can be classified based on movement patterns. One also finds non-manual markings such as facial expressions as well as 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), (for movements in DGS, see [[Phonology 1.3](#)]). Signs in DGS are mono- or disyllabic and show different combinations of these units such as HMH (a syllable with a clear start- and endpoint), 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 H (a syllable consisting of a hold only). 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 syllable in DGS. Single movements are light syllables (a., b., d., f., g.) whereas combinations of movements (such as in c., e., h.) carry more syllabic weight. Syllables including a handshape change as in MAN OF CULTURE, 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, stressed on first syllable)



b. TABLE (disyllabic, different movements, stressed on first syllable)



Non-manual markers such as head nods or facial expressions that may accompany a syllable generally show an alignment with the according syllable pattern.


2.1.2. Foot

Due to the fact that signs are at most disyllabic in DGS [Phonology 2.1.1.], this part of the prosodic organization is not relevant in 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). 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).

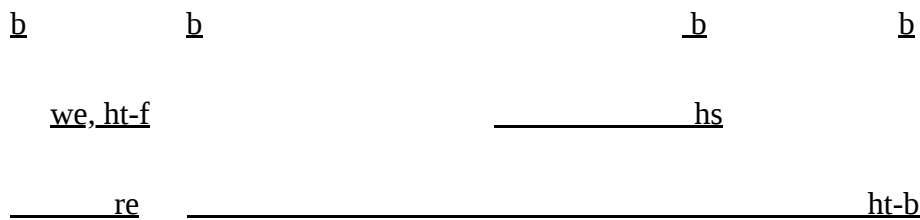
2.2.1. Prosodic word

DGS exhibits assimilation processes between signs. In inherent compounds [Morphology 1.1.], for instance, DGS shows systematic assimilation of the two units that now form a single prosodic word. The DGS compound 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 [Phonology 3.1.1.] 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, e.g. the -handshape in PROUD_PAM. Furthermore, mouthing has been shown to spread onto such adjacent functional signs like PAM. Negative head shake has been said to be able to spread onto the subject in cases where the subject is a pronoun, 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 eye blinks. As opposed to a more systematic boundary marking at the intonational phrase level [Phonology 2.2.3.], the marking is subtler 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 coordinate and subordinate structures, for instance, may cross a phonological phrase boundary (see example below, where a head tilt backwards accompanies three smaller prosodic units).



IX₃ COME : DOOR OPEN LEAVE : SHUT_DOOR NEVER GESTURE ANNOY

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

(based on 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 signing and the involvement of non-dominant hand spreading and hand switching [Phonology 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 including 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 can signal bigger chunks of discourse such as embedded sentences, multi-clausal utterances, up to full stories. The structure of discourse units can optionally involve certain phenomena that even signal cohesion beyond the clausal level. In DGS, we find hand-dominance shift that mostly signal different referents in quotation role shift or the discussion of opposing issues in discourse. Furthermore, buoys articulated with one hand [Lexicon 1.2.3.] / [Pragmatics 2.2.3] may be held over several prosodic phrases during continuous signing of the other hand. These devices prosodically structure the signing beyond the level of phonological or intonational phrases.

2.3. Intonation

DGS intonation shows compositional features. Manual articulation changes and non-manual features combine to systematically build intonational contours and express the meaning of certain intonational tunes. Intonational patterns spread over intonational phrases and utterances.

The difference between a declarative [Syntax 1.1.] and a polar interrogative [Syntax 1.2.1.] in DGS is that the domain of the polar interrogative is marked by brow raise and usually head forward. Brow furrow is systematically associated with wh-interrogatives in DGS. Imperatives, for instance, show a faster articulation and specific facial expressions (various features and to varying degrees depending on the force of the imperative, e.g. command, permission, advice). In addition, squint may mark an utterance (or smaller domain) as low accessible for the addressee, but retrievable from the common ground (the shared information of speaker and addressee).

a. Squint in DGS



b. Examples of intonational non-manual features in DGS

$\underline{\hspace{1.5cm}} \underline{\hspace{1.5cm}} \underline{\hspace{1.5cm}}$
 $\underline{\hspace{1.5cm}} \underline{\hspace{1.5cm}} \underline{\hspace{1.5cm}}$
 $\underline{\hspace{1.5cm}} \underline{\hspace{1.5cm}} \underline{\hspace{1.5cm}}$

[IX_{1+2pl} PERSON TIM IX_{1+2pl} SIGN-h]_{IP}: [[BUT POSS₃ FATHER]_{PP} [IX₃ PERS]_{PP}]_{IP} [WHAT IX₃ SAY]_{IP}
 ‘Both of us, we were talking about Tim, right? But his father, what did he say.’

$\underline{\hspace{1.5cm}} \underline{\hspace{1.5cm}} \underline{\hspace{1.5cm}} \underline{\hspace{1.5cm}}$
 $\underline{\hspace{1.5cm}} \underline{\hspace{1.5cm}} \underline{\hspace{1.5cm}} \underline{\hspace{1.5cm}}$
 $\underline{\hspace{1.5cm}} \underline{\hspace{1.5cm}} \underline{\hspace{1.5cm}} \underline{\hspace{1.5cm}}$

[[TIM MEAN VERY]_{PP} [IX₁ NEARLY CRY++]_{PP}]_{IP}: [ANNOYED NEED.NOT]_{IP} [IX₂ KNOW PAM₃]_{IP}
 ‘“Tim was so mean, I nearly cried my eyes out.” “Don’t be annoyed. You know him!”’

(based on Herrmann 2012: 367)

Irony and sarcasm can also be found in DGS and are usually marked by intonational patterns. If non-manuals are used differently than expected, the sign or the utterance may be interpreted as meant ironically.

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

In DGS, back-channeling may be performed by non-manual features, head nods, certain signs such as RIGHT OR YES, and in rare cases nose wrinkling.

Information on data and consultants

See the references below for information on data and consultants.

The sign language data provided in the videos and images in this chapter were discussed, produced or recreated with a support of one deaf native consultant of DGS (male, 31). He was born and raised in Germany, is located in Northern Germany and is using DGS as his primary means of communication.

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Chapter 3. Phonological processes

Some signs can undergo phonological changes while they are articulated or when they undergo morphological changes for linguistic and/or economic reasons, e.g. ease of articulation and/or perception. Phonological processes can be of synchronic and diachronic nature.

The focus of this chapter is the former one. The phonological changes observed in the signs can affect four levels: the phonemic level, the syllabic level, level of prosodic word, and the level of higher prosodic units.

3.1. Processes affecting the phonemic level

The phonological processes that affect phonemic level are described in this section. These are: assimilation, coalescence, movement reduction and extension, weak hand drop, handshape drop, nativization, and metathesis.

3.1.1. Assimilation

Assimilation is a phonological process where at least one parameter of a sign (handshape, orientation, location and movement) [[Phonology_1](#)] undergoes a change by adapting the feature of the similar parameter of the preceding and/or following sign. The adaptation of the features can be partial or complete. Assimilation can be observed in three ways: regressive assimilation, progressive assimilation, and bidirectional assimilation. In regressive assimilation the change of the feature is influenced by the following sign. In progressive assimilation the change of the feature is due to its previous sign. In bidirectional assimilation the change of the feature is caused by both the previous and following signs. Assimilation can be observed for different parameters of a sign such as hand configuration and movement.

The DGS examples below show progressive (a) and regressive (b) assimilation of the location parameter and regressive assimilation of the handshape parameter (c).

a. TELEPHONE ('phone') – NUMBER ('number') – TELEPHONE^NUMBER ('phone number')

(based on Becker, 2003: 116)



b. LATE ('late') – NOON ('noon') – LATE^NOON ('afternoon')

(based on Pfau & Glück, 1997: 35)



c. POSS₃ ('her/his') – PARENTS ('parents') – POSS₃ PARENTS ('his/her parents')

(based on Hohenberger, Happ & Leuninger, 2002: 119)



3.1.2. Coalescence

Coalescence is the occurrence of two different phonetic units at the same time. The DGS examples below show that an IX sign, which has a pronominal function, can either be produced sequentially with the following verb TEACH (a) or alternatively it can also be produced simultaneously with the same verb forming a coalescence (b).

a. IX₃ TEACH

'She/he teaches.'



b.

h1: TEACH

h2: IX₃

'She/he teaches.'



3.1.3. Movement reduction and extension

Signs might be articulated with smaller movements (movement reduction) or larger movements (movement extension) compared to their citation form. Movement reduction can be observed while using a smaller signing space without making very detectable movements, as for instance while whispering. On the other hand, movement extension can be expressed via the usage of a larger signing space, as for expressing strong emotions. The same can be observed in situations when people are willing to be more detectable, as for instance while shouting [Phonology 3.4.2]. In these phonological processes, the use of different joints can be observed as well [Phonology 3.1.3.2].

3.1.3.1. Without joint shift

In movement reduction without any joint change, the sign typically has shorter movements and uses a smaller signing space compared to its citation form. This is illustrated in the DGS example below, where both citation and reduced forms of the example sign are given.

SIGN (citation) – SIGN (reduced)

‘to sign’



Movement extension without any joint change can also be observed with an IX sign pointing to the objects in the real space. The duration of movement in this type of pointings might be longer compared to their citation forms, however, there is no need for any joint shift. The DGS example below illustrates the citation form and extended forms of the IX sign which has a demonstrative function.

IX(dem)_a (citation) – IX(dem)_a (extended)

‘that (one)’



3.1.3.2. With joint shift

Some signs in DGS can be produced with extended or reduced movements which also include a shift in the joints. For instance, the DGS signs WATCH_OUT and CAN are produced with an elbow movement in their citation forms, however, when the movement is reduced the joint is switched from the elbow to the wrist (a-b).

a. WATCH_OUT (elbow movement) – WATCH_OUT⁺⁺ (wrist movement)

‘to watch out’ – ‘to watch out repetitively’



b. CAN (elbow movement) – CAN (wrist movement)

‘can’



3.1.4. Weak hand drop

Two-handed signs might be articulated with only one hand. This process is referred to as Weak (hand) drop. Weak Drop is constrained by phonological, semantic and iconic properties of the signs in DGS. Phonological factors are symmetricity (similarity in handshape, movement and orientation) and body contact. Two-handed symmetrical signs [[Phonology 1.4.1](#)], in which both hands have the same handshape and an alternating, or non-alternating movement are most likely to undergo Weak Drop in DGS. The sign TEACH is a symmetrical sign, in which both hands have the same handshape and perform a non-alternating movement, and which generally undergoes Weak Drop, as is shown in the example below.

TEACH (citation) – TEACH (WD)

‘to teach’

(based on Schulze, 2019: 112)



In addition, two-handed asymmetrical signs [[Phonology 1.4.2](#)] in which the dominant hand is active and the non-dominant hand remains passive and both hands have different handshapes while performing the sign can undergo Weak Drop as well. However, those cases occur rarely in DGS. WRITE is a two-handed sign and the non-dominant

hand is passive and has 🖐-handshape compared to the active hand which has 🖐-handshape. WRITE can undergo Weak Drop in DGS as illustrated below.

WRITE (citation) – WRITE (WD)

‘to write’

(based on Schulze, 2019: 112)



The handshapes which mostly undergo Weak Drop in two-handed symmetrical signs are: 🖐-handshape, 🖐-handshape, 🖐-handshape and 🖐-handshape. On the other hand, in the asymmetrical two-handed signs 🖐-handshape of the non-dominant hand is the most likely to be dropped.

Weak hand drop is frequently observed in the signs which are articulated in neutral signing space [[Pragmatics 8.1.](#)] and have no contact with the body. This is shown in the DGS example below with the occurrence of one-handed version of WHAT in comparison to its two-handed citation form.

WHAT (citation) – WHAT (WD)

‘what’

(based on Nishio, 2009: 24)



The phonological context influences Weak Drop as well. In the environment of preceding and/or following one-handed signs, Weak Drop is more likely to occur in DGS. This is illustrated below where a two-handed sign EVENING undergoes a weak drop through regressive assimilation caused by a one-handed sign FOOD in the compound form EVENING^FOOD (‘dinner’).

EVENING (‘evening’) – FOOD (‘food’) – EVENING^FOOD (‘dinner’)

(based on Becker, 2001: 155)



Semantic or iconic features of the sign might block weak drop in DGS. To be more specific, in some two-handed signs, the meaning of a sign might be expressed through iconic usage of both hands. Thus, deletion of one of the hands is not possible as it has a direct influence on the interpretation of the meaning. For instance, signs like BROTHER_SISTER ‘siblings’(a) and TOGETHER (b) have a pairwise meaning that cannot be preserved when one of the hands is dropped.

a. BROTHER_SISTER

‘siblings’





b. TOGETHER

‘together’

(based on Schulze, 2018: 469)



3.1.6. Nativization

Nativization is a phonological process, where a phonological feature undergoes a change when this feature does not exist in the phonological inventory of that language. The sign TEAM in DGS is an example for it. The handshape of the borrowed sign in ASL [Lexicon 2.1.] does not exist in DGS and therefore -handshape of ASL changes into -handshape of DGS.

TEAM (ASL) – TEAM (DGS)

‘team’

(Becker, 2003: 125)



Fingerspelling is regarded as a non-native part of DGS. Some fingerspelled signs might become lexicalized if they meet well-formedness requirements of the language. The sign PROJECT ‘project’ is a good example for it. Initially this sign was borrowed from spoken German [Lexicon 2.2.2.] with all letters being fingerspelled, then it was reduced to two initialized letters (P and J) and later was adapted to the phonological structure of DGS which allows only one fingerspelled letter in the sign. Therefore, only one of those letters (J) was kept and the other one was dropped. This is illustrated in the example below.

P-R-O-J-E-K-T – P-J – J

‘project’

(Becker, 2003: 124)



3.1.7. Metathesis

Metathesis can be observed by changing the order of the phonological parameters in some signs. For example, in the citation form of the sign father the movement starts on the forehead and ends on the chin. In order to harmonize with the previous or the following sign, the start location and end location of the sign can be reversed as is shown in example below.

FATHER (upwards) – FATHER (downwards)

‘father’



3.2.1. Epenthesis

Syllabic structures which are not well formed can be resolved via insertion of various types of phonemic material (movement, handshape, location and orientation) in DGS. This process is called epenthesis. The second movement in the sign head (a) is an epenthetic movement which disappears in the compound [Morphology 1.] form head^ache (b), as the structure of the compound does not require any additional movements.

a. head

‘head’



b. head[^]ache

‘headache’



3.2.2. Syllable reduction

One syllable of the disyllabic signs [[Phonology 2.1.1.](#)] which include two repeated movements can be reduced in compounds [[Morphology 1.](#)]. This process typically correlates with the speed of signing. This is exemplified below in (a-b) where the movement (or syllable) in two syllabic words WORK and WRITE got reduced when those appear as the heads of compounds in quick signing DOCTOR[^]WORK ‘doctoral thesis’ and PATIENT[^]WRITE ‘sick note’ respectively.

a. WORK – DOCTOR[^]WORK (normal speed) – DOCTOR[^]WORK (quick speed)

‘doctoral thesis’



b. WRITE – PATIENT[^]WRITE (normal speed) – PATIENT[^]WRITE (quick speed)

‘sick note’



3.2.3. Syllable reanalysis

In DGS disyllabic signs which are articulated in two different locations and include a transitional movement between those locations can be reanalyzed in fast signing. In those cases, the transitional movement becomes the only movement of the sign and the sign becomes monosyllabic. An example of a syllable reanalysis in DGS can be seen below where the second movement of the sign HEALTH is reduced in fast signing.

HEALTH (normal speed) – HEALTH (quick speed)

‘health’



3.3. Processes affecting the prosodic word

Phonological processes that has an effect on prosodic word are not easily separable from morphological (reduplication and compounding) [Morphology 1] as well as syntactic-prosodic processes (cliticization) in DGS.

3.3.1. Reduplication

Reduplication is a process in which some or all parts of a sign are copied and repeated. In DGS, reduplication is typically used to express aspect [[Morphology 3.3.](#)] and plurality [[Morphology 4.1.](#)]. The examples of reduplication are given in (a) and (b). In (a) a monosyllabic one-handed sign CHILD is reduplicated to form a plural form in which the movement gets reduced and the sign gets extended towards ipsilateral side of a signer. In (b) a monosyllabic one-handed sign VISIT is reduplicated to express habitual aspect [[Morphology 3.3.1.1.](#)].

a. CHILD – CHILD⁺⁺

‘a child - children’



b. VISIT – VISIT⁺⁺.HABIT

‘to visit’ - ‘to visit’ repeatedly



3.3.2. Phonological effects of cliticization and compounding

Cliticization and compound formation are the two processes which can have an influence on the prosodic word in DGS. In cliticization, at least two signs are combined to form a syntactic unit. This process might involve a coalescence [[Phonology 3.1.2.](#)] where two phonetic forms are fused into a single one. In the DGS examples below the participles PAM and NOT are cliticized to the stems PROUD (a), TASTE (b) and EXIST (c) respectively.

a. PROUD[^]PAM

‘proud of’

(based on Steinbach & Pfau, 2007: 323)



b. TASTE – NOT – TASTE[^]NOT

‘taste’ – ‘not’ – ‘does not taste (good)’

(based on Schwager, 2012: 76)



c. EXIST – NOT – NOT[^]EXIST

‘exist’ – ‘not’ – ‘no one’

(based on Schwager, 2012: 76)



In compounding two stems are combined into one lexical unit [Morphology 1]. This process may include various phonological processes such as syllable reduction or assimilation as can be seen in the DGS examples (a-c) below. In examples (a-c), the movement of the signs SIGN, COLLEAGUE and NEW are reduced when these forms appear in compounds.

a. SIGN – LANGUAGE – SIGN[^]LANGUAGE

‘sign’- ‘language’ – ‘sign language’

(based on Becker, 2001: 155)



b. WORK – COLLEAGUE – WORK[^]COLLEAGUE

‘work’ – ‘colleague’ – ‘workmate’

(based on Becker, 2001: 156)



C. NEW-YEAR – NEW^YEAR

‘new’ – ‘year’ – ‘new year’

(based on Pfau & Glück, 1997: 35)



3.4.1. Organization of the signing space

The dimension of the signing space in DGS may differ depending on the quantity of the signed material. The more material is used the more extended the signing space is either horizontally or vertically. In the examples below the simple declarative sentence [Syntax 1.1.] is signed in the neutral space (a). An embedded sentence [Syntax 3.2.] as in (b) includes more material and extends the space vertically, the sentence expressing contrast in (c) uses the most extended vertical space.

a. E-V-A MILK BUY

‘Eva buys milk’



b. P-E-T-E-R 3PAM₁ TELL E-V-A MILK BUY

‘Peter tells Eva to buy milk’



C. E-V-A MILK BUY P-E-T-E-R MEAL COOK

‘Eva buys milk and Peter cooks’



3.4.2. Differences in “loudness”: Whispering and shouting mode

Different modes of communication may influence reduction or extension of the sign parameters as well as the dimension of the signing space used for expression of the signs in DGS. In whispering mood typical in the context of gossip, all parameters of the signs as well as the dimension of the signing space are reduced. On the other hand, the size of the signs as well as the signing space are increased when the interlocutors aim to transmit a signed message in a loud mood over distance or to a large audience.

a. Context: Peter is not in the context, but everyone else is discussing buying a present for him and the signer wants to make sure the information is visible for everyone in the room.

(Loud mode)

IX₁ PRESENT FOR P-E-T-E-R BUY FINISH

‘I bought a present for Peter.’



b. Context: Peter is in the context and the signer does not want him to see the information about his present.

(Whispering mode)

IX₁ PRESENT FOR P-E-T-E-R BUY FINISH

‘I bought a present for Peter.’



Information on data and consultants

See the references below for information on data and consultants. The sign language data provided in the examples and videos were discussed, produced or recreated for this chapter with a support of one deaf native consultant of DGS (female, 27).

The signer was born and raised in Germany, is located in the South of Germany and is using DGS as her primary means of communication.

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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 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 as in the examples a), b) and c) [[Lexicon 3.4](#)], and with determiners [[3.6. Determiners](#)] to form a noun phrase, as can be seen in examples d).

a. HOUSE RED

‘(a) red house’



b. HOUSE BIG

‘(a) big house’



C. PERSON BIG

‘(a) big person’



d. HOUSE IX₃

‘(the) house there / this house’



The order of a manually articulated combination of noun and adjective as well as a combination of determiner and noun within a noun phrase [Syntax 4.] 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 item. These stand in contrast to proper nouns and sign names like ARIS 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 of their meaning, such as referring to abstract or concrete entities.

An example of a common noun referring to a class of concrete entities is HOUSE, as seen in the following.

HOUSE



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

IDEA



Although many nouns that refer to cognitive states – such as IDEA, KNOWLEDGE, PHILOSOPHY, PROFESSOR – are articulated at the signer’s head, there is no phonological distinction between abstract and concrete common nouns in DGS. For example, the abstract noun MATHEMATICS as well as the concrete noun RAIN are both not body-anchored and articulated in neutral signing space.

A further semantic classification of common nouns can be distinguished with regard to the countability of the entities that are 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 [Morphology 4.]. In contrast, count nouns in DGS can inflect for number. However, the type of number inflection depends on some phonological parameters of the noun sign. The noun CHILD is a single-handed, non-body-anchored sign in neutral signing space. It will inflect for plural by reduplication and a sideward movement of the sign. Instead, the noun TREE is a two-handed sign, in which the non-dominant hand has contact with the dominant arm, signed in neutral signing space. TREE will inflect for plural by only 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 [Lexicon 3.10.] has to indicate the plurality.

Nouns that are related to a specific object or entity 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 sentence context gives a clue about the status of the verb, as can be seen in the following example.

_____re _____hn

a. FRANKFURT OLD AIRPLANE IX(loc)_a IX(dem)_a COLOR GREEN

‘In Frankfurt there is an old airplane that is green.’



b. LAST YEAR IX₁ NEW-ZEALAND 1FLY_{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 only be detected in distributional terms, that is, by its place of occurrence within the sentence. Thus, for some signs in DGS the classification status of verb or noun can only be clarified either by the syntactic or the semantic context, or in some cases also by the mouthing of the sign [Phonology 1.5.2.].

This incident of phonologically identical nouns and verbs such as AIRPLANE and FLY relates to two groups of noun-verb pairs that are formed by derivation [Morphology 2.]. The first group contains object nouns and their verbal derivatives that express the handling or the action of the object as shown in a): SCISSORS – CUT, WINDOW – OPEN_WINDOW, IRON (N) – IRON (V), AIRPLANE – FLY, , HAMMER (N) – HAMMER (V), etc. The second group contains reciprocal verbs and a derived noun denoting the acting out of the verb as in example b): NEGOTIATE – NEGOTIATION, MEET – MEETING, DISCUSS – DISCUSSION, GIVE-FEEDBACK – FEEDBACK, ETC.

a. verb-noun pairs: SCISSORS – CUT, WINDOW – OPEN_WINDOW, IRON (N) – IRON (V), AIRPLANE – FLY



b. verb-noun pairs: NEGOTIATE – NEGOTIATION, MEET – MEETING, DISCUSS – DISCUSSION, GIVE-FEEDBACK – FEEDBACK



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, SPAIN, AFRICA), 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. This handshape presents a symmetrical reflection of the famous television tower in central Berlin, an extended index finger would be less symmetrical.

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 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.

POLAND-POLAND
'Poland'



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. These name signs are 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 name sign can also relate to the person’s first or last name (for example, like the shape of the moon for *Luna*), and often the handshape initializes the first letter of the first name (a sign name with an F-handshape for *Frederick*) [Lexicon 2.2.1.]. Interestingly, in some cases, a name sign can also be a translation of the German word into the DGS sign. A person with the last name *Fischer* or *Schmidt*, can thus be given the name sign FISH or SMITH. Even some German first names can be translated to be a name sign: *Ernst* – SERIOUS, *Helen* – BRIGHT, etc. However, name signs are given individually to each person and are not generalized for certain names. Thus, there is not one name sign for the name *Peter* and not every *Helen* gets the sign name BRIGHT.

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 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. 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 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. Hence, 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. LIKE



b. BUY



c. PLAY



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.

COOK



A further approach to identify plain verbs is by their argument structure [[Syntax 2.1.](#)]. That is, whether the verb requires only a subject to be grammatically correct or whether the verb also needs a direct and/or indirect object. The assumption would be that all verbs requiring only a subject, i.e. intransitive verbs (e.g. `SLEEP`, `THINK` or `SWIM`), are plain verbs, whereas all verbs that also need an object (e.g. `VISIT`, `ASK` or `DRIVE`) are either agreement verbs or spatial verbs. However, this constraint is also not sufficient to classify all plain verbs. Indeed, it is the case that the intransitive verbs `SLEEP`, `DIE` or `LAUGH` are plain verbs and that they can be body-anchored (`LAUGH`) as well as not body-anchored (`DIE`). But, there are also many plain verbs, which are transitive verbs and require a subject as well as an object (e.g. `PLAY`, `TRUST`, `BUY`, `COOK` or `REPEAT`). These can also be body-anchored (`TRUST`) as well as not body-anchored (`PLAY`). In conclusion, the argument structure of a verb is not a sufficient criterion to identify plain verbs. But a valid rule is that those verbs, which require a subject, a direct object and an indirect object, i.e. ditransitive verbs like `give`, `order` or `show`, cannot be plain verbs but are agreement verbs in DGS.

a. Intransitive verbs (`SLEEP`, `THINK`, `SWIM`, `DIE`, `LAUGH`)



b. Transitive verbs (not plain verbs) (`VISIT`, `ASK`, `DRIVE`)



c. Transitive verbs (plain verbs) (PLAY, TRUST, BUY, COOK, REPEAT)



d. Ditransitive verbs (agreement verbs) (GIVE, ORDER, SHOW)



3.2.2. Agreement verbs

Agreement verbs in DGS can be manually modified in order to show agreement with locations in the signing space. These locations in signing space are associated with the subject and/or (indirect) object. The path movement of the verb can then be adapted so that the beginning point coincides with the locus of the subject argument and the end point coincides with the locus of the object argument [Morphology 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.

a. ₁HELP_{3b}



b. $3b_{HELP_1}$



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.

a. $1_{EXPLAIN_2}$



b. $2_{EXPLAIN_1}$



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.

a. ₁CRITICIZE_{3a}



b. _{3a}CRITICIZE₁



Additionally, some agreement verbs can be modified by the use of classifier constructions [Morphology 5.]. The hand configuration of give can be modified according to the class of objects, for instance.

a. GLASS CL(

b. FLOWER CL(

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^{PICK_UP}₁
‘I pick-up this/that’



b. IX₁ T-I-M 3a^{INVITE}₁
‘I invite Tim.’



With regard to their argument structure, agreement verbs can be transitive verbs (VISIT, HATE, HELP) and ditransitive verbs (GIVE, BORROW, EXPLAIN, SHOW). Intransitive verbs (SLEEP, THINK, SWIM) cannot be agreement verbs that show manual agreement via path movement. However, the usage of the intransitive verb DIE is undergoing grammatical changes and can now 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 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 (i.e. spatial) arguments. From a semantic perspective, spatial verbs denote actions of movement (GO, DRIVE, 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 L-E-A STAND_{3a}

‘Lea stands on the right side of the house.’



b. HOUSE IX 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 COLOGNE FAMILY _{3a}DRIVE_{3b}

‘The family drives from Berlin to Cologne.’



b. COLOGNE BERLIN 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 _aMOVE_b

‘I move a book in the shelf from here to there.’



b. SHELF IX₁ BOOK _aMOVE_c

‘I move a book in the shelf from here to there.’



Additionally, spatial verbs are highly productive in being modified by the use of classifier constructions [see [Morphology 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:

3.3.4. Agreement markers

DGS distinguishes plain, spatial and agreement verbs [[Lexicon 3.2.](#)]. Whereas agreement verbs show agreement with their subject and/or (indirect) object arguments via modulating path movement and/or finger- and hand orientation, plain verbs are not modulated to show agreement with their associated arguments [[Morphology 3.1.](#)]. In those cases, the agreement marker *PAM* (person agreement marker) can combine with plain verbs and expresses agreement with the subject and/or object argument by modulating movement and orientation. As shown in (a), the path movement of *pam* starts at the location in space associated with the subject and ends at the location associated with the object and the fingertips are orientated towards the object argument.

a. MOTHER IX_{3a} NEIGHBOR NEW IX_{3b} LIKE 3_aPAM_{3b}

‘(My) mother likes the new neighbor.’

(based on Steinbach & Pfau, 2007:322)



PAM has been grammaticalized from the noun person in DGS and is not only restricted to plain verbs. Furthermore, PAM occurs with inflected agreement verbs as in (a) or with uninflected agreement verbs as in (b).

a. FATHER_{3b} 3_bPAM_{3a} GRANDMOTHER_{3a} GARDEN 3_bSHOW_{3a}

‘Father shows grandmother the garden.’



b. NEW WORK[^]PERSON⁺⁺3b POSS3bpl NEW BOSS3a ACCEPT 3bPAM3a

‘The new employees accept their new boss.’



As demonstrated above, PAM usually combines with animate arguments, but it can also combine with inanimate arguments that have a strong personal value for the signer as shown below.

IX1 POSS1 CERTIFICATE3a LOOK_FOR 1PAM3a

‘I am looking for my certificate.’



Additionally, PAM can occur with adjectival predicates as demonstrated in (a) and can extend the argument structure of a verb as in (b).

a. IX₁ POSS₁ SON IX_{3b} 1PAM_{3b} PROUD

‘I am proud of my son.’






b. TEACHER _{3b}PAM_{3a}++ STUDENT++ CONTENT REPEAT

‘The teacher repeats the content for the students.’




For the syntactic position of PAM see [[Syntax 2.3.1.2.](#)].

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 1.2.2.](#)] for further information on pointing.

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

3.7.1. Locative and demonstrative pronouns

Locative pronouns can refer either to the actual location of a place (such as a living room next door) or they refer to a spatial area associated with a certain place, meaning ‘here’ or ‘there’. In DGS, locative pronouns, just as personal and demonstrative pronouns, are expressed by a -handshape. However, the final point of the path movement of the locative pronoun is produced more abruptly than with personal pronouns and less abruptly than with demonstrative pronouns.

- a. FRANKFURT IX(loc)_a SIGN LANGUAGE INTERPRETER FURTHER DEVELOP CAN
‘In Frankfurt, sign language interpreters can develop further.’
(based on Happ & Vorköper, 2006:97)




- b. IX(loc)_a STUDENT SIGN, SPOKEN_LANGUAGE IX_{3a+3bpl} GRAMMAR GRAMMAR ALONG_WITH INTERPRETER METHOD DIFFERENT ALL LEARN

‘There (at that place), students learn grammar of sign language, grammar of spoken language and also different interpreting methods.’

(based on Happ & Vorköper, 2006:97)



The function of demonstrative pronouns is to refer to a specific objects, people or places. In DGS, just as locative pronouns [[Lexicon 3.7.1.](#)] and personal pronouns [[Lexicon 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 a particular mouth gesture ‘*ch*.’ These pronouns can optionally be accompanied by an eye gaze or an intensive head nod in the direction of the pointing sign. Examples of demonstrative pronouns in DGS are given below.

- a. IX(dem)_a *ch* (‘this’)
(based on Mehling, 2010: 113)




- b. MAN IX(dem)_a++POSS₃ FRIEND MEET. IX_{3a} HAPPY.

‘This man meets his friend. He is happy.’

(based on Happ & Vorköper, 2006:97)



3.7.2. Personal pronouns

Personal pronouns stand for a noun or a noun phrase [[Syntax 4](#)] referring to people or things. These types of pronouns can refer to present or non-present referents via pointing to the spatial locations previously associated with these referents. In DGS, personal pronouns are usually articulated with  -handshape [[Lexicon 1.2.2.](#)], but they can also be expressed by non-manuals such as eye-gaze or head tilt.

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

IX₁ (‘I’) IX₂ (‘you’) IX_{3a} (‘she/he/it’) IX_{3b} (‘she/he/it’)
(based on Papaspyrou et al., 2008: 137)



Singular pronouns can as well be articulated in a lower signing space or only with non-manuals. These are pragmatically governed cases and include the contexts, where the referents of these pronouns are not wanted to be expressed overtly/directly by the signers (for instance when gossiping about a person who is present).

eg-right

ht-right

- a. IX_{3a}



- b. IX_{3a} (Hidden by palm)
 _____re
 h1: PALM_UP
 h2: IX_{3a}



- c. eg-right (IX_{3a} only nonmanual marking)
tongue-right



- d. eg-right
ht-right (IX_{3a} NMMeyegazeheadhilt)



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

3.7.2.1. Person

DGS pronouns encode a three-way person distinction, which corresponds to a difference between first, second and third persons. The differentiation between first and non-first persons is done based on the orientation of the palm. In particular, for first person the palm is oriented inwards (towards the chest), and for second and first person pronouns the palm is oriented outwards (towards a specific person or locus in the signing space). In addition, for second person the eye gaze typically accompanies the pronoun while for third person the eye gaze optionally accompanies the pronouns. Further distinction between non-first persons can also be made be clear in the context.

3.7.2.2. Number

DGS marks a distinction between singular, dual and plural forms of the pronouns. In singular form, the index finger points either to the present referent or to the spatial location associated with that referent [[Lexicon3.7.2.](#)]. The dual form is articulated with a different handshape. Common handshapes used in dual forms are - handshape, - handshape, or - handshape. Extended fingers in dual form of the pronouns correspond to the number of the referents. Dual pronouns move back and forth between the loci of their 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_{1+2pl} ('Two of us')

(based on Papaspyrou et al., 2008: 138)



b. IX_{2+3apl} ('Two of them')

(based on Papaspyrou et al., 2008: 138)



c. $IX_{1plcoll}$ ('We') (variant1) $IX_{1plcoll}$ ('We') (variant2) $IX_{2plcoll}$ ('You') $IX_{3plcoll}$ ('They') (collective plural)

(based on Papaspyrou et al., 2008: 137)



d. $IX_{1pldist}$ ('We') $IX_{2pldist}$ ('You') $IX_{3pldist}$ ('They') (distributive plural)



3.7.2.3. Clusivity

In DGS, plural pronouns can be inclusive or exclusive. First person plural pronoun 'we' is inclusive when the addressee (second person) is included in the class of the referents marked on that pronoun. The same pronoun is exclusive when the addressee is not included in the set of the referents. Moreover, not only the addressee but also any other discourse prominent referent can be excluded from the set of referents. Inclusive pronouns are produced proximate to the body with an arc movement. On the other hand, exclusive forms are produced distant from the body and slightly on the side, with the same movement. In DGS, extension of the fingers can indicate up to ten referents represented on both hands, which can be expressed either in inclusive or exclusive manner. The examples below illustrate inclusive (a) and exclusive (b) usages of the pronouns.

a. IX_{1+2pl} ('Two of us') $IX_{1+2+3pl}$ ('Three of us') $IX_{1+2+3+4pl}$ ('Four of us') $IX_{1+2+3+4+5pl}$ ('Five of us')

(based on Papaspyrou et al., 2008: 138)



b. IX_{2+3apl} ('Two of them') $IX_{2+3a+3bpl}$ ('Three of them') $IX_{2+3a+3b+3cpl}$ ('Four of them') $IX_{2+3a+3b+3c+3dpl}$ ('Five of them')



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

a. IX₂[proximal]



b. IX₂[distal]



Another honorific pronoun which is rarely used in DGS and is mainly influenced by the spoken German is signed with a -handshape. The pointing direction of the thumb indicates the person of a higher status.

IX₂[honorific]



3.7.2.7. Logophoric pronouns


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

a. IX₂[proximal]



b. IX₂[distal]




Another honorific pronoun which is rarely used in DGS and is mainly influenced by the spoken German is signed with a -handshape. The pointing direction of the thumb indicates the person of a higher status.

IX₂[honorific]



3.7.3. Possessive pronouns

Possessive pronouns in DGS have deictic as well as anaphoric functions, only the third person possessive pronoun can be cataphoric. These pronouns are produced in the same manner as personal pronouns with the only difference that they are articulated with a -handshape. The signer points to the person or subject with the palm of the hand vertically oriented towards that referent.

The plural form of possessive signs can be expressed through reduplication in the direction of one locus, or through sideward movement towards a locus representing a group of referents.

- a. POSS₁ ('My') POSS₂ ('Your') POSS₃ ('His/Her') (variant 1)

(based on Papaspyrou et al., 2008: 140)



POSS₁ ('My') POSS₂ ('Your') POSS₃ ('His/Her') (variant 2-north)



b. POSS_{1plcoll} ('Our') POSS_{2plcoll} ('Your') POSS_{3plcoll} ('Their')

(collective plural)



c. POSS_{1pl}dist ('Our') POSS_{2pl}dist ('Your') POSS_{3pl}dist ('Their')

(distributive plural)



Possessive pronouns are used only in the contexts where the signer wants to make the possessive relation explicit. However, there are also contexts, in which the possessive pronoun can be left out. An example of a possessive relation expressed without an overt possessive pronoun can be seen below.

DAUGHTER ₃HELP₁

‘My daughter helps me.’

(based on Mehling, 2010:109)



In cases where possessive pronouns are left out, possessive relation can be emphasized with a strong head nod on the possessed element. This can be seen in the example below, where the head nod on the sign *SISTER* and a short break after it has the meaning ‘my sister’ (a). However, without the head nod the meaning would be ‘sister of Eva’ (b).

hn hn

- a. EVA SISTER CAR_DRIVE LEARN
 ‘Eva, my sister, learns to drive.’

(based on Mehling, 2010: 110)



- b. EVA SISTER CAR_DRIVE LEARN
'Eva's sister learns to drive.'

(based on Mehling, 2010: 110)



In terms of their distribution in the sentences possessive pronouns always precede possessed items. This is shown in the DGS example below.

MAX POSS₃ CAR SELL

'Max sold his car.'



3.7.4. Reflexive and reciprocal pronouns

Reflexive pronouns appear in direct or indirect object position of a sentence. These pronouns have the same referent as the subject of the same sentence. In terms of form, reflexive pronouns have a handshape with the outer left side of the palm oriented towards the signer. This form is only 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 with an optional usage of pronoun SELF (a-b). This is shown in DGS examples below.

- a. PETER SHOWER WASH
'Peter takes a shower (himself).'

(based on Mehling, 2010: 104)



- b. PETER SELF SHOWER WASH
'Peter takes a shower (himself).'

(based on Mehling, 2010: 104)



Reciprocal relations, just as reflexive ones, include a co-referential link between the agent and the undergoer of the event appearing in the same clause. However, in reciprocal relations, plural referents (a minimum number of two) are involved. In DGS, reciprocity is not marked on pronouns but rather expressed on the verbs [[Morphology 3.1.3.](#) and [Syntax 2.1.3.4.](#)].

3.7.5. Interrogative pronouns

Interrogative pronouns are the proforms typically used in wh-questions [[Syntax 1.2.3.](#)]. DGS is a language with a large inventory of interrogative pronouns, including simplex and complex forms of these signs. The realization of interrogative pronouns can show dialectal variation in DGS. Examples of interrogative pronouns are the following.

- a. WHO



- b. WHAT



c. HOW



d. WHERE



e. WHERE_FROM



f. WHERE_TO



g. WHEN



h. HOW_MUCH



i. WHY



j. WHY_EVER



k. WHICH

(based on Papaspyrou et al., 2008: 143)





l. WHO^PAM ('whom')


(based on Happ and Vorköper, 2014: 323)



3.7.6. Relative pronouns

Relative clauses [[Syntax 3.4.](#)] 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. The relative pronoun for humans is realized with  -handshake (also a classifier handshake for humans in DGS), while the relative pronoun for non-human entities has  -handshake. Relative pronouns are accompanied with eyebrow raise, which is also used to mark topics in DGS [[Pragmatics 4.3.2.](#)]. These pronouns are not marked for number and can agree with loci associated with the referents they co-refer with. The examples of relative pronouns in DGS are given below.


—re

- a. MAN IX_{3a} IX() CAT STROKE BEAUTIFUL
'The man, who is stroking the cat, is handsome'

(based on Pfau & Steinbach, 2005: 512)



—re

- b. BOOK IX() POSS₁FATHER READ INTERESTING
'The book, which my father reads, is interesting.'

(based on Pfau & Steinbach, 2005: 512)



3.7.7. Indefinite pronouns

Indefinite pronouns are used to refer to people, objects or places having indeterminate characteristics or which are uncertain in number. DGS uses different forms of indefinite pronouns for human and non-human referents. The indefinite pronouns referring to humans are typically expressed by compound signs [Morphology 1.] (a), while the ones referring to non-humans are usually articulated by simplex forms (b). Both types are expressed on the upper part of the signing space.

- a. SOME^PERSON('someone')

(based on Papaspyrou, et al. 2008: 143)



- b. SOME_WHERE('somewhere')

(based on Papaspyrou, et al. 2008: 143)



3.9. Conjunctions

A conjunction is a part of speech that joins words, phrases or clauses. In this section different types of conjunctions are considered: coordinating conjunctions, subordinating conjunctions and correlative conjunctions. Coordinate conjunctions join words, phrases or clauses which have the same syntactic status. Subordinating conjunctions connect main and embedded clauses and correlative conjunctions, which consist of a pair of conjunctions, link words or phrases.

3.9.1. Coordinating conjunctions

Coordinating conjunctions such as *and*, *or* and *but* connect two or more words, phrases and clauses on the same syntactic level. DGS lacks the conjunction *and*. However, the sign PLUS, which is a derived sign from the manual speech system LBG (lautsprachbegleitendes Gebärden), occasionally occurs in natural signing.

PLUS



FAMILY TOGETHER PLUS FRIEND THERE

'The family is together and friends are also there.'



Usually, coordination is prosodically marked and realized by a small pause between the single conjuncts as in the following.

MARC JUICE DRINK LISA BREAD EAT

'Marc drinks juice and Lisa eats bread.'

(based on Happ & Vorköper, 2006:538)



The signs BUT and OR are more common in DGS and are used in different dialectal variations as demonstrated below.

a. BUT(1)



b. BUT(2)



c. BUT IX_{pl} TRAINER HEARING HIRE IX₁ NOT NO
'But they hired a hearing trainer, I don't like it.'
(CDGS_ber_02_free conversation_00:01:32.30-00:01:35:40)

d. OR(1)



e. OR(2)



f. OR(3)



g. EXAMPLE PARTNER OR POSS₁ FAMILY OR FRIEND DISPUTE
'For example, a dispute with the partner or my family or a friend.'
(CDGS_fra_16_free conversation: 00:11:50:44-00:11:55:00)

3.9.2. Subordinating conjunctions

A subordinating conjunction is a word or phrase that introduces an embedded clause and/or connects main and embedded clause. The subordinating conjunction expresses a relationship between both clauses which is related to a change in time or place or indicates a cause or effect.

In DGS, manual subordinating conjunctions are rare. Embedding is usually expressed non-manually as demonstrated in the conditional clause [[Syntax 3.5.1.](#)] below.

bl-f,re _____ bl-b
TOMORROW OUTSIDE HOT IX_{1pl} OUTSIDE SEA SWIM CAN
'If it's going to be hot outside tomorrow, we can swim in the sea.'



But with certain adverbial clauses [[Syntax 3.5.](#)], DGS uses manual subordinating conjunctions which are illustrated below. In conditional clauses as above [[Syntax 3.5.1.](#)], the antecedent may be introduced by the manual signs IF1 or IF2 and the consequence is manually marked by THEN.

a. IF1



b. IF2



c. THEN



re

- d. IF TOMORROW OUTSIDE HOT THEN IX_{1pl} OUTSIDE SEA SWIM CAN
'If it's going to be hot tomorrow, we can swim in the sea.'



The sign REASON has grammaticalized from the noun *reason* and may be used as subordinating conjunction to introduce reason clauses [Syntax 3.5.5.] as shown in (a). Similar, the wh-sign WHY [Syntax 1.2.3.2.] has grammaticalized into a subordinating conjunction illustrated in (b).

- a. IX₁ SAD REASON DOG PAST DIE
'I am sad because (my) dog died in the past.'

(based on Herrmann & Steinbach, 2012: 806)



- b. TODAY IX₁ EARLY GET_UP WHY IX₁ 7_O_CLOCK WORK BEGIN
'I got up early today because I start working at 7 o'clock.'
(based on Paspasyrou et al, 2008: 188)



Purpose clauses [Syntax 3.5.6.] may be introduced by THEREFORE ('deshalb').

POSS₁ CAR TIRE PLAT THEREFORE GARAGE BACK
'My car has plat tire therefore I bring it back to a garage.'
(recreated from Paspasyrou et al. 2008: 187)



Concessive clauses [[Syntax 3.5.7.](#)] may be introduced by **THOUGH** ('trotzdem') or **ALTHOUGH** ('obwohl) or **NO_MATTER** ('egal').

- a. IX_{3b} BOY SICK **THOUGH** IX_{3b} GO SCHOOL MUST
'The boy is sick though he must go to school.'



- b. TODAY IX_{1pl} STILL CONTACT **ALTHOUGH** LIVE DIFFERENT CITY
'Today we still have contact although (we) live in different cities.'
(based on CDGS_koe_15_Experience as a Deaf: 00:10:39:11-00:10:42-46)

- c. TOOTHPASTE EMPTY **NO_MATTER** TOOTH_BRUSH MUST
'The toothpaste is empty but you still have to brush the teeth.'



3.9.3. Correlative conjunctions

Correlative conjunctions consist of two items such as *either...or* and join similar words and phrases. In DGS, a shift in body posture signals a correlative relationship which resembles the English expressions *either...or*.

 bl-left bl-right

BERLIN TO GOETTINGEN IX₁ TRAIN BUS



Information on data and consultants

See the references below for information on data and consultants.

The sign language data provided in the videos and images in these chapters were discussed, produced or recreated with a support of six deaf native consultants of DGS (female, 27, located in the South of Germany; male, 31, located in the North of Germany; male, 38 located in the North of Germany; male, 27, located in the North of Germany; female, 24, located in the North of Germany). All signers were born and raised in Germany and are using DGS as their primary means of communication.

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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 [[Lexicon 3.2.1](#)] 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 [Lexicon 3.2.2] 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. ₁ASK₂



b. ₁HELP₂



Verbs that mark agreement by a change in finger or hand orientation are for example INFLUENCE and EXPLAIN. The back of the hand is orientated towards the subject while the fingertips face the object.

a. ₁INFLUENCE₂



b. ₁EXPLAIN₂





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

₁SHOW₂



The third verb class distinguished in DGS is spatial verbs [Lexicon 3.2.3]. 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 see [Morphology 5]. 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. PERSON CL(2-legs): ‘stand’



b. BOOK CL(B-hand): ‘stand’



An example for an agreement verb that is modified by a handling classifier handshape [Morphology 5.1.3] is the sign *GIVE*.

a. BROOCH CL(): ‘₁give₂’



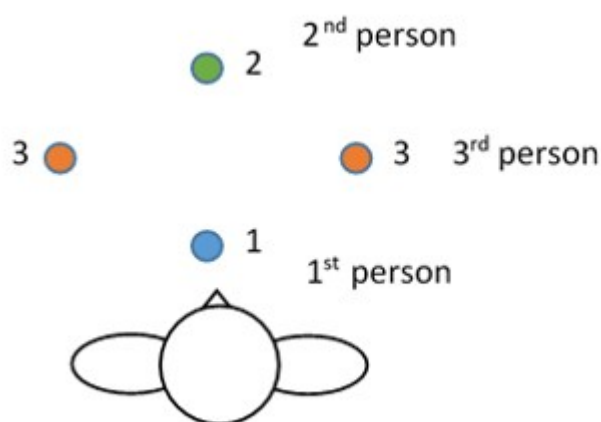
b. CARTON CL(): ‘₁give₂’



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 [Pragmatics 8]. 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 the 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.



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 [Syntax 2.1.1] visit 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 visit starts at the location associated with the subject ('grandchild') and ends at the locations associated with the object ('grandfather'). The verb assigns the thematic role of 'agent' to the subject and the thematic role of 'patient' to the direct object. Furthermore, visit 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 ('grandchild') and the fingertips are orientated toward the object ('grandfather').

grandchild_{3a} grandfather_{3b} 3a visit_{3b}

'The grandchild visits the grandpa.'

(based on Happ & Vorköper, 2005: 90)



Whereas visit is articulated in front of the signer's chest, other (di)transitive verbs like ask and inform in DGS 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.

$_1\text{ask}_2$

'I ask you.'



However, ditransitive verbs [Syntax 2.1.1.1] like show agree with the subject and the indirect object as shown in the example below by the indices.

grandmother_{3a} grandchild_{3b} poss_{3a} necklace_{3a} show_{3b}

'The grandmother shows the grandchild her necklace.'

(based on Happ & Vorköper, 2006: 85)



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'.

$_1\text{accept}_3$

'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 'he/she picks me up'. Compared to (b), which has the meaning 'I pick him/her up'.

a. $_1\text{pick_up}_{3b}$

'he/she picks me up.'



b. $_{3b}\text{pick_up}_1$

'I pick him/her 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. $_1\text{invite}_2$

'You invite me.'



b. $_2\text{invite}_1$

'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.



In addition, there are verbs like *HATE* and *TRUST* that allow only for object agreement. In most of the cases, these are verbs in which the starting point of the movement involves contact with the body. *TRUST* grammaticalized from a plain to an agreement verb and can now encode 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. The subject, however, is expressed by an overt noun or pronoun.

${}_1\text{TRUST}_3\text{a}$



In DGS, eye gaze seems to be linked to manual agreement, but cannot be considered as an obligatory agreement marker. In some cases, the signer's eye gaze may be directed towards the object or locative argument as illustrated in the example below.

eg-down

TABLE DOLL FALL

'The doll fell off the table.'



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 into local verbs like *SIT*, *STAND*, *LIE* and 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.

Spatial verbs involve a classifier handshape, i.e. handshape or hand orientation of the verb changes according to semantic properties of the argument [see [Morphology 5](#)]. In (b) *put* is signed with a - handshape to reflect the properties of the vase. In (c), however, the verb *put* changes its handshape () according to the visual-geometrical properties of the book.

- a. E-V-A STUTTGART_aFRANKFURT_b CL: 'drive_from_a_to_b'
'Eva drives from Stuttgart to Frankfurt.'

(based on Happ & Vorköper, 2006: 138)



- b. SHELF_a GIRL VASE CL (👉): ‘put_into_a’
 ‘The girl put the vase into the shelf.’

(based on Happ & Vorköper, 2005: 92)



- c. TABLE_a PROFESSOR BOOK CL (👉): ‘put_on_a’
 ‘The professor put the book on the table.’

(based on Happ & Vorköper, 2006: 165)



In the context of spatial verbs, word order [Syntax 2.3] may be influenced by the semantic and geometrical properties of the entities. Bigger and less mobile entities serving as the ‘ground’ are signed before smaller and more mobile entities called the ‘figure’. In the above-mentioned examples the bigger entities ‘shelf’ and ‘table’ signed first following the smaller objects ‘vase’ and ‘book’. This 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 at the same time, the dominant hand is signing the entities representing the figure. The example below illustrates how the non-dominant hand signs the bigger entity TREE and is held 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 CL (👉): ‘sit_on’
 ‘The bird sits on the tree.’

(based on Happ & Vorköper, 2006: 139)



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. Or they can be body-anchored, but then involve a sagittal movement like THANK OR ORDER. In example below the not body-anchored verb BUY is signed at same location in space, where the bookstore was localized before.

YESTERDAY BOOKSTORE_a MAN BOOK BUY_a

‘The man bought a book at the bookstore yesterday.’

(based on Happ & Vorköper, 2006: 207)



3.1.2. Number markers

Verbs that allow for a spatial modification of movement and/or orientation can express number distinctions. In general, verbs can be divided into a singular and plural verb form and 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.

In addition to agreement and spatial verbs, which modify movement and orientation, plain verbs like DIE sometimes show plural marking. In the example below, DIE is reduplicated at different locations in space, thus expressing that several people have died.

PERSON⁺⁺ DIE_a DIE_b DIE_c

‘Several people have died’

(based on Papaspyrou et al., 2008: 157)



3.1.2.1. Dual

The dual form signals that two entities are involved. In most of the cases the dual is expressed by using numerals [Lexicon 3.10], determiners [Lexicon 3.6] or pronouns [Lexicon 3.7]. But verbs sometimes mark dual by either (i) reduplication or (ii) adding the non-dominant hand in case of a one-handed sign.

In the example below, the agreement verb GIVE_AS_PRESENT is reduplicated to express the dual form. Since GIVE_AS_PRESENT is a two-handed sign in DGS, it moves from a location in front of the signer’s body towards the addressee and is reduplicated the same way by starting again in front of the signer’s body.

PROFESSOR_{3a} STUDY_{3b} STUDY_{3c} PERSON_{3b} PERSON_{3c} BOOK_{3a} GIVE_AS_PRESENT_{3b3a} GIVE_AS_PRESENT_{3c}

‘The professor gives a book to each of the students.’

(based on Happ & Vorköper, 2006: 203)




If the verb is a one-handed sign, the non-dominant hand can be added as illustrated below. GIVE is a one-handed agreement verb in DGS and normally articulated by the dominant hand. To make clear, that two objects are given, the non-dominant hand can be added and realizes the verb simultaneously.

dominant hand:

EVA_{3a} MARC_{3b} BOTTLE_c BOTTLE_d CL(

non-dominant hand:

CL(

‘Eva gives Marc two bottles at the same time.’

(based on Happ & Vorköper, 2006: 202)



3.1.2.2. Multiple

The multiple plural form is usually realized by an insertion of a horizontal arc into the movement of the verb. For example, the sentence ‘I ask them’ is realized as shown below. The verb starts near the signer’s mouth and then moves in a continuous manner from a location at the contralateral side in an arc to a location at the ipsilateral side of the signing space.

¹ASK_{3pl-arc}
‘I ask them’

(based on Rathmann & Mathur, 2008:199)



In the above example, the object is a non-first person, therefore the arc faces outwards. If the object is marked for first person and plural, the arc faces inwards. The plural form of a subject is not expressed.

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 each of them.’



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 [[Lexicon 3.2.1](#)] and agreement verbs [[Lexicon 3.2.2](#)].


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 [[Phonology 1.4](#)]. 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.

^{IX}_{1+3apl} ¹HELP_{3a} _{3a}HELP₁
‘We are helping each other.’



A two-handed agreement verb as *INFLUENCE*, which realizes agreement by a change of hand orientation, reverses the orientation of the hand and fingertips instead of path movement to mark reciprocity.

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 giving flowers 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 copies the handshape features from the dominant hand.

dominant hand:	IX _{1+3pl} FLOWER ++ CL( ‘We are giving flowers to each other.’ (based on Pfau & Steinbach, 2003b: 17)
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Reciprocity marked on plain verbs can be realized in two different ways. In the first option, reciprocity is realized by zero marking like in the DGS example given below. There, the verb remains in its citation form and no reversed movement is added.

IX_{1+3pl} LIKE
‘We like each other.’

(based on Pfau & Steinbach, 2003b: 21)



The second option is the use of an agreement marker called *PAM* (Person Agreement Marker) [[Lexicon 3.3.4](#)], which follows the verb. *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 degrees, so that the fingers are orientated towards the signer and then moves again towards the subject locus as illustrated below.

IX_{1+3pl} LIKE ₁PAM₃ ₃PAM₁
‘We like each other.’

(based on Pfau & Steinbach, 2003b: 21)



3.2. Tense

The category tense expresses a temporal relation between a situation, an event or action that happens at a certain point in time in reference to the utterance time. In general, three broad categories are distinguished, namely past ('he walked'), present ('he walks') and future tense ('he will walk'). This chapter deals with the morphological markers of tense in DGS and the use of time lines. Temporal adverbials indicating tense are discussed in [Lexicon 3.5.2](#) and [Syntax 6.4.2.1](#).

3.2.1. Time lines

DGS uses visually realized lines in the signing space to express time. Along these time lines, the signer can establish a position that indicates time in relation to his or her body.

A time line used in DGS, is a horizontal line at the height of the shoulder that runs along from a point behind the signer to a point in front of the signer. Due to anatomic reasons, the height of the time line can vary. Signs produced on or behind the shoulder express past whereas signs produced close to the signer's chest correspond to present tense. Signs that are moving along the time line in front of the signer's body indicate future. Time adverbials in DGS (YESTERDAY, NOW OR TOMORROW among others) [see [Lexicon 3.5.2](#) and [Syntax 6.4.2.1](#)] are signed along this time line.



Another possible time line runs from a point close the signer's belly to a point in front of the signer. Along this line, the signer locates a specific point functioning as a reference point. Signs produced close to the signer's belly correspond to a point in time that happened before the determined reference point. Signs produced in front of the signer and in front of the located reference point correspond to the events which happened afterwards.

a. BEFORE (time line away from the body)



b. AFTER (time line away from the body)



It is also possible, to establish a time line across to the signer's body that runs from right to left in the signing space. On this line, the signer locates a point of reference and all other signs are used in relation to that point. Signs produced on the left of the established point are related to a time period before this established time point and signs produced rightward are connected with time points after the reference point. To locate a point along one of these time lines, in DGS, a  or -handshape is used as exemplified below. In the following discourse, it is possible to refer back to those established time points or periods by using a B -handshape.

a. BEFORE (time line across the body)



b. AFTER (time line across the body)



Furthermore, there are several signs that are produced along a time line, which are used to express specific time periods. The sentences below illustrate the use of the signs TIME_PERIOD, BLOCK and SPAN_OF_TIME.

- a. IX1+2p1 MONDAY FRIDAY TIME_PERIOD MEET CAN
'We both can meet between Monday and Friday.'



- b. IX1+2p1 TOMORROW ONLY TEN TWELVE BLOCK BETWEEN MEET CAN
'We both can only meet tomorrow between ten and twelve.'



- C. IX1+2pl NEXT WEEK IX CAN MONDAY WEDNESDAY SPAN_OF_TIME MEET
'We both can meet next week between Monday and Wednesday.'



3.2.2. Tense inflection

In DGS, there is no tense inflection on verbs. Instead, time is expressed by time adverbials that mostly occur sentence-initially [see [Lexicon 3.5.2](#) and [Syntax 6.4.2.1](#)].

Nevertheless, in some dialects of DGS, the sign PST *gewesen* ('been'), which can be signed with one or both hands as shown below, can be used as a marker of past tense.



PST indicates that the described action has already taken place and it is either positioned sentence-finally as in example a) or after the subject as shown in b). Furthermore, PST can occur together with time adverbials that specify the time point as presented in example c).

- a. POSS₁ FRIEND ALREADY IX(LOC)_a AMERICA PST
 ‘My friend was in America before.’



- b. FRANKFURT POSS₁ TRAIN PST CANCEL
 ‘My train was canceled in Frankfurt.’



- c. YESTERDAY IX₁ CINEMA VISIT PST
 ‘Yesterday I visited the cinema.’
 (based on Papaspyrou et al., 2008: 155)



3.3. Aspect

Whereas tense expresses time in reference to the moment of speaking, grammatical aspect deals with internal organization of events or states relative to the speaker. Two types of aspect are generally distinguished: grammatical aspect and lexical or situation aspect. In contrast to grammatical aspect, lexical aspect deals with aspectual information that is an inherent feature of the predicate.

This section deals with grammatical aspect in DGS. In general, DGS marks grammatical aspect by changing movement properties of the verb sign, by nonmanual markers or by adding free morphemes such as adverbials or auxiliaries.

3.3.1. Imperfective

Imperfective means that an event or activity is not yet completed. It is generally divided into three subcategories: Habitual aspect, continuative or durative aspect, and conative aspect.

3.3.1.1. Habitual

Habitual aspect implies a repeating event or action that happens regularly and/or is a part of a usual or routine behavior. In DGS, the verb is reduplicated to mark habitual aspect. Signs are repeated at the same location of the signing space, usually up to three times. Between these single repetitions, there is a clear perceivable pause.

- a. IX₁ USED OFTEN SIX_O_CLOCK WAKE_UP⁺⁺._{HABIT}
'I'm used to getting up often at six o'clock.'



- b. POSS₁ COLLEAGUE HAMBURG HANNOVER GO⁺⁺._{HABIT}
'My colleague goes back and forth from Hamburg to Hannover.'



3.3.1.2. Continuative/durative

Continuative or durative aspect indicates a continuous event or action without a clear recognizable start or end point. DGS expresses continuative aspect based on the phonological form of the verb. Specifically, the marking varies whether the sign involves path movement [[Phonology 1.3.1](#)] or not.

If verbs do not involve path movement as in a) or end with a final hold as in b), the verb sign is frozen to express continuative aspect.

- a. CHILD SMALL SLEEP._{DUR}
'The small child is constantly sleeping.'



b. SCREEN IX₁ STARE_AT.DUR

'I stared at the screen for a long time.'



Verbs, which consist only of a movement sequence, are lengthened to express continuative aspect. Verb lengthening is shown in the following examples.

a. POSS₁ FRIEND IX(loc)_a AMERICA FLY.DUR

'My friend is flying to America for hours.'



b. M-A-R-C NEW WORD SIGN THINK_ABOUT.DUR

'Marc is thinking about a new sign for a long time.'

(based on Happ & Vorköper, 2006:145)



Agreement verbs [[Lexicon 3.2.2](#)] as in a) or spatial verbs [[Lexicon 3.2.3](#)] as in b), which agree with previous established points in the signing space, mark durative aspect by reduplication of the verb as exemplified below.

a. THIEF IX_{3b} POLICE IX_{3a} ASK_{3b}++_{.DUR}

'The police have been asking the thief for hours.'



b. SIGN^LANGUAGE SCHOOL_a UNIVERSITY FRANKFURT_b E-V-A T-I-M IX_{3a+3bpl} TOGETHER

_aGO_b ++

'Eva and Tim are constantly going back and forth between the sign language school and the university Frankfurt.'



If the verb's citation form involves repetition as in the sign *WAIT*, durative aspect is also expressed by reduplicating the verb.

POSS₁ FRIEND IX(LOC)_a TRAIN ALREADY LONG WAIT++_{.DUR}

'My friends have been waiting for a long time in the train.'



Furthermore, an additional way to express continuative/durative aspect is, to add the sign *CONTINUOUS* as both examples below illustrate.

a. *FATHER CONTINUOUS WORK++*

'The father is working continuously.'

(based on Papaspyrou et al., 2008: 163)



b. *BABY IX CRY++_{.DUR} CONTINUOUS++*

'The baby cries continuously.'



3.3.2. Perfective

In contrast to imperfective, perfective implies that an event or activity is a whole, closed and completed unit. Perfective includes iterative, inceptive or inchoative aspect, and completive aspect.

3.3.2.1. Iterative

Iterative aspect involves continuously repeated actions or events within a certain period. In DGS, iterative aspect is similar to habitual aspect because iterative aspect is expressed by reduplication of the verb sign at the same spatial location of the signing space. Between the single repetitions there is a pause, but in contrast to habitual aspect these pauses are shorter. See below different examples of iterative aspect in DGS.

- a. PERSON POST PACKAGE RING_THE_BELL⁺⁺._{ITER} PALM_UP
'The postman brings a package and keeps ringing the bell.'



- b. IX FLOWER⁺⁺ WATER IX₁ g_wave_off BLOOM⁺⁺._{ITER}
'I forgot to water the flowers but they bloom again and again.'



- c. FAMILY HOLIDAY DRIVE⁺⁺ IX BOY FALL_A_SLEEP⁺⁺._{ITER}
'The family goes on vacation and the boy falls asleep again and again.'



- d. SCHOOL IX₁ GO⁺⁺ BUS GO⁺⁺ MONDAY OFTEN TYPICAL IX₁ BUS MISS⁺⁺._{ITER}
'I go to school by bus but Mondays I typically miss the bus again and again.'



3.3.2.3. Completive

Completive aspect in DGS is usually expressed by the sign FINISH that appears sentence-finally and marks an event or action as completed as shown in the example below. There are different variants of FINISH in DGS as can be seen below.

Variants of FINISH in DGS





FINISH occurs with verbs that express an action (example a) or with verbs of saying as SIGN (example b).

- a. TERM_PAPER WRITE FINISH
‘I wrote the term paper.’



- b. GRANDMOTHER_{3a} GRANDCHILD_{3b} STORY _{3a}SIGN_{3b} FINISH
‘Grandmother signed the grandchild the story.’

(based on Happ & Vorköper, 2006: 292)



Moreover, completive aspect in DGS is indicated non-manually by a head nod that accompanies perception and psych verbs. In the following examples a) and b), both verbs SEE and UNDERSTAND are only non-manually marked by a head nod without a manual sign marking completive aspect.

- a. COLOGNE_a E-V-A CATHEDRAL IX_a hn SEE
‘Eva saw the cathedral in Köln.’



- b. STUDY[^]PERSON THEORY hn UNDERSTAND
‘The student understands the theory.’
(based on Happ & Vorköper, 2006: 294-297)



Information on data and consultants

See the references below for information on data and consultants.

The sign language data provided in the videos and images in these chapters were discussed, produced or recreated with a support of four deaf native consultants of DGS (female, 27, located in the South of Germany; male, 31, located in the North of Germany; male, 27, located in the North of Germany; female, 24, located in the North of Germany). All signers were born and raised in Germany and are using DGS as their primary means of communication.

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4.1. Number

DGS uses different strategies to mark plurality on nouns. One common strategy is to use quantifiers [[Lexicon 3.10.2](#)], [[Syntax 4.4](#)] as in (a) or numerals [[Lexicon 3.10.1](#)] as in (b).

- a. MANY BOOK
'many books'



- b. FIVE BOOK
'five books'




In addition, plurality is realized by reduplication of classifier constructions [[Morphology 5](#)]. In the DGS examples below number on nouns is marked via reduplication of a Size-and-Shape-Specifier (SASS) as in (a) or reduplication of an entity classifier as in (b).

- a. PAPER SASS++
'Paper posters'

(based on Pfau & Steinbach, 2006: 149)



- b. TABLE BOOK CL():be_located_on++
'Books are located on the table next to each other.'

(based on Pfau & Steinbach, 2005:127)



4.1.1. Manual marking

In DGS, the most common nominal plural marking strategy is reduplication. Here, depending on the phonological properties of the nouns, they can either be reduplicated or plural is not to be expressed on the noun itself.

On the one hand, DGS nouns (TABLE, BOOK, HOUSE) which are signed midsagittal in front of the signer's body express plurality by simple reduplication. As shown in the examples below, the repeated movement of the noun is the same as the base noun (a) or the repeated movement is slightly reduced as in (b).

- a. TABLE – TABLE++
'a table – tables.'



- b. BOOK – BOOK++
'a book – books'



On the other hand, nouns which are signed on the lateral side of the signing space are marked for plural with sideward reduplication. In this case, the movement of the sign is slightly displaced towards the ipsilateral or contralateral side of the signing space and is usually performed with shorter movements (compared to the citation form of the sign) as demonstrated below.

- CHILD – CHILD++
'a child- children'



Nouns which involve contact with the body as in (a) and (b) or nouns which are lexically specified for complex movement as (c) cannot be reduplicated. Instead, these types of nouns express plurality by using quantifiers as shown below.

- a. VILLAGE – MANY VILLAGE
‘a village – many villages’



- b. GLASS – MANY GLASS
‘a glass – many glasses’



- c. CAR – MANY CAR
‘a car – many cars’



As a further strategy to express plurality, some body-anchored nouns in DGS which refer to humans can be combined with the sign PERSON. PERSON is signed on the lateral side of the signing space and can undergo sideward reduplication. Hence, plurality is not marked on the body-anchored noun, but rather on the PERSON sign by the means of sideward reduplication as exemplified below.

WOMAN PERSON++
‘women’

(based on Pfau & Steinbach, 2006: 172)



4.1.2. Non-manual marking

In DGS, single and multiple entities are commonly accompanied by mouthings [[Phonology 1.5.2](#)] which resemble the German spoken words. As can be seen in the examples below the plural forms of the nouns BOOK and CHILD are accompanied by the corresponding German mouthings *Bücher* (a) and *Kinder* (b) respectively.

[buch] [bücher]

- a. BOOK – BOOK++
'a book – books'



[kind] [kinder]

- b. CHILD – CHILD++
'a child- children'



4.2. Localization and distribution

Nouns which are typically signed in the neutral area of the signing space (central area in front of the signer's body) can also occur at the ipsilateral or contralateral area of the signing space. This is done to express either locative information as in (a) or contrast between two entities as in (b).

- a. BOOK_{neutral} – BOOK_{ipsilateral} – BOOK_{contralateral}
'a book, a book placed on the right side, a book placed on the left side'



- b. BOX_{ipsilateral} BALL_{contralateral}
'a box versus a ball'



Nouns in DGS can be distributed at various locations in the signing space via sideward reduplication. In those cases, sideward reduplication simultaneously expresses plurality and location. In the following example the sign HOUSE is repeated sideward and thus yielding a meaning: ‘The houses are located next to each other.’

HOUSE++

‘The houses are located next to each other.’

(based on Pfau & Steinbach, 2005: 126)



In DGS, localization of the nouns can be blocked depending on the phonological properties of those signs. For instance, body anchored signs (FATHER) can only be localized by additional localization mechanisms such as usage of accompanying pointing signs [[Lexicon 1.2.2](#) and [Pragmatics 1.1.1](#)]. Signs with complex alternating movements (BICYCLE) cannot be spatially distributed in space, but only with the usage of corresponding classifier constructions [[Morphology_5](#)] a spatial distribution is possible.

a. FATHER (citation) – FATHER IX_{ipsilateral}



b. BICYCLE (citation) – BICYCLE CL(): 'bicycle_standing'



Information on data and consultants

See the references below for information on data and consultants.

The sign language data provided in the videos and images were discussed, produced or recreated for this chapter with a support of two deaf native consultant of DGS (female, 24 and 27). Both signers were born and raised in Germany and use DGS as a primary means of communication.

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5.1. Predicate classifiers

Classifier handshapes denote animate and inanimate entities they refer to. These classifier handshapes combine with verbs that express the movement or handling of referents, a change of posture or a location in space. Since they always occur in combination with verbs, they are morphologically considered to be bound morphemes. In general, three types of predicate classifiers are distinguished based on their syntactic behavior: i) entity classifiers (a), ii) bodypart classifiers (b) and iii) handling classifiers (c). Examples of all types of predicate classifiers in DGS are the following.

- a. COOK[^]ROOM WOMAN CL(


(based on Happ & Vorköper, 2006: 157)



- b. LION CL(4 legs): 'walk'
'The lion walks.'

(based on Glück & Pfau, 1998)







- c. FLOWER CL(

(based on Glück & Pfau, 1998)





5.1.1. Entity classifiers

Entity classifiers refer to animate and inanimate entities as a whole. They occur in combination with verbs that express the localization or movement of entities. The signers select different classifier handshapes depending on the entity the classifier refers to. In DGS, static humans and animals differ in their selected handshape. The handshape representing static humans is a spread and stretched index and middle finger () , whereas the handshape representing static animals is a bent thumb, index and middle finger () . For inanimate entities, the signer can choose different

classifier handshapes depending on the physical and geometrical form of the referred object. Big and square objects in DGS, like a book, are represented by a -handshape. On the other hand, small and flat objects, for example a coin, are represented by an -handshape, where index finger and thumb touch each other and all other fingers are stretched.

The following table lists handshapes used with entity classifiers in DGS.

Classifier handshape	Example
	coin, button
	pipe, bottle, cup
	cube, square bar
	book, box, folder, tray, sheet of paper
	humans (static)
	animals (static)
	animate being (moving), stick, pen



ball

List of entity classifier handshapes

(based on Happ & Vorköper, 2006: 159)

Entity classifiers combine with verbs of motion and location. Those verbs are intransitive and select a single internal argument that receives the thematic role patient/theme [see Syntax 2.1.1]. Thus, the verbs are unaccusative. The following examples show entity classifiers combining with verbs of motion in DGS.

a. *FOREST CAR CL*(): 'drive_through'

'The car drives through the forest.'

(based on Happ & Vorköper, 2006: 156)



b. *PENCIL CL*(): 'roll'

'The pencil rolls.'

(based on Glück & Pfau, 1998)




c. RESTAURANT MAN CL(


'The man goes into the restaurant.'


(based on Happ & Vorköper, 2006: 157)



The following examples demonstrate how entity classifiers can be used with verbs of location.

a. BLACKBOARD TEACHER IN_FRONT CL(A small blue icon consisting of three interlocking gears, used as a section separator.



b. TABLE BOWL CL(A small blue icon consisting of three interlocking gears, used as a section separator.

c. SHELF BOOKS CL(A small blue icon consisting of three interlocking gears, used as a section separator.

(based on Happ & Vorköper, 2005: 91)

5.1.2. Bodypart classifiers

Unlike entity classifiers, bodypart classifiers do not denote entities as a whole but refer to some parts of a human or animal body. However, they form predicate classifiers because the classifier handshape always combines with a verb thus expressing the location or movement of the referred entity.

The following example shows the difference between a bodypart classifier denoting parts of an animal body and a bodypart classifier denoting parts of a human body. In (a) the -handshape is chosen to refer to the cats paws, whereas in (b) the -handshape represents human legs. In both examples, the classifier predicate expresses the movement of the referent.

- a. CAT CL(4 legs): 'walk'
'The cat walks.'





- b. PERSON CL(2 legs): 'walk'
'The person walks.'




(based on Glück & Pfau, 1998)


Bodypart classifiers like entity classifiers combine with intransitive verbs [Syntax 2.1.1.2], but in contrast to entity classifiers the subject behaves like an external argument and receives the thematic role of agent.

5.1.3. Handle classifiers

Handle classifiers represent parts of the entity they refer to, and like entity classifiers and bodypart classifiers, always combine with verbs. They combine with verbs that express the handling or movement of the referred object. The size of the referred object determines the handshape the signer chooses. While long, thin objects are signed using a -handshape, empty coin-shaped objects are signed with a -handshape. The examples below show different handshapes used with handle classifiers in DGS depending on the size of the object.

- MAN_{3a} WOMAN_{3b} FLOWER CL(): '3agive_{3b}'
'A man gives a woman a flower.'



- b. SHELF GIRL VASE CL(








- c. SPORT^PERSON SPEAR CL(

(based on Happ, 2005: 19)



The table below lists several different handshapes that occur with handle classifier in DGS.


Classifier handshape	example
----------------------	---------

		needle, hair, single flower, pen
		cup, bottle, pipe
		cube, square bar
		folder, tray, sheet of paper
		book, box
		stick, bar
		child, cat, ball

List of handle classifier handshapes

(based on Happ & Vorköper, 2006: 161)

Notice, that handle classifiers combine with transitive and ditransitive predicates [Syntax 2.1.1.1] like GIVE, TAKE or CARRY in DGS as can be seen in the following example.

CUPBOARD STUDY[^]PERSON GLOBE CL(

(based on Happ & Vorköper, 2005: 92)



5.2. Size-and-Shape Specifiers (SASS)

The size and shape of an object is conveyed by using a Size-and-Shape-Specifier (SASS). Typically, two types of SASS are distinguished: static SASS and tracing SASS. Static SASSes refer to a class of objects by using a handshape that depicts a particular shape of the referred object. However, with tracing SASSes, the shape of the object is outlined therefore they always include a movement component. Below there are two examples of SASS in DGS: a static SASS (a) and a tracing SASS (b).

PAPER SASS_{thin/angular}
'Paperboard'


(based on Happ & Vorköper, 2006: 155)



CAR SASS_{curved}
'Car tyre'



In contrast to predicate classifiers, SASS do not combine with verbs, instead, they occur with nouns or noun phrases they modify. Their function is similar to those of adjectives [see [Lexicon 3.4](#) and [Syntax 4.5](#)]. In DGS, tracing SASSes always follow the nominal element as it was the case in the example above.

Different types of lexically specified handshapes are used for expressing size, shape, pattern and design of objects in DGS. Two-dimensional objects like a picture frame or a poster and the geometric shape of objects are signed with an -handshape like in the following example.

PAPER SASS_{flat/square}
'A sheet of paper'

(based on Happ & Vorköper, 2006: 154)



Long and thin objects and stripe patterns are described using -handshape as exemplified below.

dominant hand: SASS_{big/curved}
non-dominant hand: BLUE SASS_{striped}
'A blue striped vase'

(based on Happ & Vorköper, 2006: 155)




The depth of an object, is illustrated with a bent thumb and index finger -handshape as in the following example.

WATER SASS_{round/high}
'A glass of water'

(based on Happ & Vorköper, 2006: 154)



In DGS, properties specified by SASS can also appear on predicate classifiers as in the following example.

FATHER_{3a} DAUGHTER_{3b} MONEY SASS_{small/round} CL(): '3a give 3b'
'Father gives/gave his daughter a coin.'

(based on Glück, 2005: 187)



Information on data and consultants

See the references below for information on data and consultants.

The sign language data provided in the videos and images in this chapter were discussed, produced or recreated with a support of three deaf native consultants of DGS (female, 27, located in the South of Germany; male, 31, located in the North of Germany; male, 27, located in the North of Germany). All signers were born and raised in Germany and are using DGS as their primary means of communication.

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PART 5 Syntax

1.1. Declaratives

Declarative sentences are the most common sentences and express statements, facts or opinions. In DGS, a simple declarative sentence consists at least of a subject and a predicate as in (a) or of subject, object and predicate as in (b) [Syntax 2.2.]. The word order [Syntax 2.3.] in (a) is SV and the order in (b) is SOV. With body-anchored plain verbs as in (c), SVO order is found as well. The nonmanuals accompanying declaratives are neutral unless something is emphasized or negated.

- a. LAST YEAR POSS₁ GRANDMOTHER DIE
'My grandmother died.'



- b. WOMAN SWEET CAKE BAKE
'The woman bakes a sweet cake.'



- c. GIRL LITTLE IX_{3a} LIKE POSS_{3a} DOLL
'The little girl likes her doll.'



Declaratives can be simple sentences as above or complex sentences involving a coordinate structure as below [Syntax 3.1.].

E-V-A EAT THEN CONTINUE WORK

'Eva eats and then continues working.'

(based on Happ & Vorköper, 2006: 540)



Furthermore, positive or affirmative declaratives (a) are distinguished from negative declaratives (b). The negative declarative in (b) involves a nonmanual headshake which accompanies the predicate to negate the sentence [[Syntax 1.5](#)].

a. WOMAN FLOWER BUY

'The/a woman buys a flower.'

hs

b. WOMAN FLOWER BUY

'The/a woman doesn't buy a flower'



1.2. Interrogatives

Interrogatives are one of the four major sentence types and are used to seek information from an addressee. Polar interrogatives are distinguished from alternative interrogatives and content interrogatives. The form and use of these interrogative types will be addressed in the following sections.

1.2.1. Polar interrogatives

Polar interrogatives are questions that can be answered with 'yes' or 'no' (the reason why they are also called yes/no-questions). Their function is to elicit an answer from the addressee, as in the following example.

_____y/n

A: IX₂ HUNGRY

'Are you hungry?'

B: YES, (IX₁ HUNGRY)

'Yes, (I am hungry).'



In DGS, polar interrogatives can be answered either by just signing YES or NO, or by answering with a full sentence, as it is also pointed out the example above. Another possibility for answering a polar interrogative in DGS is to use a sentence that implicitly answers the question as shown in the next example.

_____y/n
A: IX₂ TODAY PARTY COME
'Are you coming to the party today?'

_____hs
B: IX₁ MUST WORK
'I have to work.'

By answering with the sentence 'IX₁ MUST WORK', the addressee implicitly states that he or she doesn't have time to come to the party. In DGS, the answer has to be accompanied by a negative headshake. Polar interrogatives in DGS are typically accompanied by distinctive non-manual markers, that will be introduced in [Syntax 1.2.1.1.]

1.2.1.1. Non-manual markers in polar interrogatives

Polar interrogatives in DGS are most of the time accompanied by raised eyebrows, head forward position and sometimes by a slight forward body lean. These non-manual elements are used throughout the whole sentence, as shown in example a. Further possible non-manual markers in these types of sentences are furrowed eyebrows over the whole phrase, semantically adding a notion of disbelief or surprise to the question (example b). This non-manual marking is also used to clarify, whether something was correctly understood or not.

_____re
a. IX₁ EXAM PASS
'Did I pass the exam?'



_____fe
b. IX₁ EXAM PASS
'Did I (really) pass the exam?'

1.2.1.2. Word order changes between declaratives and polar interrogatives

There are no word order [Syntax 2.3] changes between declarative sentences [Syntax 1.1] and polar interrogatives in DGS; both normally use the word order SOV (subject, object, verb), as shown in examples below. The only way to distinguish declaratives as in a) and polar interrogatives as in b) is by the means of the aforementioned non-manual markers.

a. POSS₁ MOM TOMORROW COME
'My mom comes tomorrow.'



_____y/n
b. POSS₁ MOM TOMORROW COME
'Does my mom come tomorrow?'



Also, as in declaratives as in the example above, constituents can be moved to the beginning of the interrogative to put them in topic position as shown below.

- a. _____ top
 TOMORROW POSS₁ MOM COME
 ‘Tomorrow, my mom comes.’



- b. _____ top _____ re
 TOMORROW POSS₁ MOM COME
 ‘My mom comes *tomorrow*?’

In these instances, in addition to the raised eyebrows that mark polar interrogatives, the eyes are opened wide in order to emphasize the constituent in focus.

Another phenomenon, that occurs with polar interrogative is the so-called subject pronoun copy [[Syntax 2.2.1.3](#)], where the subject pronoun of the sentence is repeated at the end of the sentence as in the example below. This is not obligatory, but rather used as a means of emphasis.

- _____ y/n
 IX₂ SIGN[^]LANGUAGE LEARN IX₂
 ‘Are you learning DGS?’



1.2.1.3. Interrogative particles

There are no interrogative particles in DGS, although there seem to be two different signs that occur quite frequently at the end of an interrogative sentence: *PALM_UP* (one-handed or two handed, with a slight move forward) and *IX₂* (pointing lowered and with hand orientation towards the addressee of the question). These signs are not obligatory, but rather seem to be used as discourse particles [[Lexicon 3.11.3](#)] or as turn-taking signals [[Pragmatics 10.2](#)] to indicate that an answer to the question is expected from the interlocutor.

- a. PALM_UP



- b. IX₂



1.2.2. Alternative interrogatives

Alternative interrogatives are questions that offer two or more alternatives for the addressee to choose from (see the example below). They cannot be answered with ‘yes’ or ‘no’, but have to be answered by choosing one of the offered options (or offering alternatives).

_____ re
IX₂ WISH TEA OR COFFEE
‘Would you like tea or coffee?’



Syntactically, there are different possibilities to structure these questions, depending on the number of proposed alternatives. If there are only two alternatives, then these are typically contrasted by the use of the conjunction OR [[SYNTAX 3.1.2.1](#)] or by using non-manual markers such as body-leans. Furthermore, they can be located in different positions of the signing space (usually in the left and right space in front of the signer), and can further be marked by a small body lean to the right and to the left respectively (see example below). This construction can also be understood as an inclusive ‘would you like something to drink such as tea or coffee?’ instead of an either/or ‘would you like either tea or coffee?’.

_____ re bl-left bl-right
IX₂ WISH TEA COFFEE
‘Would you like tea or coffee?’



When there are more than two options, it is possible to locate them on the fingertips of the non-dominant hand to distinguish between the options as in the following example [see also [Pragmatics 2.2.3](#)]. This gives the addressee the possibility to answer with the number on which the option was located.

_____ re
A: IX₂ WISH FIRST MEAT SECOND CHICKEN THIRD FISH PALM_UP
‘Would you like meat, chicken or fish?’

B: SECOND.
‘I would like the chicken.’



Alternative interrogatives are usually accompanied by raised eyebrows that are used throughout the whole phrase, similar to polar interrogatives.

1.2.3. Content interrogatives

Content interrogatives are interrogative sentences that contain an interrogative pronoun and are used to ask for specific information about participants or settings (example below). Since most of the interrogative pronouns start with ‘wh-’, these pronouns are also called ‘wh-signs’, and content interrogatives are also called ‘wh-questions’. Pragmatically, content interrogatives are replied to with an answer that closes the information gap that is asked for by the interrogative pronoun. In contrast to polar interrogatives, answering a content interrogative with ‘yes’ or ‘no’ is not an option.

 wh
A: IX₂ WHO
‘Who are you?’

B: IX₁ M-A-R-T-I-N
‘I am Martin.’



1.2.3.1. Non-manual markers in content interrogatives

Content interrogatives of DGS are typically marked non-manually with furrowed eyebrows and a slight head tilt forward, sometimes accompanied by a forward body lean for stronger emphasis.



These non-manual markings usually spread throughout the whole content interrogative. But it is also possible that non-manual markers spread only over the wh-sign at the end of the interrogative phrase, when the wh-sign is positioned at the end of the phrase.

 wh
TOPIC WHAT
‘What is the topic?’



In some cases, raised eyebrows can also accompany content interrogatives, changing the meaning to a notion of disbelief. In these cases, the function of the interrogative sentence is not to get an answer to what is questioned, but rather showing that one can't believe a specific information about participants or settings, that has already been shared.

_____re
ELECTION WIN WHO
'Who won the election?!'

1.2.3.2. List of wh-signs

In DGS, there are a number of distinctive wh-signs, that are listed below. All of these signs are simple DGS signs.

a. WHAT



b. WHY ('warum')



c. WHY ('wieso')



d. WHO



e. WHERE



f. WHEN



g. HOW



h. HOW_MUCH



i. WHICH



j. WHERE_FROM ('woher')



k. WHERE_TO ('wohin')



l. WHAT_FOR ('wofür')



m. WHAT_IS_THAT ('was ist das')



n. HOW_DOES_IT_LOOK ('wie sieht aus')



o. HOW_OLD ('wie alt')



p. HOW_LONG ('wie lange')



Some of these signs differ only in their use of mouthing (WHAT and WHERE, and WHAT_FOR and WHY (/wieso/), but are still semantically different. Also note that there are several regional variants for WHO, WHEN, WHICH, and WHY. In addition to these simple signs, there are also at least two complex wh-signs that are composed of the sign WHO and a possessive pronoun [[Lexicon 3.7.3](#)] (example a) or the agreement marker PAM [[Lexicon 3.3.4](#)] (example b) respectively.

a. _____ wh
IX CAR WHO POSS?
'Whose car is this?'



b. _____ wh
IX₂ LOVE PAM WHO?
'Who do you love?'



1.2.3.3. Content interrogatives without wh-signs

In DGS it is also possible to have a wh-question without a wh-sign.

_____ wh
TIME
'What time is it?'



Although there is no manual wh-sign present, the use of a mouthing that includes a wh-word is obligatory to accompany the signs in DGS (in this case /wie spät/). This is also true for the sign HOW_OLD, that manually looks identical to the sign OLD. In order to be understood as the question ‘How old are you?’, the mouthing accompanying the sign has to be /wie alt/ ‘how old’ as shown in example below.

_____ wh
YOU HOW_OLD
‘How old are you?’



1.2.3.4. Non-interrogative uses of wh-signs

In DGS it is also possible to have a wh-question without a wh-sign.

_____ wh
TIME
‘What time is it?’



Although there is no manual wh-sign present, the use of a mouthing that includes a wh-word is obligatory to accompany the signs in DGS (in this case /wie spät/). This is also true for the sign HOW_OLD, that manually looks identical to the sign OLD. In order to be understood as the question ‘How old are you?’, the mouthing accompanying the sign has to be /wie alt/ ‘how old’ as shown in example below.

_____ wh
YOU HOW_OLD
‘How old are you?’



1.2.3.5. Position of wh-signs

Wh-signs can appear in four different positions in the DGS content interrogative: i) in sentence-initial position (example a), ii) in sentence-final position (example b), iii) both in sentence-initial and sentence-final position (example c) and iv) *in situ* (example d), which means that the wh-sign is interpreted in the syntactical position, where the constituent that is asked for, would usually appear.

a. _____ wh
SOLUTION HOW
‘How can it be solved?’



b. _____ wh
WHEN IX₂ FIRST_TIME HEAR
‘When did you hear about it for the first time?’



- _____ wh
 C. WHY ITALY MORE WHY
 ‘Why does Italy have more [soccer clubs]?’



- _____ wh
 d. IPAD WHEN GET IX₂
 ‘When did you get the iPad?’



1.2.3.7. Doubling of the wh-sign

As already shown in Syntax 1.2.3.5., doubling of wh-signs is possible in DGS. The function of wh-sign doubling is emphasis.

- _____ wh
 WHY IX₂ IX(dem)_a CLOTHING LIKE WHY
 ‘Why do you like these clothes?’



Not only simple wh-signs can be doubled, but also more complex wh-constructions such as seen in the example below. In content interrogatives with doubled wh-signs, the non-manual markers spread over the whole sentence.

- _____ wh
 HOW_EXACTLY GO PARTY HOW_EXACTLY
 ‘How exactly did the party go?’

Doubling constructions emphasize request towards the interlocutor to get a response to the question.

1.2.3.8. Multiple wh-signs in interrogatives

Constructions with multiple wh-signs are possible, although quite rare in DGS and are normally used to clarify something that wasn’t understood clearly beforehand.

- _____ wh
 WHO PAM WHO HIT?

‘Who hit whom?’

1.2.3.9. Interrogative particles

As for polar questions [Syntax 1.2.1], there are no specific interrogative particles in DGS for content questions. PALM_UP (one-handed or two handed, with a slight move forward) and INDEX (pointed in a lowered position towards the addressee of the question) can occur sentence-finally. As is the case for polar questions, these signs are not obligatory, but rather seem to be used as discourse particles [Lexicon 3.11.3] or as turn-taking signals [Pragmatics 10.2] to indicate that an answer to the question is expected from the interlocutor.

1.5. Negatives

Negation of a sentence or a clause corresponds to denial of its truth. In DGS, different parts of a sentence can be negated. In case the whole sentence/clause is negated this is called sentential or clausal negation. The cases when negation operates only locally, influencing negation of single constituents are called constituent negation. This section provides description of sentential negation in DGS.

1.5.1. Manual marking of negation

DGS uses nonmanual and manual elements for negation [Lexicon 3.11.1 and Morphology 2.1.1.2]. The nonmanual marker that is used is the negative headshake. This is the dominant and obligatory sentential negation marker in DGS. Therefore, DGS belongs to the group of nonmanual-dominant sign languages. Nevertheless, many optional manual elements of negation exist and are listed in [Syntax 1.5.1.1].

1.5.1.1.1. Negative particles

Uninflected sentential negative particles in DGS are: NOT, NO, NO-NO, NONE, WITHOUT, ZERO, EMPTY, and NOTHING-AT-ALL. These are typically used sentence finally and negate a sentence in combination with a non-manual headshake [Syntax 1.5.1.2.3].

- a. NOT (*nicht*)



- b. ______{hs}
YESTERDAY M-A-X COME NOT
‘Yesterday Max didn’t come.’



c. NO (*nein*)



d. _____ hs
NO, IX₁ COFFEE DRINK
'No, I don't drink coffee.'



e. NO-NO (*nein nein*)



f. _____ eg _____ hs
POSS₁ COLLEAGUE ALL BE_PRESENT WORKSHOP. IX₁ NO-NO.
'All of my colleagues were present for a workshop. I was not.'



g. NONE (*kein*)



h. APPOINTMENT FREE NONE
'Today is free, no appointments.'

(based <https://www.spreadthesign.com>)



i. WITHOUT (*ohne*)



- j. T-I-M SIBLINGS WITHOUT
'Tim hasn't any siblings.'



- k. ZERO (*null*)



- l. EXAM READ ZERO
'I didn't read anything for the exam.'



- m. EMPTY (*leer*)



- n. WATER SURF EMPTY
'In the water, there are no surfers.'



In DGS, there are some negative particles that include a non-manual emphatic meaning, such as `NOTHING_AT_ALL`, in this case with a specific 'blowing mouth gesture'. It is shown in the example (a) below. The same sign can be used to emphasize absence of objects (b) as well as people (c).

a. NOTHING_AT_ALL



b. IX₁ CLASS INSIDE NOTHING_AT_ALL
'I go inside the class but there is nothing at all.'



c. FILM WATCH NO_ONE_AT_ALL
'No one at all watched the film.'



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 3.3.3](#)] that include the alpha-negation morpheme, which is an added movement shaped like an alpha. This process does not only apply to modal verbs but also to predicates of evaluate judgment ('not possible', 'not right') as well as to a restricted set of verbs including KNOW in DGS.

a. CAN-CAN.NOT (*kann-kann nicht*)



b. MUST-MUST.NOT (*muss-muss nicht*)



c. SHALL-SHALL.NOT (*soll-soll nicht*)



d. MAY-MAY.NOT (*darf-darf nicht*)



e. NEED-NEED.NOT (*brauch-brauch nicht*)



f. POSSIBLE- POSSIBLE.NOT (*möglich-unmöglich*)



g. RIGHT-RIGHT.NOT (*stimmt-stimmt nicht*)



h. THERE_IS-THERE_IS.NOT (*gibt's-gibt's nicht*)



i. KNOW-KNOW.NOT (*weiß-weiß nicht*)



An example for an opaque irregular negative is the sign NO.IDEA and NO.CHANCE formed with a 🤝-handshape. These signs are exemplified below.

a. NO.IDEA (*Keine Ahnung*)



rs:3a rs:3b

- b. CAN_3HELP1? NO_IDEA.
'Can you help me? I have no idea.'



- c. NO_CHANCE (*Keine Chance*)



- d. IX2 MEDICINE STUDY APPLY? NO_CHANCE.
'Have you applied to study Medicine? No chance.'

(based on <https://www.spreadthesign.com>)



1.5.1.1.3. Negative determiners and adverbials

Negative determiners in DGS are: NONE (*kein*), NOTHING (*nichts*), and NO_ONE (*niemand*). The negative determiner NONE is typically used sentence finally, but it can as well precede a predicate.

a. NONE (*kein*)



b. T-I-M SIBLINGS NONE
'Tim has no siblings.'

The negative determiner NOTHING occurs in the sentence final position in DGS. Examples with this negative marker can be seen below in (a-b).

a. NOTHING (*nichts*)



b. HEY NEVER_MIND HAPPEN NOTHING
'Hey you never mind, nothing happened.'



The position of NO_ONE in the sentences is quite flexible. That is, it can appear sentence initially, sentence medially or sentence finally. Some signers of DGS frequently use this sign while others do not use it at all. An example of two phonetic variants of NO-ONE (a-b) as well as its sentential distribution can be seen below (c-d).

a. NO.ONE (*niemand*)



- b. FILM WATCH NO.ONE
'No one has watched the film.'





- c. NO.ONE FILM WATCH
'No one has watched the film.'



- d. FILM NO.ONE WATCH
'No one has watched the film.'



Negative adverbials in DGS are: NEVER (*niemals*), NOT.YET (*noch nicht*), WITHOUT (*ohne*), NO (*nein*). NEVER is signed one or two handed with a -handshape as in (a) or -handshape as in (b). This adverbial can appear in sentence final, sentence initial or sentence medial positions. In the sentence initial occurrences, NEVER adds additional emphasis on the sentence. This is illustrated in examples in (c-e) below.

- a. NEVER1 (*niemals*)



b. NEVER2 (*niemals*)



c. E-V-A TEA DRINK NEVER
'Eva never drinks tea.'



- d. NEVER E-V-A TEA DRINK
'Eva absolutely never drinks tea.'



- e. E-V-A TEA NEVER DRINK
'Eva absolutely never drinks tea.'



Another negative adverbial in DGS is NOT.YET. It is accompanied with a headshake and the mouthing *noch nicht* ('not yet'). This adverbial typically appears sentence finally, but also can occur sentence initially or following the subject of a sentence.

- a. _____hs
NOT.YET (*noch-nicht*)



- b. _____hs
IX₁ SHOWER_TAKE NOT.YET
'I have not taken a shower yet'



- c. _____hs
IX₁ NOT.YET SHOWER_TAKE
'Until now, I have not taken a shower.'



1.5.1.2.1. Position of negative elements

In DGS, markers of sentential negation usually follow verbs and appear in sentence final position. However preverbal occurrences are also possible. The examples below show pre-verbal (a) and post-verbal (b) occurrences of the manual negative particle NOT. The preverbal occurrences appear only in the contrastive contexts.

- a. _____ re hs
E-V-A MILK BUY NOT
'Eva did not buy milk.'



- b. _____ hs
E-V-A MILK NOT BUY, GET WATER
'Eva did not buy milk, (she) rather got water.'



- Negated modal verbs appear either in verb second or final position. This is exemplified below for DGS sentences (a-b).

- a. _____ hs
 _____ re
MAX CAN.NOT SWIM
'Max is not able to swim.'



- b. re hs
MAX SWIM CAN.NOT
'Unfortunately, Max cannot swim.'



1.5.1.2.2. Doubling

In DGS, only a small set of negative elements can be doubled, mainly for emphatic reasons. These are negative particles NOT (only when occurring with modals), NO and negative adverbials NEVER and NOT.YET. An example of each occurrence is given below (a-d).

- a. hs hs
M-A-X CAN.NOT SWIM CAN.NOT
'Max really cannot swim.'



- b. NEVER T-I-M GUITAR.PLAY NEVER
'Tim for sure never plays guitar.'



- c. hs hs
NOT.YET IX₁ TASK FINISH NOT.YET
'I have not finished the task yet.'



- d. NO-NO IX₂ MEAT EAT NO-NO
'No, you certainly don't eat meat.'



1.5.1.2.3. Negative concord

In DGS, markers of sentential negation usually follow verbs and appear in sentence final position. However preverbal occurrences are also possible. The examples below show pre-verbal (a) and post-verbal (b) occurrences of the manual negative particle NOT. The preverbal occurrences appear only in the contrastive contexts.

- a. re hs
E-V-A MILK BUY NOT
'Eva did not buy milk.'



 hs

- b. E-V-A MILK NOT BUY, GET WATER
 ‘Eva did not buy milk, (she) rather got water.’



Negated modal verbs appear either in verb second or final position. This is exemplified below for DGS sentences (a-b).

_____ hs

_____ re

- a. MAX CAN.NOT SWIM
 ‘Max is not able to swim.’



- b. _____ re _____ hs
 MAX SWIM CAN.NOT
 ‘Unfortunately, Max cannot swim.’



1.5.2. Non-manual marking of negation

In DGS, movements of the head are the main nonmanual 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 predicate of a sentence. It can optionally co-occur with a manual negation marker, for example NOT (*nicht*) [[Syntax 1.5.1](#)], which as well is accompanied by a headshake. DGS examples below illustrate the occurrence of headshake

with a verbal predicate BUY (a) and a manual negative particle NOT (b). The headshake may also optionally spread onto the object FLOWER.

hs

a. WOMAN FLOWER BUY

‘The woman does not buy a flower.’



hs hs

b. WOMAN FLOWER BUY NOT

‘The woman does not buy a flower.’



(based on Pfau, 2008: 46)

In DGS, headshake may appear on its own only as a single answer in a discourse or in specific structures like in question answer pairs. In the latter case, headshake can be found sentence finally as an answer to a previous rhetorical question, which is necessarily marked with raised eyebrows. An example of such an occurrence in DGS can be seen below.

_____y/n hs

IX₁ CINEMA₃ GO-TO

‘Me going to the movies? No.’

(based on Pfau, 2008: 57)



1.5.2.2. Facial expressions

In addition to the non-manual headshake [[Syntax 1.5.2.1](#)], ‘puffed cheeks’ is another non-manual marker of negation used in DGS. This marker is used to negate clauses in contrastive contexts as can be seen in the example below.

_____pc

DRINK VARIETY ALCOHOL

‘There is a variety of drinks but no alcohol.’



1.5.2.3. Body posture

In DGS, a backward body lean co-occurring with verbal and nominal predicates (DENY, IGNORE, BE_ALONE) may indicate negative meaning. It can show a negative attitude as well. The examples of each of those verbs are given below (a-c).

bl-b

a. DENY



bl-b

b. IGNORE



bl-b

c. BE_ALONE



1.5.2.4. Spreading domain

Headshake in DGS typically spreads onto constituents preceding the predicate of a sentence, and strictly remains within the domain of predicative noun phrases [[Syntax 4](#)] or verb phrases [[Syntax 2](#)]. DGS examples of negated sentences below show how the headshake on the verbal predicates BUY and DRINK spread over the direct objects FLOWER and COFFEE.

hs

a. IX_{3a} WOMAN FLOWER BUY

‘This woman does not buy a flower.’

(based on Pfau, 2008: 62)



_____ hs

b. T-I-M COFFEE DRINK

‘Tim does not drink coffee.’

(based on Happ & Vorköper, 2006: 371)



Headshake usually does not spread over subject constituents, but in cases where the subject appears as a pronoun, the headshake may spread onto it. The same spreading pattern can be seen in conditional clauses [[Syntax 3.5.1](#)] when the part of the clause denoting consequence is negated. See DGS examples below for a headshake spreading over the entire sentence.

a. _____ hs

IX_{3a} FLOWER BUY

‘She does not buy a flower.’

(based on Pfau, 2008: 62)



- b. _____^{hs}
IF IX₂ VOICE PRACTICE, (IX₂) EXAM FAIL
'If you practice voicing, you won't fail the interpreting exams.'

(based on Happ & Vorköper, 2006: 456)



Information on data and consultants

See the references below for information on data and consultants.

The sign language data provided in the videos and images in chapter [1.1] were discussed, produced or recreated with a support of two deaf native consultants of DGS (female, 27, located in the South of Germany; male, 27, located in the North of Germany). Both signers were born and raised in Germany and are using DGS as their primary means of communication.

The sign language data provided in the videos and images in chapter [1.2] were discussed, produced or recreated with a support of two deaf native consultants of DGS (female, 27, located in the South of Germany; male, 34, located in the North of Germany). Both signers were born and raised in Germany and are using DGS as their primary means of communication.

The sign language data provided in the videos and images in chapter [1.5] were discussed, produced or recreated with a support of two deaf native consultants of DGS (female, 24; male, 27). Both signers were born and raised in Germany, are located in the North of Germany and are using DGS as their primary means of communication.

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2.1. The syntactic realization of argument structure

Clauses typically consist of at least one predicate - usually a verb, but sometimes an adjective or even a noun - and all of its dependents. Dependents that have to appear in a clause in order to express a complete thought are known as arguments. The argument-taking property of a predicate constitutes its argument structure. This property is inherently semantic since it provides information on how many and what semantic type of arguments a predicate takes. Argument structure, however, also relates to syntax and morphology because it contains information on how a given argument will be expressed in the clause (as a subject, object, etc.) and which morphology it will bear (e.g. nominative vs. accusative case). For instance, the verb *BAKE* in the sentence below takes two arguments, *WOMAN* and *SWEET CAKE*.

WOMAN SWEET CAKE BAKE

'The woman baked a sweet cake.'



WOMAN receives the thematic role agent and is expressed syntactically as the subject of the clause. *SWEET CAKE* receives the theme role (it changes as a result of the verbal activity, more specifically, it comes into being) and is expressed as the syntactic object of the clause. Both arguments must be understood at least implicitly to form a complete thought, although the object in this case does not need to be expressed in the sentence. Still, even in the sentence *WOMAN BAKE* we understand that the woman bakes *something*, which is due to the fact that *bake* has two semantic arguments and the second one bears a theme role. Compare this with *YESTERDAY* in the sentence below. The time adverb is both semantically and syntactically optional and is therefore not an argument of the predicate but an adjunct.

YESTERDAY WOMAN SWEET CAKE BAKE

'Yesterday, the woman baked a sweet cake.'



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 or 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 [[Morphology 3.1](#)] with their arguments [[Syntax 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 marked on the predicate.

a. *maria*_{3a} *peter*_{3b} *cake* *give*_{3b}

'Maria gave Peter a cake as a gift.'



b. woman sweet cake bake

'The woman baked a sweet cake.'



2.1.1.2. Intransitive predicates: unergatives and unaccusatives

Some predicates in DGS 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 arguments with the semantic role agent (b), while the arguments of unaccusative verbs are themes (a).

a. h1: SUMMER FLOWER BLOOM
h2: FLOWER
'In summer, flowers bloom.'



b. M-A-X LAUGH
'Max is laughing.'



2.1.1.3. Psychological predicates

Psychological (psych) 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. In the example below, the subject IX_1 'I' experiences love, while the object $POSS_1$ HUSBAND 'my husband' triggers the emotion as a stimulus.

IX_1 $POSS_1$ WIFE LOVE
'I love my wife very much.'



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 object (object experiencer verbs). DGS does not have object experiencer verbs. Instead, a multi-clausal structure is used. In the following example, the first sentence introduces a board listing missing people as the stimulus. The second sentence introduces the mother as experiencing goosebumps caused by the stimulus.


CL:board₃ MISS THIS_AND_THAT. MOTHER LOOK-AT₃ VERY GOOSEBUMPS VERY
'There were boards with missing people. It gave my mother goosebumps.'



2.1.1.4. Meteorological predicates

Weather verbs form a special class of predicates in that they do not take an overt argument: The example sentence below consists only of the predicate RAIN⁺⁺.

RAIN⁺⁺
'It is raining heavily.'



2.1.2. Argument realization

The arguments of a predicate can take various different forms, the most canonical of which are noun phrases (NP) [Syntax 4]. Some verbs take whole clauses as arguments, and both NP and clausal arguments can be replaced by a pronoun.

2.1.2.1. Overt noun phrases

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 SPAGHETTI 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 4.2]. In example (b), the theme NP BOOK IX₃ is not in its argument position following E-V-A, but has been topicalized, which is marked by raised eyebrows over the entire argument NP.

- a. J-O-H-N SPAGHETTI EAT
'John ate spaghetti.'



- b. re
BOOK IX₃ E-V-A WRITE
'As for the book, Eva wrote (it).'



2.1.2.2. Pronouns

Another common realization of nominal or clausal arguments is the use of a pronoun [[3.7. Pronouns and Pragmatics 2.1](#)]. In the sentence pair below, the single argument of *CHEAP* is expressed as a pronoun which refers back to the full NP *IX₃CAR*.

T-H-O-M-A-S *IX₃CAR* BUY. *IX₃* CHEAP.
'Thomas bought a car. It is cheap.'



2.1.2.3. Verb agreement

Verb agreement [[Morphology 3.1](#)] helps us detect which noun phrases 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* 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 marked 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 5.1.3](#)]) can be considered a form of agreement as well.

*MARIA*_{3a} *PETER*_{3b} *CAKE* *3aGIVE*_{3b}
'Maria gave Peter a cake as a gift.'



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

*IX*₁ *P-E-T-E-R* *IX*₃ *1VISIT*₃
'I visited Peter.'



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 3.3.4](#)] that can encode the animate subject and object of such plain verbs [[Lexicon 3.2.1](#)] and thereby clarify who does what to whom.

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




Spatial verbs [[Lexicon 3.2.3](#)] 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.

G-E-O-R-G STUTTGART IX_{3a} FRANKFURT IX_{3b} CL: a_drive_b
 ‘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 has previously been set up.

TABLE₃ BOOK LIE-CL(

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 DOLL 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 5](#) and [Pragmatics 2.2.2](#)]. In the example below, the hand configuration  of the predicate CL(F):‘give_a_thin_object’ indicates the handling of a thin or narrow object and thereby picks out a salient visual property of the direct object FLOWER.

MAN IX_{3a} POSS_{3a} WIFE IX_{3b} FLOWER 3aCL(F):3a^{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 3.3](#)]. Clausal arguments can fill any of the major grammatical functions subject, direct object, and indirect object. Subject argument clauses frequently follow their predicates (a), while 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 (*WORM EAT*), which can be center-embedded. In contrast, finite object clauses such as *IX₂ 2HELP₃ MUST* in (c) always occur after the predicate of the main clause.

- a. *IMPORTANT IX₂ 2PAM₁ TELL*
 ‘*It is important that you tell me (it).*’



- b. *IX₁ HANS WORM EAT FORCE*
 ‘*I forced Hans to eat a worm.*’



- c. *IX₃ SAY IX₂ 2HELP₃ MUST*
 ‘*He says that you must help him.*’



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* which sometimes also occurs with the mouthing /über/ [[Lexion 3.3.4](#)], [[Morphology 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 BOOK PAM-FOR₂ BUY CAN
 ‘I can buy a book for you.’



Classifier predicates that express a change of location may be causativized through the use of a handling classifier [Morphology 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. TABLE_a BOOK CL():‘book-fall-off_a’
 ‘The book fell off the table.’



b. SHELF_a MAN BOOK CL():put_book_in_a
 ‘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 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 does not 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 [Syntax 3.3.3 and Pragmatics 6]. 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

a. SOME DEAF THINK: IX_{3b} 3PAM₁ 3bEXPLOIT₁
 ‘Some deaf people think: Is he/she exploiting me?’



eg-down

- b. SOME DEAF THINK: EXPLOIT₁ PAM₁
'Some deaf people think: Am I being exploited?'



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.

P-E-T-E-R WASH
'Peter is washing himself.'



In some cases, reflexivity can be marked with the person agreement marker PAM [[Lexicon 3.3.4](#)]. In the next example, the fact that the dog loves himself is expressed by PAM agreeing with the pronoun SELF. This pronoun 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).

POSS₁ DOG SELF_a PAM_a LOVE A_LOT, THEREFORE OTHER DOG REJECT
'My dog loves himself so much, that's why he rejects other dogs.'



2.1.3.4. Reciprocity

Reciprocal expressions [[Morphology 3.1.3](#)] 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 in the example below act on each other such that each of them both gives (agent) and receives (goal) flowers:

dominant hand: IX_{1+2pl} FLOWER CL(F):₁give₂
non-dominant hand: FLOWER CL(F):₂give₁
'We are giving flowers to each other.'



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

Two-handed agreement verbs 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 1 to location 2, then both path and internal movement are reversed moving from 2 to 1. Agreeing verbs without path movement are reduplicated with a change in orientation from the location of one argument to that of the other.

$IX_{1+2pl} \ 1HELP_{2^{++}} \ 2HELP_{1^{++}}$
 ‘We help each other.’



The 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 1 to 2 and from 2 to 1, respectively:

h1: $IX_{1+2pl} \ FLOWER \ CL(F);_1give_2$
 h2: $FLOWER \ CL(F);_2give_1$
 ‘We are giving flowers to each other.’



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.

IX_{1+3pl} TRUST
'We trust each other.'



In a second variety of DGS, signers mark reciprocal relations with the help of the person agreement marker PAM [Lexicon 3.3.4]. Though one-handed, PAM is realized with sequential backwards reduplication such that the dominant hand first moves from 1 to 2 and then reverses from 2 to 1.

IX_{1+2pl} TRUST ₁PAM₂ ₂PAM₁
'We trust each other.'



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

$IX_{arc} a^{HELP} b b^{HELP} c c^{HELP} a$
'They help each other.'



2.1.4.1. Copular constructions

Adjectival phrases and noun phrases can serve as predicates as well as verb phrases in DGS. In the examples below, the property SMALL belongs to the dog and the property of being a teacher is predicated of the referent IX_3 'he'. A non-verbal predicate and its subject are simply juxtaposed.

a. DOG IX_3 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 of the subject or object of the 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 [[Syntax 3.3.3](#) and [Pragmatics 6](#)] into her perspective: PLATE and WASH are signed with the hands held far out from the body as if to accommodate a pregnant 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 FINISH



- 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 as in (a) or following it as in (b) below.

- a. IX₂ SPOON₃ FLAT₃ HAMMER₃ CAN
‘You can hammer the spoon flat.’



wh

- b. SPOON₃ HAMMER₃ FLAT₃ WHO
 ‘Who hammered the spoon flat?’



In contrast to depictives, resultatives do not describe a property that continues 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. Resultative predicates say something about the object of the sentence rather than the subject. In the examples provided so far, the resultative predicate is true of an argument that is also selected by the verb, but this is not necessarily the case. In the example below, we 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 FRIDGE₃ EMPTY₃ 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).

2.1.5.1. Possessives

Existence and possession [[Syntax 4.2](#)] are closely related concepts and DGS uses the same sign THERE for both existential [[Syntax 2.1.5.2](#)] and possessive constructions. THERE relates a possessor to its possessum and may either precede or follow the possessum.

- a. PROFESSOR THERE DICTIONARY
 ‘The professor has a dictionary.’



- b. PROFESSOR DICTIONARY THERE
'The professor has a dictionary.'



The possessive predicate may show agreement with the possessor:

THERE₁ APPLE
'I have an apple.'



In some varieties of DGS, *THERE* expresses both alienable and inalienable possession. Alienable possession involves things that one may own and give away, such as a dictionary or a shoe. Inalienable possessions, on the other hand, cannot be given away and include body parts, diseases, or family members (kinship terms).

TEACHER THERE NOSE
'The teacher has a nose.'



Other varieties of DGS use a formationally similar sign *SCH* to mark both alienable and inalienable possession.

- a. SCH₁ CAR
'I own a car.'



- b. SCH₁ SNIFFLES
'I have the sniffles.'



DGS uses suppletive negation in possessive and existential constructions, meaning that the positive and the negated form of the possessive or existential are not morphologically related. Instead of using the sentential negator NOT or a negative headshake by itself [[Morphology 3.5](#), [Syntax 1.5](#)], the form of the possessive predicate indicates negation. The suppletive negative is glossed WITHOUT and is accompanied by the lexical non-manual ‘phh’.

T-I-M DOG WITHOUT
‘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 THERE is used for both possessive and existential constructions. In existentials, it can occur before or after the entity whose existence is asserted:

TRAIN_STATION THERE CAFÉ SUPER
‘There’s a great coffee shop at the train station.’



DGS has three means for negating an existential construction. First, the suppletive negative existential can be used, which is formally identical to the negative possessive (a). Alternatively, a second negative existential sign NOT-HAVE can be used (b), and lastly NONE, which also serves as a negative determiner, functions as a postnominal negative existential (c).

a. TRAIN_STATION CAFÉ SUPER WITHOUT
‘There’s no great coffee shop at the train station.’



b. SEMINAR^ROOM IX₃ STUDENT NOT_HAVE
‘There are no students in the seminar room.’



- C. M-A-X POSS₃ CLOTHES[^]CL: 'wardrobe' IN CLOTHES NONE
'There are no clothes in Max's wardrobe.'



2.2. Grammatical functions

The term grammatical functions refers to syntactic categories, primarily subjects, objects, and adjuncts. They relate a verb to its dependents syntactically. Grammatical functions are not to be confused with semantic categories like agent or patient. Overall, there is a systematic relationship between these syntactic and semantic categories that can be described as follows: if a verb takes an agent and a patient argument, the agent will always be expressed as the subject and the patient as the object (in an active clause). However, this is not a one-to-one relationship; while agents are always subjects, subjects can bear a number of different thematic roles including experiencer, recipient, or even patient.

2.2.1.1. Specific position(s) for subject and object

Aside from case and agreement marking, subjects and objects may be marked by their different positions in the sentence. In DGS, the basic word order is SOV, that is the subject precedes the object, which in turn precedes the verb. In other words, we define the grammatical function subject in DGS as the initial argument slot in a basic active clause. In the example below, the subject slot is filled by the agent argument WOMAN.

WOMAN SWEET CAKE BAKE
'The woman baked a sweet cake.'



Other word orders are possible, but they tend to be marked by non-manuals. For instance, the object may be moved in front of the subject to topicalize it [[Pragmatics 4.2](#)]. As shown below, a topicalized object is accompanied by brow-raise, and optionally by a slight forward head tilt, and a pause.

_____top
CAKE SWEET WOMAN BAKE
'The sweet cake, the woman baked (it).'



In a few cases, the object can be placed in front of the subject without special marking. This is the case for agreement verbs [[Syntax 2.1.2.3](#)], verbs that bear aspectual marking [[Morphology 3.3](#)], and in classifier constructions [[Morphology 5](#)].

The subject may also follow the verb in case it is copied in sentence-final position [[Lexicon 3.7](#), [Syntax 2.2.1.3](#)]:

_____y/n
IX₂ CAKE BAKE IX₂
'Did *you* bake the cake?'



Subjects are frequently omitted in DGS, so when subject pronoun copying is followed by subject drop, the result looks like OVS order:

_____y/n
CAKE BAKE IX₂
'Did you bake the cake?'



In addition to surface word order, subjects differ from objects in terms of their structural position with respect to the verb. Objects start out inside the verb phrase as sisters to the verb and can occur either to its left (OV) or to its right (VO). Evidence for a VP constituent in DGS comes from VP topicalization and the spreading behavior of non-manuals. The verb can be fronted with its object for topicalization, leaving the subject behind:

_____top
CAKE BAKE T-I-M CAN.NOT
'Baking cakes, Tim cannot do.'



Likewise, the spreading of non-manuals for negation is sensitive to the VP domain. DGS has both manual and non-manual negation (primarily, a negative headshake) [[Syntax 1.5](#)], and the non-manual headshake may extend over the verb and its direct object, to the exclusion of the subject:

hs

MAN FLOWER BUY

'The man is not buying a flower.'



Since verb and object are sister constituents, no adverbs should occur between them. Instead, adverbs have to be placed before or after the verb phrase in a basic active sentence:

a. MAN SOMETIMES FLOWER BUY

'The man sometimes buys a flower.'



b. MAN FLOWER BUY SOMETIMES

'The man buys a flower sometimes.'



2.2.1.2. Special anaphoric properties for subject and object

Anaphors are noun phrases that refer back to another noun phrase in the same discourse, the so-called antecedent. Reflexive pronouns are such anaphors; we use them to indicate that someone performed the verb's action on themselves rather than on another participant. The antecedent of *SELF* in the example below is the subject *M-A-X*. Reflexives [[Lexicon 3.7.4](#)] show a clear subject-object asymmetry: A reflexive object can have a subject antecedent as below, but a reflexive subject cannot have an object antecedent.

M-A-X_a SELF_a HATE

'Max hates himself.'



2.2.1.3. Strategies of pronoun copying for subject and object

Subject pronoun copy [[Syntax 2.2.1.3](#)] is another syntactic phenomenon that distinguishes between subjects and objects. In DGS, polar questions may end in a pronominal copy of the subject if the predicate of the sentence does not (typically) mark agreement. The first occurrence of the subject may either be pronominal (a) or a full noun phrase (b).

- a. _____y/n
IX₂ PIZZA ORDER IX₂
'Did you order pizza?'



- b. _____y/n
M-A-X ALREADY PIZZA ORDER IX₃
'Did Max order pizza?'



The pronominal copy is unstressed and is not separated from the rest of the clause via a pause. It is only subjects that can be copied in this fashion, objects and non-arguments are excluded.

2.2.1.4. Null arguments for subject and object

DGS allows subjects and objects [[Syntax 2.4.](#)] to be omitted as long as their reference is clear from the context (topic drop) or from agreement marking on the predicate (pro-drop). In the example below, Max is set up as the discourse topic in the first sentence. As no new topic is introduced in the second sentence, Max is therefore understood as the subject of all the verbs in the following sentence and does not need to be expressed with an overt subject pronoun.


YESTERDAY M-A-X IX₃ BIRTHDAY CAKE EAT POSS₃ THREE PRESENT OPEN EVENING RESTAURANT
'Yesterday was Max's birthday. (He) ate cake, opened his three presents, and went out for dinner.'




If the predicate is marked for agreement with locations associated with discourse referents in previous discourse, subject and (indirect) object may be dropped as in the second sentence below:

YESTERDAY T-I-M IX_a M-A-X IX_b aVISIT_b. BOOK aGIVE_AS_PRESENT_b
'Yesterday Tim_i visited Max_k. (He_i) gave (him_k) a present.'



Likewise, classifier handshapes in classifier predicates may narrow down the referent of a previously mentioned argument enough for the argument to be omitted. In the following example, the direct object is dropped but its referent can be recovered with the help of the handshape of the classifier predicate. The -hand represents long thin objects such as a pen.

YESTERDAY M-A-X IX_a PEN BUY. T-I-M IX_b CL():a_give_b
'Yesterday Max bought a pen. (He) gave (it) to Tim.'



2.2.2. Other grammatical functions: arguments vs. adjuncts

Aside from subjects and objects, a predicate can occur with other dependents that it does not obligatorily require. These so-called adjuncts may provide additional information about the event expressed by the predicate, or, for example, the attitude of the speaker towards that event. In contrast to arguments, adjuncts are both syntactically and semantically optional.

2.2.3. Types of adjuncts

Adjuncts can be classified according to their syntactic category. In DGS, adverbial phrases [[Syntax 6](#)], noun phrases [[Syntax 4](#)], and adverbial clauses [[Syntax 3.5](#)] can function as adjuncts. Manner adverbs describe how an event unfolds and can either be manual signs (BEAUTIFUL in (a)) or non-manual markers that accompany the predicate(s) (b).

- a. WOMAN BEAUTIFUL WRITE
'The woman writes beautifully.'



worried

- b. M-A-X WAIT PAM₂
'Max is worriedly waiting for you.'

Further, temporal and locative sentence adverbials take the form of adverb or noun phrases. In the (a) example below, YESTERDAY forms an adverb phrase, while NEXT WEEK in (b) is a noun phrase.

- a. YESTERDAY T-I-M MILK BUY
'Tim bought milk yesterday.'



- b. NEXT WEEK M-A-R-I-E BOOK READ
'Marie will read a book next week.'



Lastly, adverbial clauses can provide additional information on how, why, when, or under which conditions the event described by the main clause predicate takes place. In the a) example below, the event of Max receiving a new car is conditional upon his winning the competition. The antecedent clause of the conditional is therefore an adjunct. In the b) example, the clause introduced by REASON provides the cause for the event of Tim cursing.

- _____ re _____ hn
a. M-A-X COMPETITION WIN IX₃ CAR NEW RECEIVE
'If Max wins the competition, he will receive a new car.'



- b. T-I-M CURSE REASON BET LOSE
'Tim is cursing because he has lost the bet.'



2.3. Word order

In general, word order concerns the order of subject (S), object (O) and verb (V) with respect to each other and their order within a clause or a phrase. Referring to the notion of basic word order, the term usually deals with the order of S, O and V at sentential level, in particular, within an unmarked declarative

sentence. There are six possible word order patterns, namely SVO, SOV, VSO, VOS, OSV and OVS, languages can belong to. Languages vary regarding word order type, but most of the described languages either belong to SOV or SVO. Nevertheless, there is a small number of languages that don't fit to any of these types and show free word order. This chapter deals with word order patterns found in DGS. On the one hand, it describes word order that occurs in a main declarative clause [Syntax 2.3.1] and on the other hand, word order patterns that appear in other clauses [Syntax 2.3.2]. Since information structure and the syntactic and semantic behavior of a verb can lead to word order variations within a language, such variations found in DGS will be described in [Syntax 2.3.3].

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

Determining the basic order of constituents in a main declarative clause is tied to the criteria of frequency, simplicity, morphological markedness and pragmatic neutrality. Hence, basic word order refers to the most common simple, declarative, active clause with less morphological marking that occurs in pragmatically neutral contexts. An example of a simple main declarative clause in DGS is given below. In this example, the verb TEASE shows person agreement [Morphology 3.1] by modulating path movement and finger- and hand orientation and thus clearly identifies subject and object. The back of the hand is orientated towards the subject ('boy') and the fingertips are orientated toward the object ('girl').

BOY_{3a} GIRL_{3b} 3aTEASE_{3b}
 'The boy teases the girl.'



2.3.1.1. Order of subject, object and verb

In DGS, the order of subject, object and verb in a main declarative clause is SOV. This includes transitive verbs, which select two arguments [Syntax 2.1.1.1] as in example (a). If the clause contains an intransitive verb, which only takes a single argument [Syntax 2.1.1.2], the order is SV irrespective of whether the verb is unergative as in (b) or unaccusative as in (c).

a. BOY_{3a} GIRL_{3b} 3aTEASE_{3b}
 'The boy teases the girl.'



b. LITTLE GIRL CRY₊₊
 'The little girl is crying.'



c. LAST YEAR POSS₁ GRANDMOTHER DIE
 'My grandmother died last year.'



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

The order of verb and object can correlate with the order of verb and other functional signs like agreement, tense and aspectual markers [Lexicon 3.3]. If the word order pattern is OV, functional elements often follow the verb. Whereas in languages with a VO pattern, functional elements tend to precede the verb.

The order of agreement, tense and aspectual markers in DGS shows dialectal variations. With regard to the agreement marker PAM, it can occupy a preverbal position and following the subject as in example (a) or it occupies a postverbal position and appears sentence-finally as in (b).

- a. FATHER_{3b} PAM_{3a} GRANDMOTHER_{3a} GARDEN_{3b} SHOW_{3a}
'Father shows grandma the garden.'



- b. NEW WORK[^]PERSON⁺⁺_{3b} POSS_{3bp} NEW BOSS_{3a} ACCEPT_{3b} PAM_{3a}
'The new employees accept their new boss.'



PAM in DGS can occur with inflected agreement verbs as in the above mentioned example (a) or with agreement verbs that do not show overt agreement as in (b). Additionally, it is used with plain verbs that lack agreement marking as shown below.

IX₁ NEW TEACHER_{3a} LIKE 1PAM_{3a}
'I like the new teacher.'

(based on Pfau et al., 2018:5)



Signers generally prefer PAM (in combination with plain verbs) to occur with an animate object as in (a) or at least, with an inanimate object, which has a strong personal value for the signer as in (b).

a. IX₁ POSS₁ RABBIT_a 1PAM_a LOOK_FOR
'I am looking for my rabbit.'



- b. IX₁ POSS₁ CERTIFICATE_{3a} LOOK_FOR 1PAM_{3a}
'I am looking for my certificate.'



The sign PST is used as a past tense marker and its position within the clause and with respect to the verb can vary. PST 'been', similar to PAM, can either be positioned sentence-finally as in example (a) or it can appear preverbally as shown in (b).

- a. POSS₁ FRIEND ALREADY IX(LOC)_aAMERICA PST
'My friend was in America before.'



- b. FRANKFURT POSS₁ TRAIN PST CANCEL
'My train was canceled in Frankfurt.'



The aspectual marker FINISH [Morphology 3.3], however, always follows the verb and occurs sentence-finally as in the example below.

TERM_PAPER WRITE FINISH
'I wrote the term paper.'




2.3.1.3. Order of modals with respect to the verb

Modal verbs [Lexicon 3.3.3] in DGS are usually positioned verb-finally and hence occupy the sentence final position

as in example (a). Nevertheless, modal verbs can also precede the verb as in (b).

a. IX₁ DIVE CAN
'I can dive.'



b. IX₁ CAN DIVE
'I can dive.'



(based on Papaspyrou et al., 2008: 174)

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

Negative elements [Syntax 1.5] usually follow the verb and appear in sentence final position as in the example below.

_____ hs
E-V-A MIKL BUY NOT
'Eva doesn't buy the milk.'

(based on Pfau, 2008: 46)



Negated modal verbs appear either in verb second or final position. This is exemplified below.

_____ hs
_____ re
a. MAX CAN.NOT SWIM
'Max is not able to swim.'



_____ re _____ hs
b. MAX SWIM CAN.NOT
'Unfortunately, Max cannot swim.'



2.3.1.5. Order of arguments of ditransitive verbs

Ditransitive predicates [Syntax 2.1.1.1], as SHOW for instance, take three arguments, in particular, a subject, a direct and an indirect object. In DGS, indirect object occurs before the direct object, thus the word order is S O(indirect) O(direct) V.

GRANDMOTHER IX_{3b} GRANDCHILD IX_{3a} NEW NECKLACE _{3b}SHOW_{3a}
'The grandmother shows the grandchild the new necklace.'



2.3.1.6. Position for different types of adverbs and adjuncts

Temporal adverbs are usually placed in the sentence-initial position as in the following example.

YESTERDAY IX_{1pl} S-E-A_a DRIVE_a

'We drove to the sea yesterday.'



Local adverbs as OUTSIDE are typically placed preverbally as demonstrated below.

CHILDREN OUTSIDE PLAY

'The children are playing outside.'



Adverbs of manner are usually expressed nonmanually. The nonmanual markers (eyegaze, facial expression, mouth gestures and head tilts) accompany the verb as illustrated in the following example.


fe
eg-down
ht

POSS₁ SISTER BOOK READ

'My sister is bored while reading the book.'



Furthermore, the speed, movement and place of articulation of the verb sign can be manipulated to convey the adverbial information, which is demonstrated by the following example.

MOUNTAIN CAR CL(

Moreover, it is also possible to express manner adverbs (quietly, easily, hard, late) manually as shown below.

CHILD INJURED DOCTOR FAST COME
'The child is injured and the doctor comes fast.'

(recreated from Papaspyrou et al., 2008: 170)



Adverbs of frequency can be expressed by manual signs, which can occupy different positions in the sentence as shown in the following examples (a) and (b). In addition, it suffices to reduplicate the movement of the predicate to express the adverbial information or the reduplication of the verb can occur together with a manual adverb as in (c).

a. IX₁ REGULAR HAIRDRESSER VISIT
'I regularly go to the hairdresser.'



b. POSS₁ PARTNER WOOD OFTEN HIKE
'My partner often goes hiking in the woods.'



c. POSS₁ TRAIN OFTEN TO-LATE++
'My train is often too late.'



2.3.2. Basic order of constituents in other clauses

[Syntax 2.3.1] described the order of subject, object and verb in a main declarative clause, but word order can differ in other types of clauses as well. The following section shows, how word order in DGS is realized in equative, locative and existential sentences. Furthermore, word order in interrogative and imperative sentences is described.

2.3.2.1. Basic order in the different types of sentence

In DGS, the predicate in copular constructions [Syntax 2.1.4.1] is realized by an adjectival phrase [Syntax 5] as in (a) or by a nominal phrase [Syntax 4] as in (b).

- a. POSS₁ SON SICK
 ‘My son is sick’


(based on Papaspyrou et al., 2008: 170)



- b. IX₃ TEACHER
 ‘He/She is a teacher.’



Locative constructions sometimes display a different word order than SOV because entities are signed according to the figure-ground principle, which states that bigger and less mobile entities (‘the ground’) are signed before smaller and mobile entities (‘the figure’). Locative adjuncts often serve as the ground and therefore can be placed sentence initially as it is demonstrated below.

BED CHILD++ CL(): ‘lie_in’
 ‘The children are lying in the bed.’



Furthermore, existential constructions [[Syntax 2.1.5.2](#)] exhibit a varying word order. This can be observed looking at predicate *THERE*, which is used to express that an entity exists in particular location, as it can be placed before (a) or after the particular entity (b).

- a. *THERE GARDEN*
 ‘There is a garden.’



- b. *GARDEN THERE*
 ‘There is a garden.’



In yes/no questions [[Syntax 1.2.1](#)], the word order is the same as in declarative sentences, hence both show an SOV order. Yes/no questions are marked nonmanually with raised eyebrows, which usually spread over the whole sentence as exemplified below.

_____ *re*

TOMORROW *IX*_{1+2pl} CINEMA VISIT PALM_UP

‘Do we want to go to the cinema tomorrow?’

(based on Papaspyrou et al., 2008: 172)



In wh-questions [Syntax 1.2.3] wh-words [Lexicon 3.7.5] can be placed sentence-initially (a), sentence-finally (b) or they are doubled and occur in both positions as shown in (c). Wh-questions are marked by furrowed eyebrows, which usually spread over the whole clause.

_____ fe

- a. WHO BOOK BUY
'Who bought the book?'



_____ fe

- b. BOOK BUY WHO
'Who bought the book?'



_____ fe

- c. WHO BOOK BUY WHO
'Who bought the book?'



(based on Happ & Vorköper, 2006: 324)

Furthermore, imperatives in DGS [Syntax 1.3, Pragmatics 3] show the same word order as declarative clauses, hence the verb is positioned sentence-finally as it can be seen in the following example.

‘Please, clean up your room.’

(based on Papaspyrou et al., 2008: 173)



2.3.2.2. Basic order in the different types of subordinate clauses

Word order in subordinate clauses [[Syntax 3.2](#)] is the same as in matrix clauses, both display a SOV order in DGS. The following example shows a subordinate object clause in DGS, which involves role-shift [[Syntax 3.3.3](#) and [Pragmatics 6](#)].

_____ rs
YESTERDAY P-E-T-E-R IX_{3b} SAY IX₁ TOMORROW ARRIVE PALM_UP
‘Yesterday Peter said that he will arrive tomorrow.’

(based on Herrmann & Steinbach, 2012: 211)



2.3.3. Deviations from the basic order of constituents

Different factors may have an influence on word order. Information structure [[Pragmatics 4.3.1](#)] has an impact on word order in DGS as topicalized elements are usually placed sentence-initially and are accompanied by a special nonmanual marking (usually eyebrow raise). Other factors like verb class, involvement of classifier constructions or animacy of the arguments can also influence word order in DGS.

2.3.3.3. Specific order for topicalized elements

If elements are topicalized, they appear in the sentence-initial position and are nonmanually marked with raised eyebrows and a slight pause between the topicalized element and the rest of the sentence [[Pragmatics 4.3.2](#)]. An example of a topicalization in DGS is given below.

_____ re
BOOK IX₃ E-V-A WRITE
‘As for the book, Eva wrote (it).’



2.3.3.4. Specific order for focused elements

Focused elements [[Pragmatics 4.3.1](#)] in DGS can be placed sentence-finally as in a question-answer pair illustrated below. A question-answer pair consists of a question and an answer part, the latter one depicts the focused element. Question-answer pairs display a special nonmanual marking, in particular, the question constituent occurs together with raised eyebrows and a body lean forward, while the answer constituent is accompanied by a head nod.

_____ re hn
_____ bl-f
IX_{1+2pl} NOON[^]MEAL COOK WHAT SOUP
'What they cook for lunch is soup.'

(based on Herrmann et al., 2019:9)



2.3.3.5. Word order variations according to the different types of verbs (plain, agreeing)

In DGS, plain, agreeing and spatial verbs [[Lexicon 3.2](#)] can be distinguished, whether they show agreement with their syntactic arguments or not. Plain verbs are lexically specified for a place of articulation and path movement and do not show manual agreement. Agreement verbs, however, show manual agreement with subject and/or object by modulation of path movement and/or finger orientation. Spatial verbs agree with points in signing space that are linked to locative arguments. Furthermore, verbs can combine with classifier handshapes that denote physical and geometrical properties of the entities they belong to.

Verb type has an impact on the word order in DGS. In sentences with forward (a) and backward agreement (b) verbs, word order is usually SOV as demonstrated below. In sentences with plain verbs, however, word order is more flexible, thus it can be either SOV as in (c) or SVO as in (d). Word order in sentences with a predicate classifier is mostly SOV as in (e).

a. MOTHER_{3a} OFTEN CHILD_{3b}⁺⁺ _{3a}SCOLD_{3b}⁺⁺
'Mother often tells the children.'



b. POSS₁ FRIEND_a POSS₁ EX-PARTNER_{bb} INVITE_a
'My friend invited my ex-partner.'



c. POSS₁ COLLEAGUE UNSUCCESSFUL IX(LOC)_a NEW WORK LOOK-FOR

'My colleague is unsuccessfully looking for new job there.'



- d. GIRL LITTLE IX_{3a} LIKE POSS_{3a} DOLL
'The little girl likes her doll.'



- e. IX_{1pl} TABLE GLASS⁺⁺ CL:put_on
'We put the glasses on the table.'



2.4.1. Subject and object null arguments

Usually, the subject and/or object argument of a verb can be omitted or dropped under certain conditions. In DGS, argument omission is observed when the verb is marked for agreement as in (a) [[Morphology 3.1](#)] or when the referent of the argument is retrievable from the previous context [[Pragmatics 2](#)].

- a. MAN IX_{3a} CHILD IX_{3b} MEET / BOOK _{3a}SHOW_{3b}
'The man meets child. (He) shows (him) the book.'
(based on Glück & Pfau, 1998)



- b. NEXT WEEK IX_{1pl} EXAM WRITE / LIBRARY IX(1oc)_a MEET
'Next week, we will write exams. (We) meet at the library.'



2.4.1.1. Null subjects

In DGS, null subjects occur with plain, spatial and agreement verbs [[Lexicon 3.2](#)]. Plain verbs [[Lexicon 3.2.1](#)] are not modified for agreement purpose; thus, the referent of the omitted subject argument must be retrievable from context as demonstrated below.

IX₁ CAKE BAKE / UNFORTUNATELY BURN
'I baked a cake. Unfortunately, (the cake) burnt.'



With body-anchored plain verbs, omitted subject arguments typically refer to a first-person referent.

LIKE TEAM TOGETHER

‘(I) prefer team sports.’

(based on Oomen, 2020: 139)



Agreement verbs [Lexicon 3.2.2] change path movement and/or finger orientation to mark agreement with their subject and object arguments. Consequently, a modified movement or orientation clearly indicates the subject referent so all kinds of subject arguments can be dropped. Subject omission with backward agreement verbs is rare in DGS.

POSS₁ GRANDMOTHER_{3b} 3a^{HELP}_{3b}

‘(My mother/she) helps my grandmother.’



Subject arguments are also omitted with spatial verbs [Lexicon 3.2.3] either with directional spatial verbs as in (a) or with local spatial verbs as in (b).

- a. THEN OFFICE IX(loc)_a CL([↑]): ‘go_a’
‘Then, (we) went to the office.’



- b. GARDEN SIT
‘(The family) sits in the garden.’



2.4.1.2. Null objects

Null objects occur with all verb types in DGS. In (a), the object argument of the transitive plain verb LIKE is dropped. In (b), the transitive plain verb REPEAT occurs with a null subject and object.

- _____ hs
- a. IX_{3a} LIKE NOT PALM_UP
'He does not like (being surrounded by hearing people).'

(based on Oomen, 2020: 139)



- b. REPEAT
'(The teacher) repeats (the topics.)'



Null objects also occur with forward agreement verbs as in (a) and with backward agreement verbs as in (b). In both examples, subject and object arguments are omitted and both verbs are modified in order to mark agreement.

- a. _{3a}TEACH_{3bpl++}
'(He) teaches (every of them).'



- b. CHRISTMAS _{3a}INVITE₁₊₊
'(My grandparents) invited (me) for Christmas.'



2.4.2. Types of verbs that can license null subjects

In DGS, null subjects are licensed by every verb type see [Syntax 2.4.1.1].

Information on data and consultants

See the references below for information on data and consultants.

The consultants who provided the data for [Syntax 2.1.4.2] were native or near-native (exposed by age four) signers of DGS who participated in translation and acceptability judgment tasks.

The sign language data provided in the videos and images in these chapters were discussed, produced or recreated with a support of six deaf native consultants of DGS (female, 27, located in the South of Germany; male, 31; female, 24; male, 27; male, 34; male, 38, all of them located in Northern Germany). All signers were born and raised in Germany and are using DGS as their primary means of communication.

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Authorship information

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Sina Proske [2.3], [2.4]

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 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.’

(based on Happ & Vorköper, 2006:538)



- b. IX₁ NOTICE IX(dem)_a MAN BOOK STEAL
 ‘I noticed that this man stealing a book.’

(based on Baker et al., 2016: 150)



3.1. Coordination of clauses

In general, coordination is defined as the combination of two or more units belonging to the same syntactic category. On the sentential level coordination refers to the combination of clauses as illustrated in the following example.

- MARC JUICE DRINK LISA CAKE BAKE TIM SALAD EAT
‘Marc drinks juice, Lisa bakes a cake and Tim eats salad.’

(based on Happ & Vorköper, 2006:539)



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*. Juxtaposition, on the other hand, refers to the coordination of constituents without such conjunctions. In DGS, conjunctions are generally not obligatory therefore clauses are mainly juxtaposed. Between the two conjuncts there is

often a small pause. Juxtaposition of simultaneous events is illustrated in example (a) while juxtaposition of sequential events is shown in (b).

- a. FATHER WASH_THE_DISHES MOTHER WINDOW CLEAN
'The father washes the dishes and the mother cleans the window.'

(recreated from Papaspyrou et al., 2008:184)



- b. E-V-A EAT CONTINUE WORK
'Eva eats and continues working.'



The temporal order of both conjuncts is optionally indicated by the manual sign THEN which occurs at the beginning of the second conjunct.

- E-V-A EAT THEN CONTINUE WORK
'Eva eats and then continues working.'

(based on Happ & Vorköper, 2006: 540)



There are three main types of conjunction: (i) adversative conjunction which correspond to the use of *but*, (ii) disjunctive conjunction which correspond to the use of *or* (iii) and conjoined conjunction that correspond to the use of *and*.

Adversative conjunction in DGS is marked nonmanually by widened eyes and/or brow raise. The manual sign BUT can be added optionally as the examples below show.

- a. _____re,we
E-V-A SIGN CAN MORE PRACTICE NEED -
'Eva can sign but she needs more practice.'

(based on Happ & Vorköper 2006:535)



- _____ e,we
b. E-V-A SIGN CAN BUT MORE PRACTICE NEED
'Eva can sign but she needs more practice.'

(based on Happ & Vorköper,2006:535)



- _____ re
_____ we
_____ hs
c. FOR TEST SOON IX₁WANT LEARN BUT BOOK NOT_YET ARRIVE
'I want to learn for the test soon, but the book did not arrive yet.'

(based on Papaspyrou et al., 2008:185)



On the one hand disjunctive coordination is typically marked by placing each of the conjuncts at different locations in the signing space. On the other hand, the manual sign OR appears usually between both conjuncts as exemplified below. Furthermore, nonmanuals like sideward head tilts and brow raise can accompany both conjuncts.

_____ re _____ ht _____ ht
SOON HOLIDAY IX(loc)_a AUSTRALIA FLY OR IX(loc)_a AUSTRIA HIKE PALM_UP
'You are on vacation soon? You can fly to Australia or go hiking in Austria.'



Conjoined coordination receives no manual marking because DGS lacks the conjunction *and*. Instead both conjuncts are often separated from each other by a pause and both verbs differ in their position in the signing space. The verb of the first clause is signed on the one side of the signing space whereas the verb from second conjunct is signed on the other one as shown in the example below.

FATHER WASH_THE_DISHES_{right}, MOTHER WINDOW CLEAN_{left}
'The father washes the dishes and the mother cleans the window.'

(based on Papaspyrou et al., 2008:184)



3.1.2.1. Manual markers of coordination

DGS optionally uses a few manual signs to mark coordination as described in [Syntax 3.1] but they are in general not obligatory.

3.1.2.1.2. Manual markers in adversative coordination

The manual marker BUT in DGS is signed in different variants as seen below.

BUT(1)



BUT(2)



3.1.2.1.3. Manual markers in disjunctive coordination

The manual marker OR in DGS is signed in different variants as seen below.

OR(1)



OR(2)



OR(3)



3.1.4.2. Gapping

Gapping describes the deletion of a conjunct's verb if the verb is identical to the verb of the other conjunct. Forward gapping refers to the deletion of the verb in the second conjunct whereas backward gapping involves the deletion of the first conjunct's verb. As can be seen in the examples below, forward gapping (a) and backward gapping (b) are

both possible in DGS.

- a. GRANDMOTHER TEA LIKE, GRANDFATHER COFFEE ~~LIKE~~
 ‘The grandmother likes tea and the grandfather ~~likes~~ coffee.’



- b. GRANDMOTHER TEA ~~LIKE~~, GRANDFATHER COFFEE LIKE
 ‘The grandmother ~~likes~~ tea and the grandfather likes coffee.’



Furthermore, gapping in DGS is sensitive to verb class. Gapping is only possible with plain verbs [[Lexicon 3.2.1](#)], other verb types cannot be omitted.

3.3.3. Role shift

One modality-specific kind of 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 person or character to report or express what has been said or done by this person or character. Along a continuum, DGS differentiates between attitude/quotation role shift, reporting utterances or thoughts of others, and action role shift, imitating the action of others [Pragmatics 6].

3.3.3.1. Markers of role shift

In DGS, role shift is mainly marked non-manually. The non-manual markers to indicate a role shift may comprise a shift of the body along the midsagittal axis according to the location of the signer of the reported context in the signing space (i.e. the location ‘3a’ in the example below) and a head turn as well as a shift of the eye gaze towards the imagined addressee of the reported context (i.e. ‘3b’ in the example below). In the example below, the role shift marking consist of a shift in the body, a head turn and a break in the eye gaze away from the actual addressee. Example (a) shows an embedded yes-no interrogative clause accompanied by the corresponding non-manual marking (i.e., raised eye brows and head forward) and example (b) shows an embedded declarative.

- _____ rs:3a
 _____ y/n
- a. T-I-M IX_{3a} A-N-N-A IX_{3b} ASK IX₂ SAD IX₂
 ‘Tim asked Anna whether she is sad.’



_____ rs:3a

- b. T-I-M IX_{3a} A-N-N-A IX_{3b} TELL TOMORROW ₁HELP₂
'Tim said to Anna that he will help her tomorrow.'

(based on Herrmann & Steinbach, 2012: 211)



Facial expressions may also be used for specific behavioral characteristics of the reported signer and therefore express both grammatical as well as affective facial features of the reported character. Ranking the non-manual markers for role shift, a break in eye gaze along with facial expressions are the minimal markings of a role shift, followed by an additional adjustment of the head position and optionally also a movement of the body, resulting in a maximal marking including all four non-manual markers. These four 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 build a complex clause construction. DGS exhibits a very short prosodic break between the overt matrix clause and the subsequent role shifted part to indicate that they consist of a main clause and a subordinate clause, but are not two separate main sentences. In addition, the non-manual markers of the role shift may already start on the verb of the matrix clause. Thus, the matrix clause and the embedded role shift clause are prosodically integrated and form a complex clausal unit. An example is provided below with the verb TELL.

_____ rs:3b

LAST THURSDAY M-A-R-C IX_{contra} P-E-T-E-R IX_{ipsi} MEETIX_{contra} TELL IX₁ WANT TOMORROW CINEMA IX_(loc)_a
'Last Thursday Marc told Peter that he wants to go to the cinema tomorrow.'

(based on Hübl, 2016)



3.3.3.3. Syntactic contexts introducing attitude role shift

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

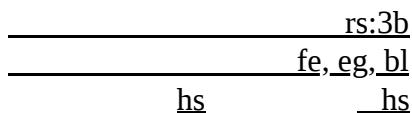
_____ rs:3a

YESTERDAY P-E-T-E-R IX_{3a} SAY TOMORROW IX₁ ARRIVE PALM_UP
'Yesterday Peter said that he will arrive tomorrow.'

(based on 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.



E-M-M-A IX_{3b} MOTHER IX_{3a} E-M-M-A IX_{3b} IX₁ TELL IX₁ IX_a STAY PLAY WISH

‘Emma said to her mother: “Hey, I don’t stay here and play.”’

(based on Herrmann & Steinbach, 2012: 215)



Furthermore, a matrix clause can even be left empty if the 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 to.

3.3.3.4. Special signs introducing action role shift

An action role shift in DGS is introduced either establishing the referents in signing space or establishing a certain body posture and non-manuals. These are accompanied by the nominal introduction of the referents and 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, full noun phrases, names of the referents, pronouns or ellipsis may be used to introduce an action role shift as is illustrated in the example below.



Example of action role-shift with no matrix clause introduction while switching from the role of the hare (picture -3) to the role of the tortoise (picture 4-5)

(based on Herrmann & Pendzich, 2018: 291)

3.3.3.5. Syntactic differences between action role shift and attitude role

shift

An action role shift in DGS is introduced either establishing the referents in signing space or establishing a certain body posture and non-manuals. These are accompanied by the nominal introduction of the referents and 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, full noun phrases, names of the referents, pronouns or ellipsis may be used to introduce an action role shift as is illustrated in the example below.

3.4. Relative clauses

Various types of relative clauses are attested in DGS. Relative clauses are used to modify nouns, i.e. they have an adjectival attributive function. Like many languages, DGS distinguishes between restrictive and non-restrictive (appositive) relative clauses. Restrictive relative clauses are used to identify the (set of) entities(s) the head noun denotes. In DGS, restrictive relative clauses can be formed with a sentence-initial relative pronoun that agrees with the head noun in its spatial modification. In addition, DGS non-restrictive relative clauses are typically used to provide additional (background) information.

3.4.1. Types of relative clause

DGS belongs to the class of languages which use postnominal head-internal relative clauses. 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 *IX(☞) POSS₁ FATHER READ*. The relative pronoun *IX(☞)* [[Lexicon 3.7.6](#)] appears in sentence-initial position. In addition, the relative pronoun is accompanied by a non-manual marker, typically raised eyebrows (on non-manuals, see [[Syntax 3.4.6](#)]).

_____re

[BOOK (IX₃) [IX(☞)₃ POSS₁ FATHER READ]_{CP}]_{DP}
'the book which my father is reading'

(based on 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. 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. In this respect, relative pronouns equal topics that also occupy the sentence-initial position at the left periphery (see [[Syntax 2.3.3.3](#)]). Similar to topicalization, this movement to the sentence-initial (topic) position is typically marked by the non-manual marker raised eyebrows as illustrated in the example above (see [[Pragmatics 4.2](#)]).





3.4.2. Presence or absence of a relativization sign


Relative clauses in DGS are introduced by a relative pronoun. Like personal pronouns [Lexicon 3.7] in DGS, the relative pronoun agrees with the location in the signing space the head noun has been linked to (i.e. the so-called referential locus). This locus can either be introduced by the overt pointing sign IX or by a default rule [Pragmatics 8.1.1]. In the example above, the head noun is linked to a referential locus on the horizontal plane of the signing space (i.e. '3'). Consequently, the relative pronoun is directed towards the same locus, i.e. IX(H)₃.

3.4.2.1. List of relativization signs

DGS uses various relativization signs. The most common sign is the relative pronoun, IX() , which is a grammaticalized form of the pointing sign IX. In addition, a special relative, i.e. IX() , can be used for reference to human discourse referents. In certain contexts, the indexical sign PERSON 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. IX() is a general relative pronoun which can be used in relative clauses modifying head nouns referring to non-humans and human entities. By contrast, the second relative pronoun IX() can only be used in relative clauses modifying head nouns such as MAN in the example below that refer to humans. Like IX() , IX() also agrees with the R-locus of the head noun as indicated by the subscript in the example below.


_____ re
[MAN (IX₃) [IX()₃ CAT STROKE]_{CP}]_{DP}
'the man who is stroking the cat'

(based on Pfau & Steinbach, 2005: 512)

The two relative pronouns are both produced with an extended index finger but they differ in the orientation of the hand. In the relative pronoun used for human discourse referent the index finger points upward. This pronoun is identical to the entity classifier [Morphology 5.1.1] for human entities (a). By contrast, in the relative pronoun used for non-humans the index finger points downward. This pronoun is morphologically identical with the pointing sign IX (b).

a. IX()



b. IX()



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 as in example (a) below. In this case, the head noun together with the relative clause typically occupies the sentence-initial position of the main clause (example (b)). However, in certain contexts, the relative clause may occupy the sentence-final position (example (c)). In this case, the relative clause is separated from the head noun it modifies. While the relative clause is situated at the right edge of the main clause (this is indicated by the trace 't' and the corresponding index 'i'), the head noun stays in its usual sentence-internal position in situ. The syntactic position of sentence-final relative clauses is similar to the syntactic position of sentence-final complement clauses.

a. $IX_1 [MAN [IX(\text{pointing})_3 CAT STROKE]_{CP}]_{DP} LIKE \text{1PAM}_3$



b. $\overline{[BOOK [IX(\text{pointing})_3 POSS_1 FATHER READ]_{CP}]_{DP/i} IX_1 t_i KNOW}$



c. $IX_1 [MAN IX_3 t_i]_{DP} LIKE \text{1PAM}_3 [IX(\text{pointing})_3 CAT STROKE]_{CP/i}$
 'I like the man who is stroking the cat.'



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

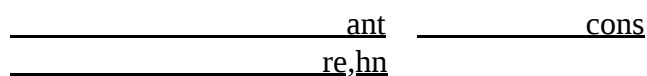
Relative clauses are accompanied by brow raise, mouth gesture and body lean. All non-manuals may either accompany the relative pronoun only or spread over the whole relative clause.

3.4.7. Restrictive vs. non-restrictive relative clauses

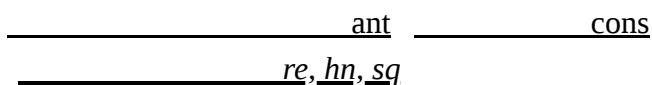
Non-restrictive relative clauses seem to be either indicated by a prosodic break before and after the relative clause and a short head nod on the relative clause. Alternatively, they may be introduced by manual connector such as, for example, *THUS*.

3.5.1. Conditional clauses

A semantic subclass of adverbial clauses is the conditional clause. A conditional clause is composed of an antecedent (*ant*), which expresses a condition, and of a consequence (*cons*), which shows the result. Conditional clauses can be divided into two categories: factual conditionals and counterfactual conditionals. In factual conditionals, the condition expressed by this clause can be fulfilled or not fulfilled in reality (a). In counterfactual conditionals this clause construction conveys a fulfilment, which is impossible to reverse (b). Examples of factual and counterfactual conditionals in DGS are the following:



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



- b. IF WEATHER YESTERDAY GOOD IX₁ OUTSIDE WALK
 ‘If the weather was good yesterday, I would have taken a walk outside.’



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

Conditional sentences are marked by different non-manual markers. In DGS, the most common non-manuals to mark conditional clauses are raised eyebrows and head movements. They spread over the antecedent and are obligatory. Other non-manuals, such as eye gaze and body shift, can also accompany conditionals in DGS. In DGS, there is typically a complete change of non-manuals occurring on the antecedent and the consequence. The consequence is either accompanied by neutralized facial expressions or the non-manuals occurring on the consequence show the opposite marking compared to the non-manuals on the antecedent. For instance, there is head tilt downwards on the antecedent and a head tilt upwards on the consequence or a body lean 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 consequence 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.





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

The non-manuals marking factual clauses in DGS are raised eyebrows and head movements, mostly a head nod and sometimes a head tilt. The head movement signals the end of an antecedent. Antecedent and consequence are separated by a short pause and an eye blink.

3.5.1.2.2. Manual conditional signs in factual conditionals

IF₁ and IF₂ are manual signs, which can introduce an antecedent in DGS-conditional clauses, but are used optionally. IF₁ is a former phonetic-manual supporting sign used in the German deaf education system for the phoneme /n/. IF₂, used with the mouthing 'pf', is semantically close to the meaning of SUDDENLY in DGS. This sign is a product of a grammaticalization process.

Manual signs used optionally for the consequence are THEN and MEAN. The sign THEN marks the beginning of a consequence, which has sometimes a temporal character. MEAN, which is expressed by double tipping of the thumb and the index finger, suggests a result.

The manual signs for an antecedent are the following:

a. IF₁



b. IF₂



The manual signs introducing the consequence are illustrated below:

c. THEN



re, hn, sq

IF WEATHER YESTERDAY GOOD IX₁ OUTSIDE WALK.

'If the weather was good yesterday, I would have taken a walk outside.'



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

To express a counterfactual conditional the same non-manuals are used as in factual conditionals. These include raised eyebrows, head movements and other non-manuals as body lean and eye gaze [[Syntax 3.5.1.1](#)].

Facial expressions, such as squint and the mouth gesture with corners down (c-down), indicate the counterfactual conditionality as well. On the one hand, the antecedent clause can be marked by squint combined with raised eyebrows and a head nod, on the other hand, it can be marked by the mouth gesture c-down combined with raised brows. In both cases the manual sign IF1 or IF2 can appear additionally.

hn

re

sq

a. IF1



b. mouth gesture



3.5.1.3.2. Manual conditional signs in counterfactual conditionals

In DGS, there is a manual sign *IMAGINE* to indicate a counterfactual conditional. *IMAGINE* is often accompanied by raised eyebrows and a head nod and occurs at the beginning of the antecedent clause. This sign is optional, and the additional use of *IF1* or *IF2* is unnecessary.

IMAGINE



A DGS example of a counterfactual conditional involving *IMAGINE* is given below:

_____ *re, sq*
IMAGINE IX₁ IX(dem)_aCARD CL: 'put' MEAN IX₂ LOSE
'If I were to play this card, it means you would have lost'



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. The antecedent clause precedes the consequent clause [[Syntax 3.5.1.2.3](#)].

In some cases, it is not easy to differentiate between factual and counterfactual conditional clauses because both use the same markers. In these cases, the context can help to set the two types of clauses apart. If the previous context is in the past or if there are temporal adverbs indicating past, then this can be a clue for a counterfactual conditional. Since verbs in DGS do not inflect for tense [[Morphology 3.2](#)], past tense is shown by the use of temporal adverbs such as *YESTERDAY* and *RECENTLY*. Another clue is 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 3.3.3.2](#)].

3.5.1.4. Concessive conditionals

Counterfactual conditions just like factual conditionals follow a strict order of clauses. The antecedent clause precedes the consequent clause [[Syntax 3.5.1.2.3](#)].

In some cases, it is not easy to differentiate between factual and counterfactual conditional clauses because both use the same markers. In these cases, the context can help to set the two types of clauses apart. If the previous context is in the past or if there are temporal adverbs indicating past, then this can be a clue for a counterfactual conditional. Since verbs in DGS do not inflect for tense [[Morphology 3.2](#)], past tense is shown by the use of temporal adverbs such as YESTERDAY and RECENTLY. Another clue is 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.

3.5.1.6. Other conditional constructions

Some clauses that usually start with the manual sign FOR-EXAMPLE may have conditional reading. FOR-EXAMPLE is signed with the back of one's hand tipping twice the palm of the other hand. In cases with conditional reading, FOR-EXAMPLE denotes a discourse of exemplification. That means, the antecedent depicts an example and can be fulfilled or not. This 'example' is an affirmative idea/argument and has to be verified in the context.

FOR-EXAMPLE



An example in DGS can be seen below.

FOR-EXAMPLE IX₂ CARD CL: 'put' THEN IX₁ NEXT CL: 'put'
'If you play the card, for example, I'm going to play the next card.'



The sign FOR-EXAMPLE can also be accompanied with the typical conditional non-manuals as raised eyebrows, head or/and body movements.

Information on data and consultants

See the references below for information on data and consultants.

The sign language data provided in the videos and images in chapter [3.1] were discussed, produced or recreated with a support of two deaf native consultants of DGS (female, 27, located in the South of Germany; male, 27, located in the North of Germany). Both signers were born and raised in Germany and are using DGS as their primary means of communication.

The sign language data provided in the videos and images in chapter [3.3.3] were discussed, produced or recreated with a support of two deaf native consultants of DGS (male, 27 and 38, both located in Northern Germany). Both signers were born and raised in Germany and are using DGS as their primary means of communication.

The sign language data provided in the videos and images in chapter [3.4] were discussed, produced or recreated with a support of two deaf native consultants of DGS (female, 24 and male, 38, both located Northern Germany). Both signers were born and raised in Germany and are using DGS as their primary

means of communication.

The sign language data provided in the videos and images in chapter [3.5.1] were discussed, produced or recreated with a support of three deaf native consultants of DGS (female, 27, located in the South of Germany; male, 27 and male, 38, both of them located in the North of Germany). All signers were born and raised in Germany and are using DGS as their primary means of communication.

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PART 6 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 ‘discourse referents.’ The same entity can be signed by a number of different linguistic expressions, named as referring expressions. These are definite or indefinite nouns [Pragmatics 1.2], pronouns [Lexicon 3.7], proper names and bare nouns [Lexicon 3.1].




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

1.1. Deixis

Deixis is the strategy that uses indexical forms [Pragmatics 6] like personal pronouns (IX_1 , IX_2), 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 social deixis on the areas of different height in the frontal space.

1.1.1. Pointing

In DGS, pointing signs are primarily used for localization [Morphology 4.2] and referring back to these referents in the signed discourse. Additionally, they can undertake the role of determiners [Lexicon 3.6], locatives and pronouns [Lexicon 3.7]. Moreover, pointing signs can be expressed from different perspectives [Pragmatics 8.3].

Used to refer to non-present entities or people, pointing signs typically appear with  -handshape directed towards the signing space, while in their deictic usage these signs are directed towards the present people or entities. The handshape of these signs can have phonetic variants of  -handshape (e.g. loose pointing or  -handshape) and assimilate to immediately preceding or following signs [Phonology 3.1.1].

Pointing signs used as determiners can combine with nouns following or preceding them, as in examples (a) and (b). These signs can as well refer to locations, in those cases they function as pronouns, as can be seen in examples (b) and (c). Non-manuals such as eye-gaze, eye brow raise, squint and head nod may accompany pointing signs (see example (b)). These non-manuals may optionally spread on the nouns following or preceding pointing signs within discourse of DGS.

- a. PREVIOUSLY IX₁ IX(dem)_a WOMAN SEE_a
'I saw this woman before.'



- b. IX(loc)_a PREVIOUSLY IX₁ CAT IX(dem)_b⁺⁺ SEE_b IX(loc)_a
'There I saw this cat before, there.'



- C. PREVIOUSLY IX₁ IX_a SEE_a
'I saw her before.'



Pointing signs following nouns express definiteness. 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_a IX₁ KNOW. IX_a FRIEND MEET. IX_a HAPPY.
'I know this man. He meets a friend. He is happy.'



- b. DOG IX_a [ipsi_down]⁺⁺BONE FIND. IX_a[ipsi_down]HAPPY.
'The dog finds a bone. It is happy.'

(based on Happ & Vorkörper, 2006: 96)



Locative *ix* as opposed to demonstrative usage, is used only to refer to place names. It either follows a place name or used on its own to refer to proximate or distant locations.

- a. BERLINIX(LOC)_a POSS₂ STUDENT DGS INTENSIVE COURSE TAKE_PART CAN
'In Berlin, your students can take part in an intensive DGS course'



- b. $IX(\text{loc})_a IX_1 \text{ DGS INTENSIVE COURSE PST TAKE_PART}$
'Here, I took part in an intensive DGS course.'



In cases where the exact position of the objects does not need to be specified, pointing signs can be used to indicate locations of the objects in respect to 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. $TABLE IX(\text{loc})_a \text{ BOOK}$
'A book is on the table.'



- b. HOUSE IX(loc)_a COACH
'A coach is in the house.'

(based on Happ & Vorkörper, 2006: 98)



Person indexicals are manual pointing signs either directed to a signer (IX₁), an addressee (IX₂) or a third person (IX₃) referent [Lexicon 3.7]. In case they appear in reported utterances marked via role shift [Pragmatics 6], these items must be interpreted with respect to the reported context. See DGS example below.

rs:3a

LENA IX_{3a} ANNA IX_{3b} 3a TELL_{3b} IX₁ TOMORROW₁ HELP₂

'Lena told Anna: I will help you tomorrow.'

(based on Herrmann & Steinbach, 2007: 166)



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 visual as she sees it and uses a reduced area of the signing space.

h1: IX_a[proximal]
h2:
'There is an elephant.'

(based on Perniss, 2007: 207)



When used from the character's perspective, pointing signs are typically produced on a bigger dimension of the signing space. In the DGS example below the signer describes the visual given on left, where the elephant stands just opposite the mouse. This scene is signed from the perspective of the mouse who points to the location of the elephant.

h1: IX_a[distal]
h2:
'There is an elephant.'



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 the 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 3.7.2.6](#)]).

In its socio-deictic 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 the frontal space. On the other hand, if a referent has the same social level as the signer being an adult or a colleague, this referent is articulated at the level of the chest in front of the torso. In case of a lower status (child, inferior), the referents are articulated below the chest level. Examples (a-b) show the usages of upper-lower space in DGS for expression of social deixis. Semantic groups which share the same status (man/woman, hearing/deaf, colleagues/customers) are organized on the same height but on contrastive lateral regions (e. in the horizontal space). This is illustrated in the example (c).

- a. EVERY EVENING ADULT [ipsi_up]CHILDREN[ipsi_down] READ_ALOUD
'Every evening adults read (something) aloud to the children.'

(based on Mehling, 2010: 127)



- b. KING IX_a[ipsi_up] SERVANT IX_b[contra_down] BE-SILENT _aORDER_b

‘The king ordered his servant to be quite.’

(based on Mehling, 2010: 126)



- c. *POSS₁ COMPANY IX(LOC)_a DEAF COWORKER_a HEARING COWORKER_b TOGETHER WORK*
‘Deaf coworkers are working together with hearing coworkers at my company.’



1.1.3. Lack of deixis

In DGS, nouns, [Lexicon 3.1] which refer to kinds of entities or general concepts, can occur either in their bare forms and or they can be accompanied by pointing signs, as in examples (a-b). Additionally, indefinite nouns can appear with or without co-occurring IX signs at the beginning of the signed discourse, as in examples (c-d) given below.

- a. CAT CUTE ANIMAL
‘Cats are cute animals.’



- b. CAT IX_{3a} CUTE ANIMAL
‘Cats are cute animals.’



- c. MAN WOMAN KISS
‘A man kisses a woman.’



- d. IX_{3a} MAN IX_{3b} WOMAN KISS
‘A man kisses a woman.’



Information on data and consultants

See the references below for information on data and consultants.

The sign language data provided in the videos and images for chapter [1.1] were discussed, produced or recreated with a support of three deaf native consultants of DGS (female, 24; male, 27; male, 31). All signers were born and raised in Germany, are located in Northern Germany and are using DGS as their primary means of communication.

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Chapter 2. Reference tracking




Reference tracking is the use of linguistic expressions to identify whether the same or a different referent is referred to within or across sentences. Syntactic and pragmatic factors may influence the selection of referring expressions. Among those, salience of an antecedent is the most important one. That is, in case the referent is easily retrievable in the signed context, it is usually referred to 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 from the context, more elaborated forms like noun phrases are preferred.

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

2.1. Pronouns

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

Locative, demonstrative, personal, reflexive pronouns share the same -handshape. Relative pronouns as well have -handshape, but only in cases when they refer to inanimate entities. However, orientation, movement, mouth gestures or mouthings co-occurring with this handshape may differ according to the pronoun's function. For instance, a demonstrative pronoun has an abrupt ending of the movement and occurs with a specific mouth gesture which is different from other pronominal forms [Lexicon 3.7.1]. Pronominal expressions sharing a pointing handshape can further be differentiated in context.

In addition to the pronominal items which share a -handshape, DGS contains pronominal items with language-specific handshapes. Possessive pronouns have a -handshape, indefinite pronouns appear in language-specific forms (e.g. SOMEONE), interrogative pronouns have the shape of *wh*-particles (e.g. WHO, WHEN, HOW), and relative pronouns referring to human referents share -handshape with the entity classifiers in DGS.

To understand the meaning of a pronoun, it is important to identify its referent or antecedent correctly. DGS typically introduces new referents into discourse by associating them overtly or covertly to areas called referential loci (R-loci) in the signing space [Morphology 4.2]. Pronouns then refer back to these referents by pointing at their R-loci.

Overt pronouns in DGS are usually used to identify each referent when multiple referents appear in the discourse. In cases where two referents are introduced, they are spatially distributed in a particular way. Right-handed signers tend to associate the referent mentioned first (GIRL in the example below) with their right (ipsilateral) side and the referent introduced second (BOY) with their left (contralateral) side [Pragmatics 8.1.1]. The DGS example below illustrates how two referents are first set up in contrastive areas on the right and left side of the signing space and then referred back to by corresponding pronouns.

TWO PERSON PERSON. IX_a GIRL IX_b BOY. IX_a LIKE VOLLEYBALL_PLAY.

IX_b LIKE FOOTBALL_PLAY.

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

(recreated from Papaspyrou et al., 2008: 138)



In case the referent of an utterance can easily be retrieved from the context, pronouns do not have to be realized. A DGS example illustrating this case is given below, in which the referent (GIRL) remains the same throughout the short context, hence is not referred back via an overt pronoun in the second sentence.

GIRL IX_a. FIVE YEARS_OLD. IN_THERE_a KINDERGARTEN DOLL PLAY.

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



2.2. Other means

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

2.2.1. Agreement

DGS shows spatial verbal agreement [Morphology 3.1]. Spatial loci are linked to verbal arguments and agreement with those can take place by changing the direction of the verbal movement and (in some cases) the orientation of the palm and/or fingertips.

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

JUST IX_a J-U-L-I-A IX_b M-A-X aCALL_b.IX_a++_a ASK_bIX_{1+2pl}LATER MEET WHERE.
'Julia just called Max. She asked where do they meet later.'



While agreement verbs agree with locations arbitrarily assigned to a referent, spatial verbs agree with topographically defined locations [Pragmatics 8.1.2] and are mainly used to track reference to a source and/or goal [Morphology 3.1, Lexicon 3.2.3]. This is exemplified below, where the goals BAKERY and MOSCOW are associated with a particular spatial area and the spatial predicates DRIVE and FLY are signed in the direction of that goal.

- a. IX₁ BAKERY IX(LOC)_a DRIVE_a
'I am driving to the Bakery.'



- b. L-E-A MOSCOW IX(LOC)_a FLY_a
'Lea flies to Moscow.'



2.2.2. Classifier handshapes

DGS makes use of classifier handshapes also called classifiers [Morphology 5] to identify referents. These are bound forms which indicate semantic properties of the referent such as its shape, size or parts, making it easier to identify the referent in discourse. Classifiers denoting body parts of animate referents are body-part classifiers [Morphology 5.1.2], forms corresponding to an (in)animate object as a whole are entity classifiers [Morphology 5.1.1], and forms depicting the handling of animate and inanimate entities are handle classifiers [Morphology 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 referents and realize only some iconic properties of their referents on the verb. To allow interlocutors to keep track of a referent by its classifier handshape, the referent associated with this handshape should be introduced into the discourse beforehand. Examples showing body part (a), entity (b) and handling classifiers (c) in DGS are given below.

- a. KINDERGARTEN CHILD CL (👉): ‘person_walking’
‘The child goes to the kindergarten.’

(based on Happ & Vorköper, 2006: 157)



- b. TABLEBOOKCL (👉): ‘entity_lying_on_a_flat_surface’
‘The book is lying on the table.’

(based on Happ & Vorköper, 2006: 157)




- c. MAN POSS₃ WIFE FLOWER CL (👉): ‘a_gives_b_thin_object’
‘The man gives a flower to his wife.’

(based on Happ & Vorköper, 2006: 161)



2.2.3. Buoys

Buoys [Lexicon 1.2.3] are spatial devices signed on the 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 three topics he is about to present. Those topics are represented on the three fingers of the non-dominant hand and are referred back via pointing to each of them with an index finger handshape () of the dominant hand.

h1: TODAY IX₁ WANT THREE TOPIC PRESENT IX SIGN_LANGUAGE ACQUISITION
 h2: FIRST SIGN_LANGUAGE ACQUISITION

h1: IX DEAF INTERPRETER IX HISTORY DEAF IX WANT START
 h2: SECOND INTERPRETER THIRD HISTORY DEAF SECOND START



‘Today I would like present three topics: First, sign language acquisition; second, deaf interpreters; third, history of the deaf. I would like to start with the second one.’



Buoys can also refer to a prominent discourse participant. In these cases, the non-dominant hand is either pointing to the spatial location associated earlier with this referent (pointer buoy) or it is held simultaneously with the articulation of the dominant hand (fragment buoy). In example (b) below, the classifier for HOUSE (the fragment buoy) is hold on the non-dominant hand throughout the duration of the utterance.

a. h1: YESTERDAY IX₁ FILM IX INTERESTING WATCH PST
 h2: IX _____
 ‘Yesterday, I watched a very interesting film.’



- b. h1: POSS₁ HOUSE.CL() IX₁ CAR CAR.CL PARK_NEXT_TO_HOUSE GET-OFF
h2: HOUSE.CL() _____
'I park my car next to my house and get out.'

(recreated from Papaspyrou et al., 2008: 199)



Information on data and consultants

See the references below for information on data and consultants.

The sign language data provided in the videos and images were discussed, produced or recreated for this chapter with a support of two deaf native consultant of DGS (male, 27 and male, 38). Both signers were born and raised in Germany, are located in Northern Germany and are using DGS as his primary means of communication.

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Authorship information

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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?’.

A: What happened?

B: Alisa bought a book about sign languages.

In DGS, 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. In DGS, 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

Information focus provides new information to a discourse, usually in response to questions. 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.

A: ERIC BUY WHAT?

‘What did Eric buy?’

foc

B: ERIC BOOK BUY

‘Eric bought a book.’



As the marking of information focus is optional and often subtle, it is especially difficult to distinguish, for instance, subject focus marking from general subject marking in DGS. Furthermore, DGS signers most naturally reply to a question that is asking for particular new information (narrow focus question) with a single constituent answer and not with a full sentence in which the narrow constituent is marked for new information focus.

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.

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?

Person B:

hs _____ foc
a. POSS₁ DOG SHOE EAT
'No, my dog ate the shoe.'

hs _____ foc
b. POSS₁ DOG

'No, my dog ate the shoe.'

(based on Happ & Vorköper, 2006: 405)



4.1.4. Emphatic focus

Emphatic focus marking is used for intensifying a sign and thus related to focus doubling [[Pragmatics 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 markers as tense and large articulation and non-manual markings as furrowed eyebrows, squint and chin back occur.

_____ fe,sq,cb
WHERE POSS₁ 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 PAM_{mod}
'You know what he is like!'



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 doublings

In DGS, elements such as pronouns [Lexicon 3.7], wh-words [Syntax 1.2.3.2], modal verbs, negative elements [Syntax 1.5.1.1], but also certain nouns [Lexicon 3.1] and verbs [Lexicon 3.2] 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 [Syntax 1.2.3], doubling of wh-elements is perceived as an emphatically marked question in DGS [Pragmatics 4.1.4]. Still, doubling alone is not a mere indicator of focus.

4.2. Topic

Topics are the elements in discourse that are talked or signed about. In DGS, topics are generally marked by raised eyebrows and they usually appear sentence-initially. Topics are often topicalized, slightly separated from the clause by a tiny pause and/or a head nod and the raised eye brows spread across the topic itself. We find sentence topics and discourse topics (see example below). The latter refer to topics that are discussed throughout bigger units of discourse.

The weather [discourse topic] is great. The sun [sentence topic] is shining all day in the north.

Discourse topics can be divided into silent and new discourse topics. New discourse topics have to be explicitly marked prosodically or syntactically in DGS. As for silent topics, DGS is a topic-drop language. The topics and also the pronominal reference to topics may be dropped if the topic has been previously established in discourse. This is for example the case, if discourse topics are clearly recognizable due to locative information. Locative information can be retrieved from agreement verbs [Morphology 3.1] and from classifier handshapes [Morphology 5] in entity or object-classifiers. Temporal information is also a common discourse topic that is not necessarily referred back to during discourse.

Furthermore, buoys [Pragmatics 2.2.3] 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.

Concerning discourse topics, which are usually stressed, contrastive and often 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 topic shifts clearly requires more marking than topic continuity. There are some signs as seen in the example below that explicitly indicate a topic shift.



TOPIC ASIDE ('Thema beiseite')

RELATION ('Bezug')



(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.

A: ALISA BUY WHAT?
'What did Alisa buy?'

foc
B: ALISA CAR BUY
'Alisa bought a car.'



Syntactically, focused elements can be placed sentence-finally as in question-answer-sequences.

_____re foc

ALISA BUY WHAT: CAR

‘Alisa bought a car.’



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.

foc

MAN SELF BOOK READ

‘It was the man (himself) that was reading a book.’



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 (comment) in DGS. Topicalization a such is the syntactic process that is often used to explicitly indicate new topics in discourse.

Information on data and consultants

See the references below for information on data and consultants.

The sign language data provided in the videos and images in this chapter were discussed, produced or recreated with a support of a deaf native consultants of DGS (male, 34). The signer was born and raised in Germany, is located in the North of Germany and is using DGS as his primary means of communication.

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Chapter 6. Reporting and role shift

DGS uses role shift [Syntax 3.3.3] as a linguistic device to report utterances, thoughts and actions of others. Role shift is mainly marked by non-manuals such as body lean and shift of eye gaze and is frequently used in signed narration. Role shift can be subdivided in two different kinds: attitude and action role shift. Both kinds of role shift use partly different markers and display different properties. Therefore, we discuss these two kinds of role shift in two different subsections. But in more complex constructions, both

kinds of role shift can also be mixed. In such cases, the distinction between attitude role shift and action role shift – or between parts that express attitude role shift and parts that express action role shift – is not always clear.

6.1. Attitude role shift and (in)direct speech

In DGS, attitude role shift is typically used to express utterances or thoughts of other people, that is, the signer reports linguistic actions. Therefore, the material used in attitude role shift is mainly linguistic but it can also involve paralinguistic aspects such as facial expressions and signing style. This is illustrated by the following two examples. In example (a), the signer reports that in another discourse context, a signer, namely Tim, asked an addressee, namely Anna, whether she is sad. This kind of role shift equals direct speech in spoken languages in that the reported material is repeated almost verbatim (including the relevant grammatical non-manuals marking a polar interrogative [Syntax 1.2.1]). The same holds true for the second example in (b). Here, the signer reports the assertive speech act [Pragmatics 3] that Tim will help Anna tomorrow. The corresponding declarative clause [Syntax 1.1] TOMORROW_{1HELP2} is not marked non-manually.

- _____rs:3a
_____y/n
- a. T-I-M IX_{3a} A-N-N-A IX_{3b} ASK IX₂ SAD IX₂
‘Tim asked Anna whether she is sad.’



- _____rs:3a
- b. T-I-M IX_{3a} A-N-N-A IX_{3b} TELL TOMORROW_{1HELP2}
‘Tim said to Anna that he will help her tomorrow.’

(Herrmann & Steinbach 2012: 211)



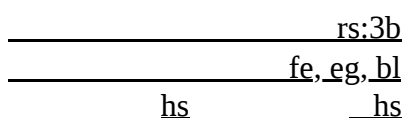
In both examples, attitude role shift is accompanied by non-manuals, which are aligned to the loci in the signing space the reported signer (i.e. ‘3a’) and the reported addressee (i.e. ‘3b’) have been linked to (i.e. the referential loci). The non-manuals typically accompany the reported utterance but may already start in the matrix clause in clause-final position at the speech act verb. In DGS, the following non-manuals are used to mark attitude role shift overtly:

- i) *Eye gaze change towards the R-locus the addressee of the quoted utterance has been linked to in the previous discourse.*
- ii) *Change of head position towards the R-locus the addressee of the quoted utterance has been linked to in the previous discourse.*
- iii) *A 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 addressee, the fourth non-manual (body lean) is aligned with the R-locus of the reported signer. In 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. However, 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.

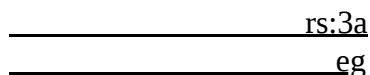


E-M-M-A IX_{3b} MOTHER IX_{3a} E-M-M-A IX_{3b} IX₁ TELL IX₁ IX_a STAY PLAY WISH
 ‘Emma said to her mother: “Hey, I don’t want to stay here and play.”

(based on 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.



E-M-M-A MOTHER 3aTELL3b IX₁ LONG PLAY IX_a WISH.NOT
 ‘Emma goes to her mother says: “Mum, I don’t want to play here any longer.” ’



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 previous example illustrates that attitude role shift can be introduced by a main clause (i.e. “Emma said to her mother ...”) 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 example below showing the dialog

between Emma and her mother. In this example, the matrix clause only contains the signs *EMMA*, *MOTHER*, *IX_{3b}*, which are used to introduce the two interlocutors of the reported conversation. The relevant speech act verb can be omitted because the corresponding speech act is expressed by the reported utterance.

rs:3b
fe, eg, hp, bl
hs

E-M-M-A *IX_{3b}* MOTHER *IX_{3a}* E-M-MA-A *IX_{3b}* *IX₁* TELL *IX₁* *IX_a* STAY PLAY WISH
 ‘Emma said to her mother: “Hey, I don’t want to stay here and play.”’
 (based on Herrmann & Steinbach, 2012: 215)



Another important aspect of attitude role shift is the interpretation of indexical expressions (i.e. *IX*, *HERE*, and *TOMORROW*). In DGS, first and second person indexicals (i.e. *IX₁* and *IX₂* and the corresponding inflected forms of agreement verbs) are obligatorily interpreted in the scope of role shift, that is, they are resolved in the context of the reported or quoted utterance. This is illustrated by the examples above. By contrast, temporal and local indexicals *TOMORROW* and *HERE* are more flexible in role shift and can be interpreted in both contexts.

6.2. Action role shift

Action role shift is a channel specific device to report the actions of another person. Unlike attitude role shift, action role shift does not only involve linguistic material but draws on gestural elements. These gestures are used to imitate the actions another person performed in a different context. This is illustrated by the following examples from the fable ‘The shepherd’s boy and the wolf’. In the examples below, gestural elements are glossed in italics.



Example of action role-shift from the role of the boy

rs:3a	rs:3a
-------	-------

a. BOY *stand-hold-a-stick* TAKE-CARE *stand-hold-a-stick-looking-around*
 ‘The (shepherd’s) boy stood there with a stick in his hand, herded (the sheep) and looked around.’

b. NICE EVERYWHERE *IX_a* BUT BORING *IX_a* SAME ++ *stand-hold-a-stick-looking-around-nored-and-irritated*
 ‘It was nice everywhere, but very boring and always the same, like standing with a stick in one’s hand, looking around bored.’
 (Herrmann & Steinbach 2012: 209; Herrmann & Pendzich 2018: 282)

In the example above, the signer is gesturally imitating the (bored) behavior of the shepherd’s boy while he is watching the sheep. As opposed to attitude role shift, the non-manuals do not involve any marking of 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 addition, 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.



(recreated from 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 classifier handshape for a group of moving people (i.e. a 5-hand). 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

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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 realize grammatical features and various semantic and pragmatic aspects of meaning. Referential meaning is conveyed by associating discourse 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 discourse referents. By contrast, 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 relations between various entities can be expressed from different perspectives and frames of references, which as well are realized in the signing space.

8.1.1. Abstract use

In the abstract or syntactic usage of space, spatial locations typically stand for syntactic arguments [Syntax 2.2] and are used for reference tracking [Pragmatics 2]. In DGS, initial assignment of referential locations to discourse referents may follow a default pattern. This pattern can be observed in restricted contexts (i.e. beginning of the signed discourse) and is usually guided by the hand dominance of the signers. That is, both right- and left-handed signers tend to link the first-mentioned referent to the spatial area close to their dominant hand (i.e. ipsilateral side) and the second-mentioned referent to a spatial area which is close to their non-dominant hand (i.e. contralateral side). Pronominal signs are then directed to these areas to refer back to the same discourse referents. The sentences below exemplify a typical default pattern of referent assignment preferred by right-handed signers (a) and left-handed signers (b).

- a. M-A-R-I-A IX_[ipsi]NEW TEACHER IX_{L[contra]} LIKE. IX_[contra]SMART.
'Maria likes the new teacher. He is smart.'



- b. M-A-R-I-A IX_[contra] NEW TEACHER IX_[ipsi] LIKE, IX_[ipsi]SMART.
'Maria likes the new teacher. He is smart.'



(based on Steinbach & Onea, 2016: 435)

The default pattern of localization is used not only for the production of the referents but also in comprehension of pronominal IX signs to where either only one or none of the referents are localized. In the example (a), only the first referent (BAKER) is localized on the ipsilateral side, nevertheless the signers can easily identify an IX sign directed to the contralateral area in space as the second referent (TEACHER). The same is true for the example (b), where this time the second referent (TEACHER) is localized on the contralateral area and an IX sign directed to the ipsilateral area is interpreted as a first referent (BAKER). On the other hand, when neither of the referents are localized in the signing space as in (c-d) and the verb of the first sentence in the two-sentence utterance is a reciprocal verb (MEET) the signers might as well to follow a default pattern of localization to identify the reference of pronominal IX. In particular, IX directed to the ipsilateral side is interpreted as the first referent (BAKER) and IX directed to the contralateral side as a second referent.

- a. YESTERDAY BAKER PERSON_[ipsi]TEACHER MEET.IX_[contra]TALK WANT.
'Yesterday, a baker met a teacher. He (teacher) wanted to talk.'



- b. YESTERDAY BAKER TEACHER PERSON_[contra] MEET.IX_[ipsi]TALK WANT.
'Yesterday, a baker met a teacher. He (baker) wanted to talk.'



- c. YESTERDAY BAKER TEACHERMEET.IX_[ipsi]TALK WANT.
'Yesterday, a baker met a teacher. He (baker) wanted to talk.'



- d. YESTERDAY BAKER TEACHERMEET.IX [contra]TALK WANT.
 ‘Yesterday, a baker met a teacher. He (teacher) wanted to talk.’



8.1.2. Topographic use

In topographic usage of space, actual or imagined spatial arrangements between animate and inanimate entities are reflected in the signing space. Descriptions of static scenes such as pictures, maps and room plans as well as descriptions of placement or movement of entities in space typically make use of topographic space. The entities located relative to each other in the scenes might be perceptually different (smaller or bigger). The smaller, movable and more salient entities are called “figure” while less movable, bigger and fixed ones are referred to as “ground.” Conventionally, in DGS locative constructions (both descriptions of simplex and complex scenes) ground is encoded/signed before figure. The ground might be represented on the non-dominant hand and be held during a longer stretch of discourse. There is a slight tendency to use the non-dominant hand to represent ground object in the sagittal arrangements of the objects.

The syntactic structure of presenting lexical information and spatial placement of the discourse referents may vary in DGS. Noun phrases [Syntax 4] which serve to identify these referents usually precede classifiers [Morphology 5] containing orientation and location information about these referents. This follows a particular order where in case of two referents, the first one is identified and then placed in space via classifier, then the second one is identified and is located in the space relative to the first one. For each of the referents the identifying sign and the classifier are signed separately. This is illustrated in the example below, where a sign for TREE follows an entity classifier corresponding to this referent and the sign identifying MAN occur before the two-legged entity classifier representing it.

h1: MAN BROWN CL (☞): ‘hat_be_at’ CL (☞): ‘man_be_at’

h2: TREE CL (☞): ‘tree_be_at’ _____
 ‘A man with a brown hat is standing opposite a tree.’

(based on Perniss, 2007: 87)



Signers of DGS do not always follow the structure of referent presentation exemplified above. Depending on the type of the described referents, they tend to use only one identifying sign for both referents. Less frequently, the forms indicating spatial information of the signs might be placed in the space simultaneously. Only one sign may be used both to identify and spatialize referents. Furthermore, classifiers might be used before lexical signs or spatial information about the second entity can be presented and before the spatial information about the first entity is expressed.

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

h1: CL (👉): 'one_man_looking at'
h2: CL (👉): 'one_man_looking at'
'Two men are looking towards me.'

(based on Perniss, 2007: 104)



In addition to classifier predicates, prepositions might be used to mark spatial relations in DGS. We find 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. Prepositions can as well be incorporated into the verb stems. Examples of the lexical preposition, modifiable preposition and preposition incorporation are illustrated below.

a. PUT_ON_THE_RIGHT PUT_ON_THE_LEFT
'Put on the right of and put on the left of'



b. PUT_NEXT
'Put next to'



c. PUT_ON_TOP_OF
'Put on the top of'



d. PUT_UNDER
'Put under'



f. h1: MAN LEFT NEXT_TO CL (👉): 'tree_be_at'
h2: LEFT DIRECTION_AHEAD NEXT_TO _____
'A man is standing next to a tree on the left'

(based on Perniss, 2007: 115)



Spatial descriptions can contain simultaneous expression of the entities. In case two entities are of the same type as the two men figures in the DGS example below, their spatial relation is expressed via a single predicate LOOK.

h1: TWO MAN LOOK CL (👉): 'man_be_at' LOOK

h2: MAN LOOK CL (👉): 'man_be_at' LOOK
'Two man are standing and looking at each other.'

(based on Perniss, 2007: 96)



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

entities on the sagittal axis.

8.2. Temporal expressions

Signing space can also function to convey temporal information. Time lines [Morphology 3.2.1], which are projected onto the signing space are utilized at the lexical as well as discourse level to express tense information mainly via adverbials. Among these time lines the *basic time line*, which stretches starting from the shoulder of the dominant hand and forward, lies vertical in relation to the torso of the signer. In this time line 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 [Syntax 6.4.2] at the beginning of the sentence.

For expression of the present, adverbs are produced close to the body of the signer, for the future, adverbs are directed forwards while for the past, adverbs are realized through backward path movement. All three time periods are illustrated in the examples below.

a. TODAY1



b. TODAY2



c. NOW1



d. NOW2



e. SOON



f. TOMORROW1



g. TOMORROW2



h. TWO_DAYS_LATER1



i. TWO_DAYS_LATER2



j. JUST



k. YESTERDAY1



l. YESTERDAY2



m. THE_DAY_BEFORE_YESTERDAY1



n. THE_DAY_BEFORE_YESTERDAY2



(based on Papaspyrou et al., 2008: 149-151)

Another time line projected onto the signing space is the *sequence time line*, an abstract line that expands either across the lateral axis in the left-right direction or the 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)



(recreated from Papaspyrou et al., 2008: 15)

8.3. Perspective

One of the linguistic elements which plays an important role in the 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 the point of view from which the actual event is mapped onto 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 ways.

In observer's perspective signers take the role of an observer. They convey events from an external point, using lateral axis and reduced signing space in front of the signer's body. Typically, entity classifiers [[Morphology 5.1.1](#)] are used in the observer's perspective. In the DGS example below the characters of the reported movie strip (i.e. the elephant and the mouse) 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 still picture given below on the right side. The signer herself does not take the role of any of the characters and stays external to the event.

h1: CL (👉): 'mouse_be_at_a'
 h2: CL (👈): 'elephant_be_at_b'
 'The mouse and the elephant stand facing each other.'

(based on Perniss, 2007: 203)



In descriptions of events from the observer's perspective, signers of DGS very rarely use handling classifiers [[Morphology 5.1.3](#)]. In the example below, the signer uses the 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.

h1:

h2: CL (👉): 'pan_holding'
'I am (the mouse) holding the pan.'

(based on Perniss, 2007: 203)



In the character's perspective the signer takes on the role of the character using role shift [[Syntax 3.3.3](#) and [Pragmatics 6](#)] to report the utterances, actions or thoughts of the character. The hands, the upper part of the body and the head as well as the face of a signer can also be used to depict the events. The signing space is large, entities are depicted on the sagittal axis and handling classifiers are used extensively in the character's perspective. 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 by using handling classifier predicate. The signer holds the ball in front of his body in the same way as the mouse character does.

h1: CL (👉): 'ball_holding'
h2: CL (👉): 'ball_holding'
'I am (the mouse) holding the ball.'

(based on 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 a depiction of the scene on the left, a DGS signer expresses the event from the mouse's perspective using the sagittal axis for the pancake on the floor. The pancake is signed with the entity classifier on the left of the signer.

h1: CL (👉): 'pan_holding'
h2: CL (👉): 'pancake_be_at_a'
'I am (the mouse) holding the pan and the pancake is on the floor.'

(based on Perniss, 2007: 204)



Depending on the perspective, different frames of reference are employed to convey the direction of one object is relative to another one. The frame of reference can be one of three different types: relative, intrinsic or absolute. In relative frame of reference, the location of the object is dependent on the location of the signer with respect to the event scene. In intrinsic frame of reference, spatial relations between the objects are depicted from an internal angle and are 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 on 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 example picture below.

h1: MAN CL (👉): 'man_be_at_b'
 h2: TREE CL (👉): 'be_at_a'
 'A man is standing facing a tree.'

(based on 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.

h1: BLUE.CL (👉): 'wearing_shirt' MAN LOOK TREE IX (👉)
 h2: BLUE.CL (👉): 'wearing_shirt' TREE
 'A man with a blue shirt is standing behind a tree and looking.'

(based on Perniss, 2007: 147)



When both intrinsic and relative frame of reference are used, one object is located according to the 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 example below, the MAN is located first into the space and the TREE is placed relative to the MAN, i.e. the placement is from intrinsic frame of reference. Such an arrangement corresponds to the external point of view, therefore relative frame of reference is also employed.

h1: MAN CL (👉): 'man_be_at_a' LOOK _____
h2: CL (👉): 'tree_be_at_b'
'A man with a blue shirt is standing facing a tree and looking.'

(based on Perniss, 2007: 146)



Information on data and consultants

See the references below for information on data and consultants.

The sign language data provided in the videos and images were discussed, produced or recreated for this chapter with a support of two deaf native consultants of DGS (female, 24; male, 27). Both signers were born and raised in Germany, are located in Northern Germany and are using DGS as their primary means of communication.

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Authorship information

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Chapter 10. Communicative interaction

When two DGS signers come together face-to-face, the signers use manual or/and nonmanual signals to regulate their conversations. In this chapter, the communicative interaction is elaborated. For the communicative interaction in DGS, the following themes are relevant: discourse markers, turn taking, back channeling and repairs.

10.1. Discourse markers

Discourse markers play an important role in the structure of discourse, for instance they show discourse coherence [Pragmatics 5.1]. They can also have complementary meanings such as expressing a sense of what the text is about and what the current emphasis is. They can also function to express the interlocutors' attitude (see also the section on expressive meaning [Pragmatics 7]). Such markers can also be observed in conversations, where they might have additional functions such as maintaining the dialogue. Discourse markers do not necessarily have to be expressed manually, they can also be expressed by nonmanual elements like eye-brow changes, eye blinks, changes in eye gaze, and head movements.

Discourse markers are frequently expressed via PALM_UP gesture. An example below shows, PALM_UP (two-handed) functioning as a text opener. The same sign can also be used to link topics by DGS signers.

a. PALM_UP



Interlocutor-1: IX₁ FOR₁ IMPORTANT OFTEN PALM_UP MEDICINE ADVICE OFTEN

Interlocutor-2: <----- PALM_UP ----->

Interlocutor-1: 'But one thing is important to me: Most of the time the medical consults

Interlocutor-2:

Interlocutor-1: TYPICAL ₁INFORM_x COCHLEAR_IMPLANT CHILD HEAR CAN.

Interlocutor-2:

Interlocutor-1: tell you, your child can hear again with a CI.'

Interlocutor-2:

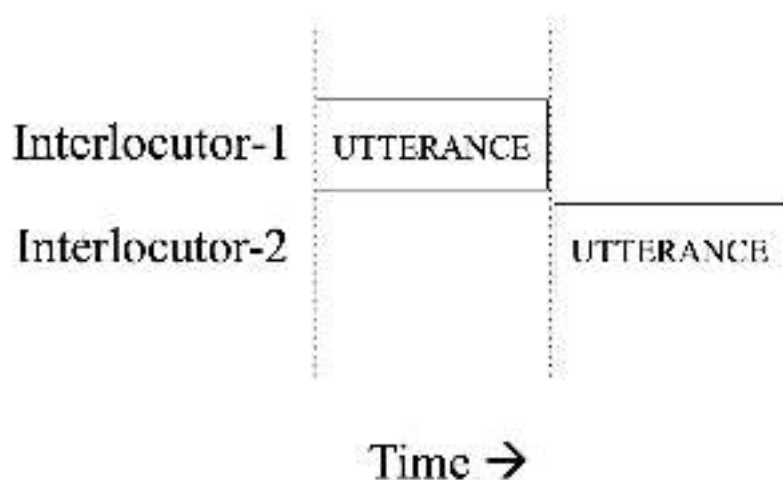
(CDGS, 00:30:04-00:38:071)

10.2.1. Types of turn taking constructions

The DGS signers might show different turn taking characteristics in a dialogue. In one cases of turn taking in DGS, an interlocutor signs and the other(s) pay attention what the active interlocutor utters. When the active interlocutor finishes his turn, (one of) the other interlocutor begins to sign. This case is referred to as a “smooth turn taking” [Pragmatics 10.2.1.1]. Sometimes pauses may occur between the turns, which is elaborated under “turn taking with pause” [Pragmatics 10.2.1.2]. At the extreme cases, the two (or more) interlocutors signs at the same time. One of overlapping turns is named as “overlapping turns”.

10.2.1.1. Smooth turn taking

In smooth turn taking, only one of the interlocutors signs. The other interlocutor starts to sign when the former ends the turn. Between turns, no pause is observed. An example of a smooth turn taking is illustrated below.



Interlocutor-1: PROBLEM WHAT GENERALLY

Interlocutor-2: (...) DECLINE WEITER PALM_UP

Interlocutor-1: ‘The general problem is that

Interlocutor-2: ‘Then you are able to cope in these situations.’

Interlocutor-1: EXPLAIN TELL ONLY IX₃ SIGN LANGUAGE BECAUSE HEARING_LOSS

Interlocutor-2:

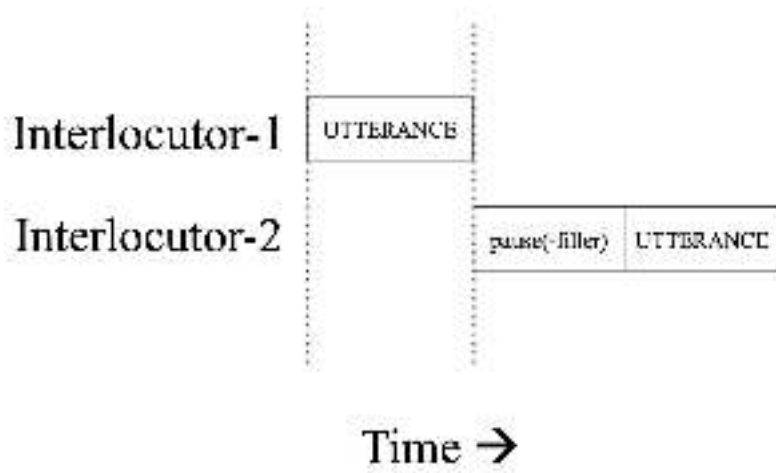
Interlocutor-1: sign language is only recommended in the case of a hearing loss.’

Interlocutor-2:

(CDGS, 02:43:10-02:50:39)

10.2.1.2. Turn taking with pause

In another type of turn taking, the following interlocutor does not immediately begin to sign when the former ends the turn. Between turns, any pause filling material can be observed. An example of a turn taking with pause is illustrated below.



Interlocutor-1:
 Interlocutor 2: NOW TIME HEARING WORLD DIFFERENT IX₃ THINK PLEASANT

Interlocutor-1:
 Interlocutor 2: ‘Everything revolves around the hearing world and there are single

Interlocutor-1:
 Interlocutor 2: MEET CAN PROFESSION CAN.NOT DIVERSITY PALM_UP

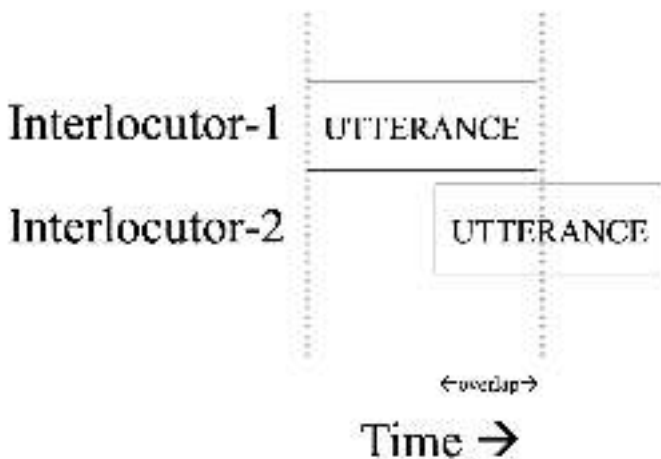
Interlocutor-1:
 Interlocutor 2: people who like it and who make it work to meet new people and

Interlocutor-1: PALM_UP FOR₁ PALM_UP FOR₁ TECHNOLOGY
 Interlocutor 2: PALM_UP

Interlocutor-1: ‘... Well ... I think ... Technology’
 Interlocutor 2: manage to have more career opportunities.’
 (CDGS, 01:52:10-02:03:20)

10.2.1.3. Overlapping turns

Two of the interlocutors might sign at the same time. Illustration of overlapping turns can be seen in the figure below.



Overlaps can occur as a joint turn construction. Other interlocutors can add information to the active interlocutor. The following example is an illustration of a joint turn construction:

Interlocutor-1: MEANING MAYBE SOME DAY COVERING-EAR PALM_UP

Interlocutor 2: BAD IX BAD DANGEROUS PALM_UP

Interlocutor-1: 'And maybe it needs to be replaced and then you are simply deaf for a

Interlocutor-2: 'That is the worst. Exactly, that is the worst case.'

Interlocutor-1: SOME DAY COMMUNICATION DEFICIENCY_IN_COMMUNICATION VERY

Interlocutor 2: REPLACEMENT NONE

Interlocutor-1: a couple of days. Then the communication doesn't work for a couple of days.'

Interlocutor-2: 'And they don't have a replacement'

(CDGS, 02:13:02-02:20:05)

Some overlaps are a result of a competitive turn constructions, as the example shows:

Interlocutor-1: ATTENTION IX₁ BELIEVE ALSO HAVE-TO RELATION-TO DIGITAL CI

Interlocutor 2:

Interlocutor-1: 'I think, the fact that you had to pay for the digital hearing aids

Interlocutor 2:

Interlocutor-1: HEARING_AID BEFORE SELF PAY SELF PAY LET ME THINK

Interlocutor 2: MONEY IX₁ SAY NOT

Interlocutor-1: yourself... Paying yourself also played a role a second, let me...'

Interlocutor-2: 'I am not talking about the financial side...'

(CDGS, 04:42:02-04:49:40)

10.2.2.1. Different turn taking signals

The interlocutors might convey some signals during the conversation. If an active interlocutor ends the turn and wants to signal that the addressee can take over the turn, these signals are analyzed as turn-yielding signals [Pragmatics 10.2.2.2]. If an active interlocutor has not ended the turn yet and is not willing to give the turn, this interlocutor might give signals indicating this reason, which are elaborated under turn-taking (attempt-suppression) signals [Pragmatics 10.2.2]. The nonactive interlocutors might add comments or give feedback about the utterances which are currently being provided. These are backchannel signals [Pragmatics 10.3].

10.2.2.2. Turn-yielding signals

Turn-yielding signals are used when one interlocutor is willing to offer the other to take his/her turn. PALM_UP pointing to the other interlocutors, with an eyebrow-raise. These gestures occur typically at the end of the questions [Syntax 1.2].



10.2.2.3. Turn taking signals

Transition relevance place is a point where turn taking can be expected. Transition relevance place can be marked in DGS by changing the position of hands such as raising and lowering hands. It can also be used to capture attention of another interlocutor(s) by waving or tapping their shoulders. Lexical discourse particles [Lexicon 3.11] can have an important role in turn-taking signals as well. For example, as with discourse markers [Pragmatics 10.1 and Pragmatics 5.1], a discourse particle `PALM_UP` might have a transition relevance place characteristic. The rate and size of signs might signal the turn starts or ends. Nonmanuals might also have an importance for turn-taking signals like eye gaze, blinks, eyebrow changes and head/body movements.

10.3. Back-channeling

The addressee might give feedback using manual and/or nonmanual signals. The responses might be in the form of affirmation or rejection. It might also be a very short clarification question or an indication of occurrence of misunderstanding. Typical back-channeling signals in DGS are nonmanual signals like nose-wrinkle, a slight head nod, and manual signals like `PALM_UP`, `RIGHT++`, `YES++`, `NO++`.

a. `RIGHT ++`



b. `YES ++`



c. `NO ++`



10.4. Repairs

Repair mechanism in conversation shows that the interlocutors deal with the natural errors in perception, comprehension, and production. The signers themselves can make a false start or initiate a slip of a hand for various reasons. Not all errors are always corrected, however, some errors can be corrected in various ways. Some errors are realized at the initial stages of signing and corrected by the signers themselves. In the following example, the signer intended to sign `FATHER` but starts with `handshape` which is a handshape of `MOTHER`.



Some repairs are overtly indicated by the signers. One of example in DGS is RIGHT_NOT which is used in the example below. The signer planned to sign TEA but starts with COFFEE and realizes the mistake. The signer comments with RIGHT-NOT and finally utters TEA.

COFFEE WRONG RIGHT_NOT TEA



If the errors are initiated by the active interlocutors themselves, they are called self-initiated repairs. If the errors are initiated by the addressee, these repairs are other-initiated repairs. Such errors can be resolved either by the signers themselves (self-correction), or by the addressees (other-correction). The example below is an example of a self-initiated and self-corrected repair in DGS.

Interlocutor-1: DIGITAL CI HEARING AID

Intended: 'digital hearing aid (instead of Cochlear Implant)'

(CDGS, 04:45:11-04:45:46)

There are manual and/or nonmanual cues for the conversational repairs. Below is an example for a nonmanual cue indicating that repair, signaled by closed eyes and a very short pause in DGS.

Interlocutor-1: HEARING PARENT HEAR... DEAF CHILD

Indented Utterance: 'Hearing parents of a deaf child (instead of hearing parents of a hearing ...)

(CDGS, 15:08:38)

Some signers use word/sign search repairs to find a suitable sign for their utterance. The example below shows a manual cue for searching a sign in DGS.

Interlocutor-1 COME SPEAK PERCEIVE-EAR (manual cue)... RADIO TV

'Other people's conversations for example, or something from the radio or the TV.'

(CDGS 10:50:34)

Information on data and consultants

The data is derived from the https://www.sign-lang.uni-hamburg.de/meinedgs/html/1180724_en.html.

For further information see the references below.

The sign language data provided in the videos and images in this chapter were discussed, produced or recreated with a support of a deaf native consultants of DGS (female, 27, located in the South of Germany). The signer was born and raised in Germany and is using DGS as her primary means of communication.

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Glossary of grammatical terms

Glossary

Action role shift

Also called constructed action, action role shift is a construction where the signer takes the role of another character. Under action role shift, the signer may shift his/her body toward the position associated to the character and his/her facial expressions indicate how the character feels and his/her gestures reproduce those produced by the character.

Adjective

An adjective is a lexical element that typically specifies a property and that can modify a noun (e.g. *clean, red* in English).

Adjunct

An adjunct is an optional constituent that is not selected by any other word present in the sentence. Rather, an adjunct is attached to some other constituent of the sentence, modifying its meaning. As such, adjunct is opposed to argument. An adjunct can be a word or a phrase (including clauses). For example, in the sentence “Ada left quickly at five because she was tired”, ‘quickly’ is an adverbial adjunct; ‘at five’ is a PP adjunct (or an adjoined prepositional phrase), and ‘because she was tired’ is an adjoined clause. Besides their category, adjuncts are also distinguished according to the constituent they attach to. For example, the sentence ‘Ada prefers to look at boys with glasses’ is ambiguous due to the constituent the PP adjunct ‘with glasses’ is attached to. It can either be attached to ‘boys’, or to some larger constituent including the verb.

Adposition

Prepositions and postpositions, together called adpositions, are a class of words expressing spatial or temporal relations or marking semantic roles. They typically combine with a noun phrase or a pronoun. A preposition comes before its nominal complement; a postposition comes after its complement. In sign languages an adposition marks the (usually spatial) relation between two items.

Adverbial

An adverbial is a constituent that is simplex or complex in form and that functions as an adverb; sometimes used interchangeably with simplex adverb.

Affirmative sentence

An affirmative or positive sentence is a declarative sentence used to express the validity or truth of a basic assertion. As such, it is opposed to a negative sentence. This dimension is often referred to in grammar as polarity.

Affixation / affix

Affixation is a word formation process by which a base (a stem or root) is extended by additional bound material; the items attached in this way are called affixes, they may come before or after a base, break up the base, or appear suprasegmentally.

Agreement

Agreement is an asymmetric relation between two or more constituents, by which one inherits the formal features of the other. For example, in the sentence 'Girls now are moving forward', the copula BE agrees with the subject 'girls' in number (plural) and person (third). This syntactic relation is morphologically expressed in English through verbal inflection, hence the form 'are'. In sign languages, agreement is often expressed through spatial modification.

Agreement verb

An agreement verb is a verb that is lexically defective (i.e. unspecified for one phonological feature) in that it requires syntactic agreement with a person or a locus to be realized.

Alignment

Alignment refers to the temporal coordination of different articulations; e.g. alignment of a non-manual marker with a string of signs, or alignment of various non-manual markers with each other.

Allomorph

Allomorphs are affixes or stems that are identical in meaning but have different phonological forms and are in complementary distribution; allomorphs are variants of the same morpheme.

Allophone

Variants of the same underlying phoneme that are either in complementary distribution or in free variation.

Anaphora

Expression that is referentially dependent on another expression previously mentioned in the context (i.e. the antecedent). In the following example, the pronoun *he* is co-referent with the antecedent *a man*: 'Mary saw *a man*. *He* was walking home.' Typical anaphoric expressions are pronouns or definite noun phrases.

Antecedent

The antecedent is the expression an anaphora is co-referent with, i.e. the anaphora refers back to the referent of the antecedent.

Argument

An argument is a constituent that completes the meaning of a predicate. Most predicates take one, two, or three arguments. For example, the verb 'to run' takes one argument (the subject, as in 'Ada runs'); the verb 'to destroy' takes two arguments (the subject and the object, as in 'the typhoon destroyed the beach'); the verb 'to send' takes three arguments (the subject, the object and the indirect object, as in 'Ada sent a present to her brother'). Arguments are often associated to verbs, but other syntactic categories can take arguments as well, or select them. For example, the noun 'destruction' can be said to select two arguments, as in 'the destruction of the beach by the typhoon', or the Adjective 'proud' can be said to select two arguments, as in 'Nico (is) proud of Ada'. Arguments must be distinguished from adjuncts, which are never selected and thus optional.

Argument structure

Argument structure refers to the syntactico-semantic frame of predicates (typically verbs, but also nouns, adjectives or prepositions) and indicates the participants in the action or state denoted by that predicate. Argument structure typically includes the number of arguments a lexical item takes (e.g., the participants in the event denoted by a verb), their syntactic category, and their semantic relation to this lexical item.

Article

An article (or determiner) is a functional element that combines with nouns and that specifies features such as number, gender, definiteness, and closeness/distance (e.g. *the, a, that* in English).

Aspect

Aspect describes the internal temporal structure of an event or situation as reflected in a sentence or verb (e.g. repeated occurrence of an event).

Assimilation

Assimilation is a phonological process whereby the form of a phoneme is influenced by properties (features) of an adjacent phoneme; if the source of assimilation precedes the target, we speak of progressive assimilation, if it follows the target, we speak of regressive assimilation.

Atelic

Atelic eventualities do not contain an end point as part of the event description.

Attitude role shift

Attitude role shift, also called constructed discourse, is a construction where the signer reports utterances or thoughts of another person (the character) and typically does so by rotating his/her body toward the position associated to the character. Attitude role shift is usually accompanied also by a change in head position and eye gaze.

Auxiliary

An auxiliary is a semantically weak verb that combines with a lexical verb and expresses grammatical features like tense, aspect, and agreement (e.g. *have* and *be* in English); the lexical verb usually appears in a fixed (e.g. infinitival or participial) form.

Back-channeling

Back-channeling is a discourse strategy by which an addressee provides feedback without interrupting the speaker's/signer's flow; back-channel signals can be manual/vocal (e.g. *hmmm*) or non-manual (e.g. head nod).

Blend

A blend is a word formation process by which two otherwise independent stems or words merge by losing some of their phonological features to form a new item with a new meaning, e.g. English *smog* is a blend of *smoke* and *fog*.

Borrowing

Borrowing refers to the integration of a lexical item or expression from one language into the lexicon of another language (e.g. German borrowing English *computer*); borrowed elements may undergo certain phonological changes.

Boundary marker

A boundary marker is a linguistic signal that marks the start or end of a (mostly syntactic or prosodic) domain; can be manual or non-manual.

Buoy

A buoy is a sign articulated by the non-dominant hand, which may be held in space while the dominant hand continues signing; a buoy may be referred to (e.g. pointed at) by the dominant hand.

Calque

A calque is an item which in its entirety, or part-by-part, is borrowed directly from the donor language; Calques are verbatim translations of simplex or polymorphemic forms and are modeled on the constructions of the donor language.

Causative

A causative is a construction that indicates that an agent causes someone or something to do or be something, or causes a change of state. Prototypically, it brings a new argument, the causer, into a clause, with the original subject becoming the object, as in 'John makes Mary cry' vs. 'Mary cries'. All languages have ways to express causativization, but they differ in the means they employ. Many have lexical causative forms, such as English 'raise' vs. 'rise'; Other languages have morphological inflections that change verbs into their causative form. Other languages, and sign languages among them, employ periphrasis with the use of an auxiliary.

Citation form

A citation form is the basic form referring to the dictionary entry of a lexeme. As lexemes are abstract objects, citation forms make it possible to refer to a lexeme.

Classifier

Generally, a classifier is a morpheme that reflects certain semantic properties of a referent; for sign languages, a classifier is a visually motivated (iconically based) lexical/grammatical category, mostly a handshape that combines with certain types of predicates.

Classifier construction

A classifier construction is a complex sign that encodes information about spatial localization and (manner of) motion and that is part of the non-core lexicon.

Classifier predicate

A classifier predicate is a complex predicate made up of a classifier and a verb.

Clause

A clause is the smallest grammatical unit that can express a complete proposition (i.e. a statement that can be either true or false). Typically, it consists of a subject and a predicate, which in turn is prototypically a verb phrase, a verb and its internal arguments.

Cliticization

Cliticization refers to a process whereby a functional element phonologically attaches to a lexical element such that a single prosodic word is created (e.g. English *can't* and French *j'aime*); the functional element is referred to as a clitic.

Coalescence

Coalescence refers to a special type of cliticization; most commonly, cliticization of an indexical sign to a preceding symmetrical two-handed sign, such that a single prosodic word is created.

Code-switching

Code-switching refers to a (usually bilingual or multi-lingual) language user's switching between two languages or registers during communicative interaction.

Coherence

Coherence is the semantic continuity of a text or discourse which is determined by semantic and conceptual relations between its parts.

Cohesion

Cohesion are grammatically realized relations in a text or discourse that are used to explicitly link different parts of discourse. Cohesive devices make it possible for the addressee to keep track of the discourse referent.

Common noun

A common noun is a noun that denotes a class or type of entity; a common noun can be a count noun (e.g. *book* in English) or a mass noun (e.g. *rice* in English).

Comparative/comparison

Comparison introduces orderings between two or more objects with respect to the degree to which they possess some property. In the prototypical case, a comparison involves two objects that are explicitly expressed ('John is taller than Mary'). However, comparison can be more implicit (in 'John is tall' John's height is evaluated with respect to a contextually determined degree of tallness). Many languages have one or more syntactic constructions specifically encoding a comparison.

Complement clause

A complement clause, or object clause (also called completive) is a subordinate argument clause carrying the syntactic function of an object, as 'that she would do it' in 'Ada promised that she would do it'.

Complementizer

A complementizer is a functional word or a particle introducing a subordinate clause, such as *that* in English as in "John knows that he is lucky." It is often abbreviated as C.

Complex movement

A complex movement is a movement composed of a change in more than one phonological parameter (e.g. simultaneous change of location and handshape).

Compounding/Compound

Compounding is a word formation process by which two otherwise independent stems or words come together to form a new item with a new meaning; the result is a compound.

Conjunction

A conjunction is a functional element that links phrases, clauses, or sentences; coordinating conjunctions (e.g. English *and*, *but*) have to be distinguished from subordinating conjunctions (e.g. English *that*, *because*).

Constituent

A constituent is a word or a group of words which function(s) as a single unit within a given syntactic structure. The constituent structure of a sentence can be identified using constituency tests. Typical constituents phrases that can be distinguished according to their category in noun phrases (NP), verb phrases (VP), Adjectival phrase (AP), Adverbial Phrase (AdvP) and the like.

Constituent negation

Constituent negation refers to a type of negation whereby a constituent smaller than the clause is negated, e.g. negation of the verb in *I didn't steal the book, I borrowed it*.

Contact (in the sense of language contact)

Language contact refers to the circumstances determined by two language communities living side-by-side that allow linguistic patterns and words from one to be used in the other.

Contact (in the sense of phonology)

Contact refers to an articulator physically touching another articulator, a body part, or the torso, or the appearance of an articulator in a location.

Context

The context of an utterance consists at least of the speaker, the addressee, the time and the place of the utterance. Broader definitions of context may also include information about the previous discourse and the communicative situation, shared background knowledge and shared world knowledge among other kinds of information.

Contralateral

Contralateral refers to a location/area on the side opposite of the active articulator.

Control verb

The term control refers to the constructions in which the understood subject of a non-finite embedded clause is determined by some expression in the main clause.

Control verbs (such as promise, order, try, ask, tell, force, yearn, refuse, etc.) obligatorily determine which of their arguments in the main clause controls the embedded clause. Some of them qualify as subject control verbs. 'Promise' is an example, as in 'Ada promised to leave', where the understood subject of 'leave' is obligatorily interpreted as the main subject. Some are object control verbs. An example is 'order', in 'Ada ordered Auguste to leave', where the understood subject of the infinitive is obligatorily interpreted as the object of the main verb, 'Auguste'. Arbitrary control occurs when the controller is understood to be anybody in general, as in 'Running is good for health'.

Conversion

Conversion (also called zero affixation) is a category-changing process, where the input and output categories are phonologically identical, i.e. where there is no overt affix that bears the information of category change (e.g. *walk* (N) and *walk* (V), *put* (present tense) and *put* (past tense) in English).

Coordination

Coordination is a non-hierarchical combination of at least two constituents belonging to the same syntactic category, such as noun phrases, verb phrases or clauses, either through conjunction or juxtaposition

Copula

A copula is a word used to relate the subject of a sentence with a non-verbal predicate, such as the word 'is' in the sentence 'Ada is nice'. It is often a verbal element, but it can also be pronominal in nature or suffixal. Many languages have one main copula, others have more than one, and some (including many sign languages) have none.

Correlative

Correlatives are conjunctions that are separated in a sentence but coordinate the constituents they introduce, which have thus the same function. Examples of correlatives in English are. 'both... and', or 'either ..or'. The same term can also be used to refer to the constituents themselves that are coordinated in a correlative structure. For example, 'Ada' and 'Maya' are two correlative noun phrases in 'Both Ada and Maya love to play'. Similarly in 'Either you call or you write a letter', the two clauses can be referred to as correlative clauses. Correlative constructions can also be found in some languages as the functional equivalent of relative clauses: 'the boy was late, that boy called' meaning 'The boy who was late called'.

Co-speech gesture

A body movement, executed by the hand(s) or another body part, that accompanies speech, often to illustrate, supplement, or accentuate the message conveyed in speech; e.g. pointing gesture, thumbs-up gesture, headshake, shrug.

Count noun

A count noun is a noun that can appear in the plural and that may combine with numerals like *three* but not with quantity expression like *much* (e.g. *book, horse*).

Declarative

Declaratives are the most common type of sentences in any given language. They are used to express statements, to make something known, to explain or to describe. As a sentence type, they are usually opposed to interrogatives, imperatives and exclamatives. The corresponding declarative force is specialized to provide new information. Declaratives are typically used to realize assertional speech acts.

Definiteness/Indefiniteness

Definite expressions are noun phrases that denote referents that have the property of being unique ("The book is on the table", where there is just one relevant book in the context of utterance) or the property of being familiar both to the signer and to the addressee. Indefinite noun phrases denote referents that are not known to the signer but can be known to the addressee.

Deixis

Deixis is a strategy to refer to objects present in the actual context of utterance. Deictic expressions can refer to concrete entities ('I', 'you', 'that (one)') as well to the spatiotemporal coordinates of the context of utterance ('here', 'now', 'yesterday').

Demonstrative

A demonstrative is deictic word (a type of determiner) that specifies which entity a speaker refers to and distinguishes this entity from others; they may e.g. be used for spatial deixis (e.g. English *this* vs. *that*).

Deontic modality

Deontic modality refers to the speaker's attitude towards the possibility or necessity of an event, embodied in the notions obligation, permission, prohibition, wishing, desiring, etc.

Derivation

Derivation is a lexical word formation process that creates a new lexeme, mostly by combining a stem and an affix.

Derivational affixation

Derivational affixation is a type of affixation whose function is to create a lexeme associated with an already existing lexeme (e.g. *-er* in *swimm-er*); derivational affixation contrast with inflectional affixation which exists solely for grammatical purposes (e.g. agreement morphology).

Determiner

A determiner (or article) is a functional element that combines with nouns and that specifies features such as number, gender, definiteness, and closeness/distance (e.g. *the, a, that* in English).

Discourse

A discourse is formed by a sequence of logically united utterances, which are also connected to the context.

Discourse marker

Discourse markers are cohesive devices between two utterances (such as connectors or discourse particles) that establish coherence

Discourse structure

Discourse structure describes the relations between grammatical elements and their effects beyond the sentence level.

Ditransitive

A ditransitive verb is a verb which takes a subject and two objects corresponding to a theme and a recipient. These objects may be called direct and indirect, or primary and secondary. An example of a ditransitive verb in English is 'send', as in 'Ada sent a letter to her friend'.

Domain marker

A domain marker is a phonological signal that spans over an entire prosodic or syntactic domain; can be manual or non-manual.

Dominance reversal

In a dominance reversal, a signer uses his non-dominant instead of his dominant hand for signing; a dominance reversal may be phonologically (e.g. articulatory constraints) or pragmatically motivated.

Dominant hand

The dominant hand is the preferred hand of a signer, i.e. the hand s/he would normally use to articulate one-handed signs.

Doubling (syntactic)

Syntactic doubling refers to the repetition of a morpho-syntactic constituent within a sentence; e.g. doubling of a wh-sign.

Dual

One of the values of the feature number that indicates 'two' of an entity.

Ellipsis

Ellipsis refers to the omission from a clause of one or more words that are nevertheless understood in the context of the remaining elements. There are numerous distinct types of ellipsis, according to the nature of the omitted constituent and to the syntactic context where it occurs. Some of the most common types are briefly described below.

Gapping occurs in coordinate structures: material that is present in the first conjunct can be omitted, i.e. 'gapped', from the second conjunct. The gapped material usually contains a finite verb, as in 'Nico plays the piano and Phil the trumpet'.

VP ellipsis omits a non-finite VP. The ellipsis site must be introduced by an auxiliary verb or by the particle *to*, as in 'Phil played today, and Ada will tomorrow'.

Sluicing elides everything from a direct or indirect question except the question word, as in 'Ada will call someone, but I don't know who'.

Embedded clause

An embedded, or dependent, clause is a clause that is dependent from another clause in a given sentence. It can be an argument clause or an adjunct (or adverbial) clause.

Embodiment

In the context of role shift, embodiment is understood as a phenomenon whereby the actual signer (i.e. the narrator) of a text or discourse uses his/her body as one of the interlocutors or agents in the narrated discourse.

Entity classifier

An entity classifier (also called whole entity or semantic classifier) is a classifier (handshape) which reflects shape properties of the subject of an intransitive clause (e.g. a car moving).

Epistemic modality

Epistemic modality refers to the speaker's belief or knowledge about an event, embodied in the notions of knowing, believing, assuming, etc.

Ergativity

Ergativity refers to a system of marking grammatical relations in which intransitive subjects pattern together with transitive objects, and differently from transitive subjects. Ergativity may be manifest, for example, in terms of morphological case marking on nominals, or patterns of agreement on the predicate. An example of an ergative language is Basque.

Event structure

Event structure or situation type refers to the internal temporal structure of eventualities and it is also known under other denominations like Aktionsart, actionality or inner aspect.

Evidentiality

Evidentiality is a grammatical category used to mark the source of information. Evidential markers typically distinguish between the following sources of information: (i) visual, (ii) sensory, (iii) inference, (iv) assumption, (v) reported and (vi) quotative.

Exclamative

An exclamative is a grammatical form specialized to convey surprise, denoting that all or some part of the utterance is unexpected, as in 'What a beautiful day!'. It is one of the four well-recognized sentence types, together with declaratives, interrogatives and imperatives. The corresponding exclamative force is specialized to convey a surprise. Declaratives are typically used to realize assertional speech acts. Unlike the other assertions, questions or commands, exclamations are expressive speech acts that are not used to ask the speaker to do something.

Exhortative

An exhortative construction is a construction used to express an order or an invitation including other participants other than the addressee, and typically the first and third person ('Let us go!').

Existential clause

An existential clause is a clause that refers to the existence or presence of something. Examples in English include the sentences 'There is bread in the kitchen' and 'There are three pencils on the desk'. Many languages form existential clauses without any particular marker, simply using forms of the normal copula, the subject being the noun (phrase) referring to the thing whose existence is asserted.

Expressive meaning

Expressive meaning is the meaning that is conveyed but not actually said, i.e. expressive meaning is typically due to some kind of pragmatic enrichment. Expressive meaning does not contribute to the truth-conditional meaning of an utterance.

Extended exponence

Extended exponence is a concept related to morphology whereby two markers occurring in different places in a word or phrase belong to the same morpheme; i.e. two separate units realizing a single function.

Extraction

Extraction refers to any syntactic operation responsible for the displacement of a word or a constituent from the position within a larger constituent where it is interpreted. For example, we can say that 'who' is extracted from the object position of the embedded clause in 'Who do you think Ada will call?'.

Extraposition

Extraposition is a mechanism of syntax altering word order in such a manner that a relatively "heavy" constituent appears in a position other than its canonical position, usually to the right. The relative clause 'which was addressed to Ada' is extraposed in the following sentence: 'A letter arrived yesterday which was addressed to Ada'.

Fingerspelling

Fingerspelling refers to the use of handshapes from the manual alphabet to represent (part of) a word, often because no sign exists for the concept; in fingerspelled sequences certain reduction and assimilation phenomena may occur.

Finite clause

A finite clause is a clause with a finite verb.

Floating quantifier

A floating quantifier is a quantifier that is not immediately adjacent to the NP it quantifies. French 'tous' (all) in 'les étudiants ont tous lu ce livre' (the students have all read this book) vs 'Tous les étudiants ont lu ce livre' (all the students have read this book) is an example.

Focus

A focus is an item that is presented as a new piece of information in the context of utterance. Entire sentences can be a focus, for example when they are used as opening lines in a conversation. In other cases, only a part of the sentence is new information, for example the constituent *War and Peace* is a focus in the following question-answer pair: "Which book did you read? I read *War and Peace*". Focus can be contrastive or emphatic, as the constituent *Anna Karenina* in the sentence "I am not reading *War and Peace*, I am reading ANNA KARENINA".

Free relative

A free relative clause is a relative clause not containing any (overt) antecedent, or head, as 'what you will read' in 'I will read what you will read'. In many languages, free relatives are introduced by a wh-element, as 'what' in the English example.

Functional element/category

A syntactic category that has grammatical meaning rather than lexical or encyclopedic meaning and that fulfills a syntactic function (e.g. negation, tense, number).

Gapping

Gapping is a type of ellipsis occurring in coordinate structures: some material that is present in one conjunct is omitted, i.e. 'gapped', from the other conjunct. The gapped material usually contains a finite verb, as in 'Nico plays the piano and Phil the trumpet'.

Gender

Gender is a grammatical (morphosyntactic) category that classifies nouns in terms of their (real or assumed) semantically shared properties in some languages; in others, the classification can be somewhat arbitrary.

Gloss

Explanation/rendering of a morpheme or word in a text by means of providing a literal translation in another language (usually English).

Grammatical function

Grammatical function refers to the syntactic role of a constituent in a given syntactic structure, such as subject or object. It is independent from the category of that given constituent and rather depends on its position in the structure.

Grammatical word

A grammatical word is a free form composed of a root and morphosyntactic features (inflection), which enables it to be used in a syntactic context; the morphosyntactic features can have overt expressions, or they can be phonologically null.

Grammaticality judgment

A grammaticality judgment is a metalinguistic assessment of the acceptability of a given utterance by a native speaker. Grammaticality judgments are typically used in linguistic research to gather negative evidence about what the grammar *cannot* generate, alongside with what is actually produced.

Grammaticalization

Grammaticalization refers to a process by which an independent lexical form diachronically develops into a free or bound functional (grammatical) element; e.g. in English development of future tense marker from the verb *go*.

Head of a word

The head of a word is the element which provides the label for the categorial status of a word or compound, thus determining whether it is a noun, verb etc. The concept of head presupposes asymmetrical (head-complement or head-modifier) structures.

Headedness

Headedness is the property that distinguishes symmetrical from asymmetrical constructions in morphology, used usually in compounding. Symmetrical constructions are usually considered headless, while asymmetrical constructions have a syntactic head (and a complement or modifier).

Homonym

Two or more words that are phonologically identical but have different meanings, causing lexical ambiguity.

Iconicity

Iconicity implies a non-arbitrary (motivated) relation between form and meaning, i.e. a phonological form reflects in some way the assumed visual (or auditory) characteristics of the entity or event it refers to; the form of the category/construction is then iconic.

Illocutionary force

The illocutionary force of an utterance depends on the speaker's intention in producing that utterance and the corresponding syntactic structures he/she uses to reach this goal. Declarative, interrogative, imperative and exclamative sentences are linguistic structures that are typically used to perform the illocutionary acts of making an assertion, eliciting information from the addressee, eliciting a behavior from the addressee and conveying a surprise.

Imperative

An imperative is a grammatical form that is specialized to elicit a (possibly non-linguistic) behavior from the addressee, as in 'Go away!'. It is one of the four well-recognized sentence types, along with declaratives, interrogatives and exclamatives. The corresponding imperative force is specialized to elicit a specific behavior of the addressee. Imperatives are typically used to realize commands or requests.

Impersonal verb

An impersonal verb is a verb whose argument structure does not include an external argument. For example, 'seem' in 'It seems that Ada is growing' does not assign any interpretation to 'it', which is a pure place holder, or expletive subject.

Implicature

Implicatures are context-dependent pragmatic aspects of the meaning of an utterance that do not contribute to the truth-conditional meaning of an utterance (what is said) but to the pragmatic meaning of this utterance (what is meant). Conversational implicatures are calculated on the basis of conversational maxims.

Incorporation

A complex verb formed by the syntactic combination of a verb with a noun (noun incorporation) or another verb; in sign languages often used for the combination of a verb and a classifier or of a noun and a numeral (numeral incorporation).

Indefinite pronoun

An indefinite pronoun is a pronoun that stands for an entity without specifying any grammatical (morphosyntactic) features such as number (e.g. *someone* in English).

Indirect question

An indirect question is a question, or interrogative, sitting in an embedded position, as 'when she should leave' in 'Ada asked me when she should leave'. An indirect question is typically embedded under a declarative.

Inflection

Inflection is a type of word formation which is to some extent dependent on a syntactic structure and involves morphosyntactic features such as e.g. person, number, and tense.

Information structure

The term information structure refers to the way in which information is packaged within a sentence. For example, the information conveyed by an utterance can be divided in old vs. new information and within a sentence it is possible to identify a constituent that is a topic and a constituent that is focus.

Initialization

Initialization is a sign language-specific type of word formation (compounding) whereby the handshape of a lexeme is the handshape of the manual alphabet representing the first letter of the corresponding word in the spoken language (e.g. the sign lemonade with a C-handshape).

Interrogative

The term interrogative refers to a grammatical form that is specialized to elicit information from the addressee, as in 'What have you done?', or to report a doubt or a similar attitude towards a given propositional content, as in 'I wonder what you did'. The corresponding interrogative force is specialized to elicit information from the addressee. Interrogatives are typically used to realize a question.

Intonation

Intonation refers to the totality of the prosodic phenomena that accompany the segmental part of strings (i.e. stress, pitch, and pause), marked mostly through non-manual articulations (such as facial expressions) in sign languages.

Intransitive verb

An intransitive verb is a verb that only takes one argument, as 'telephone' and 'arrive'. Intransitive verbs can be distinguished between unaccusatives, that only take an internal argument, such as 'arrive', and unergatives, whose only argument is the external argument, such as 'telephone'.

Ipsilateral

Ipsilateral refers to a location/area on the side of the active articulator.

Irreversible predicate

An irreversible predicate is a predicate that selects for two arguments associated with different semantic features, such as animacy. For example, typically 'eat' is an irreversible predicate, because its external argument is animate and its internal argument is inanimate. Only 'Ada eats a salad' is a meaningful sentence, while the reverse, 'A salad eats Ada' is semantically odd. Irreversible predicates are opposed to reversible predicates.

Isomorphic

The term isomorphic refers to the equivalence between the values of two sets of entities, rules etc.; e.g. in isomorphic use of space, signs are produced in a spatial configuration that corresponds to (i.e. is isomorphic with) a real-world configuration.

Juxtaposition

Juxtaposition is a kind of coordination not involving any overt conjunction, such as *and*, *or*, *but* or the like. Two constituents that are juxtaposed usually belong to the same syntactic category and perform the same grammatical function.

Layering/layer

In sign language linguistics, layering refers to the simultaneous (i.e. layered) use of various manual and non-manual articulators, e.g. a string of signs accompanied by a body lean, a head movement, and a specific eyebrow position.

Lexeme

A lexeme is a (semi-)abstract unit of meaning which corresponds to the basic forms in the lexicon; the actual realization of these units in language use are called 'word forms' (or sometimes simply 'words').

Lexical item

A lexical item is any item that is part of the vocabulary of a particular language, and that has to be learned in order for the language to be used.

Lexicalization

Lexicalization refers to the adoption of a particular form into the lexicon of a language; the form can be a completely novel form, or might be based on previously existing items.

Lexicon

The lexicon is the mental repository of all the vocabulary items of a language.

Loan sign

A loan sign is a sign that is of foreign origin, influenced by the spoken language or taken from another sign language.

Local lexicalization

Reduction of a fingerspelled sequence that is repeatedly used within a discourse; the phonological changes (e.g. dropping of letters, creation of movement contour) are characteristic of lexicalization.

Locus

A locus is a point in space used for grammatical purposes (e.g. pronominalization, agreement); it either is the actual location of a present discourse referent or an arbitrary location established by means of pointing or some other strategy.

Main clause

The main clause of a sentence, also called the independent clause, is a clause that is syntactically and semantically autonomous. It is thus opposed to the subordinate clause, which is syntactically and semantically dependent on the main clause.

Mass noun

A mass noun is a noun that does not usually appear in the plural and that cannot combine with numerals like *three*; however, it may combine with quantity expression like *much* (e.g. *rice*, *milk*).

Measure phrase

Measure phrases are constructions containing a noun referring to a measure of time, capacity, weight, length, temperature, currency. For example 'five months' in 'I will leave in five months', or '4 kilos' in 'I bought four kilos of strawberries'.

Metaphor

Metaphor is a general cognitive mechanism, which is important for the constitution of meaning of many expressions in everyday language. In a metaphor, two different concepts can be mapped on each other and one (typically abstract) concept is being understood through the other (typically more concrete) concept.

Metonymy

In a metonymy, one entity stands for another related entity such as a part (face) for a whole (person), a writer for his writing, a place (Paris) for an institution (French government).

Minimal pair

Two lexemes that differ from each other only in terms of a single distinctive feature, a single phoneme in spoken languages (e.g. *bat* and *matt* in English) or a single parameter in sign languages.

Modal particle

A modal particle is a particle that expresses (logical/semantic) modality (e.g. *doch*, *ja*, etc., in German).

Modal verb

A modal verb is a verb – mostly an auxiliary – that expresses (logical/semantic) modality (e.g. the verbs *can*, *must*, etc., in English).

Modality

A functional feature that indicates the speaker's level of commitment to the actuality of an event, or its desirability, necessity, possibility, etc.

Modality differences

Differences between signed and spoken languages that are due to or related to the difference in communication channel (visual-gestural vs. oral-auditive).

Morpheme

A morpheme is the smallest linguistic unit that bears meaning; it can be free (i.e. standing on its own) or bound (i.e. morphologically dependent on a stem/base and unable to be used on its own).

Morphosyntactic feature

Morphosyntactic features (also called grammatical features) are the categories of declension and conjugation (e.g. number, tense, etc.) which carry grammatical information and enable a word to be used in a particular syntactic context.

Mouth gesture

A mouth gesture is a configuration of the mouth that may accompany a sign or signs and that is not related to a word of the surrounding spoken language.

Mouthing

A mouthing is the (mostly silent) articulation of (a part of) a word from the surrounding spoken language that is either related to the sign it accompanies or specifies its meaning; occasionally, a mouthing may spread over a string of signs.

Nativization

Nativization implies the adoption of a foreign word into the native lexicon such that it conforms fully to the native phonology.

Negation

Negation is a semantic notion which is encoded by dedicated morphemes. Negation systematically changes the meaning of expressions by introducing various kinds of oppositions. Negating a proposition has the effect of reversing its truth value, i.e. of the two clauses *Tim is at home* and *Tim is not at home*, only one can be true. By contrast, constituent negation only affects the constituent in the scope of negation

Negative suppletion

Negative suppletion refers to a process whereby a negative morpheme is phonologically different from its affirmative form.

Neologism

A word (sign) or phrase that is newly formed, usually for naming new objects or states of affairs.

Neutral word order

Every language has a neutral word order, an ordering of main constituents that is pragmatically neutral and syntactically unmarked. Typically, the neutral word order for a given language is established following the following criteria: it corresponds to the ordering of constituents in declarative main clauses; both the subject and the object are nominal; it is pragmatically neutral; no element is emphatic or topicalized.

Non-concatenative morphology

The part of morphology that is about non-affixal word formation processes (such as stem modifications or templatic morphology).

Non-dominant hand

The non-dominant hand is the non-preferred hand of a signer, i.e. the hand s/he would normally only use in the articulation of two-handed signs.

Non-finite clause

A non-finite clause is a dependent clause whose verb is non-finite. Many languages can form non-finite clauses with infinitives, participles and gerunds. Like any embedded clause, a non-finite clause depends on another clause in the sentence.

Non-manual (marker)

A non-manual marker is a lexical or information-bearing unit which is expressed by articulators other than the hands; non-manual markers can have phonological, morphological, syntactic, and prosodic functions.

Non-native lexicon

The non-native lexicon is the repository (mental dictionary) of the forms that are borrowed from other languages and, in the case of sign languages, from co-speech gesture.

Number

An inflectional feature (functional category) that indicates whether the an expression refers to a single entity or to more than one entities. The most common values of the category number are singular and plural, but intermediate values such as dual and paucal also exist.

Numeral

The term 'numeral' indicates an item specifying the number of the entities referred to by a noun.

Numerals can be classified into three main categories: cardinals (which answer the question 'how many?'), ordinals (which answer the question 'which in order?'), and distributive numerals (which answer the question 'how many each?').

Numeral incorporation

Under numeral incorporation, a polymorphic form (a compound) is created by simultaneous the combination of a numeral and a syntactically adjacent noun.

Parameter

Parameters are the phonological components (building blocks) of a sign: handshape, orientation, location, movement, and non-manuals.

Particle

The term particle is typically used for items that cannot be inflected (e.g. conjunctions), but it is also applied to formally dependent items (e.g. clitics) and functionally dependent items (e.g. adpositions and auxiliaries).

Parts of speech

The lexical and functional categories that are the building blocks of syntax: verb, noun, adverb, adjective, conjunction, etc. (see also *syntactic category*).

Passive

In a passive construction the patient (or theme) argument of a transitive or a ditransitive verb is in the subject position, the agent argument is absent or expressed optionally, and the verb or the verb phrase is marked in a special way.

Personal pronoun

Personal pronouns are pronouns that are associated primarily with a particular grammatical person – first person (as *I*), second person (as *you*), or third person (as *he, she, it*). Personal pronouns may also take different forms depending on number (usually singular or plural), natural gender, case, and formality.

Path movement

Path movement refers to a movement of the whole hand, be it in neutral signing space or on the signer's body.

Perspective

Perspective refers to the viewpoint from which an event is described. The event can be described from an external viewpoint (observer or narrator perspective) or from an internal viewpoint (character perspective).

Plain verb

A sign language verb that cannot be spatially modified to agree with (indicate) one or more of its arguments; plain verbs contrast with agreement verbs and a spatial verbs.

Plural

One of the values of the category number, indicating that there is more than one of an entity.

Polar interrogative

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 English is 'Are you sick?' while an indirect polar interrogative in English is the embedded clause in 'I wonder whether you are sick'.

Politeness

The linguistic expression of the intention of a speaker to save the face of the addressee (or some other person) in communicative interaction. To express his/her intention, the speaker uses various linguistic strategies.

Possession

Possession can be viewed as the realizations of a – typical asymmetric - association or relationship between two referents. Possession comprises kinship relations, whole-part relations, ownership relations and more general associations between possessor and possessum.

Possessive

A possessive construction is typically a noun phrase expressing a possession. It is usually articulated into the *possessor* (someone who possesses something) and the *possessed* (often referred to as *possessum* or *possessee* as well).

Postposition

See adposition

Predicate

In traditional grammaticography, a predicate combines with a subject to form a sentence, and ascribes a property to the subject referent (e.g. 'Socrates' is the subject in the sentence 'Socrates is mortal' and 'is mortal' is the predicate). Predicates combine with a certain number of dependents or participants in order to express a complete predication to refer to a particular event or situation.

Preposition

See adposition

Presupposition

A presupposition of an utterance is some additional information that the speaker or signer assumes (or acts as if he/she assumes) in order for the utterance to be meaningful in the current context. In the sentence 'Peter stopped smoking', the use of the verb *stop* presupposes that Peter used to smoke.

Pronoun

A syntactic category that takes the place of a noun phrase (e.g. English *I, him, mine*, etc.)

Personal pronouns are pronouns that are associated primarily with a particular grammatical person – first person (as *I*), second person (as *you*), or third person (as *he, she, it*). Personal pronouns may also take different forms depending on number (usually singular or plural), natural gender, case, and formality. Semantically, pronouns are used as cohesive devices to establish co-reference between the referent of the pronoun and the referent of its antecedent.

Proper noun

A subgroup of the syntactic category noun; proper nouns denote individuals (e.g. persons: *Noam Chomsky*, places: *Europe*).

Prosodic word

A prosodic unit that consists of at least one syllable and that may or may not be a lexical word; cliticization or compounding may yield a prosodic word.

Prosody

Elements of speech or signing that determine how we say what we say, e.g. the pauses, the prominent parts, the rhythmic chunks, tones, etc.

Purpose clause

Purpose clauses are subordinate clauses expressing the purpose of the event expressed by the main clause, as in 'We stopped driving to work in order to save money'.

Quantifier

A syntactic category that indicates quantity (excluding numerals), e.g. *some, many, never*. Semantically, quantifiers are operators that quantify over a set of individuals, with different interpretations depending on the meaning of the quantifier.

Raising verb

Raising constructions involve the movement of an argument from an embedded or subordinate clause to a matrix or main clause; in other words, a raising predicate/verb appears with a syntactic argument that is not its semantic argument, but is rather the semantic argument of an embedded predicate. An example of raising verb in English is 'seem', as in 'Ada seems to be happy'.

Reason clause

Reason clauses are subordinate clauses expressing a reason for the event expressed by the main clause, as in 'I called you because I missed you'.

Reduplication

Under reduplication, a morphological process is realized by repeating (part of) a stem.

Reference

Reference is the symbolic relationship between a linguistic expression and a concrete or abstract entity that it represents. The reference of an expression is the set of entities that the expression denotes.

Reference tracking

Reference tracking has to do with specifying the referents' identity in a text or discourse, i.e. with signaling which discourse referent we are talking about. Languages use various morphosyntactic devices such as pronouns or verbal agreement and pragmatic principles such as accessibility and salience to specify a referent in a discourse context.

Reflexive

A construction where the agent and another thematic role bearing argument refer to the same entity (e.g. *He washes himself*); a reflexive pronoun is a pronoun that refers to the agent (e.g. *himself*).

Register

The term register describes all kinds of linguistic variation that depends on the communicative situation or the specific purpose of communication.

Resumptive

A resumptive pronoun is a pronoun that refers back to a previously realized item within the same syntactic structure. Resumptive pronouns are often found in relative clauses, where they refer back to the relative pronoun, as in 'This is the toy that Ada thinks that we should definitely buy it'. The use of resumptive pronouns is marginal in standard English, but completely acceptable in colloquial varieties and in many languages.

Reversible predicate

A reversible predicate is a predicate that selects for two arguments that are not necessarily associated with different semantic features such as animacy. An example of a reversible predicate is 'kiss', because both its external argument and its internal argument are indistinct with respect to animacy. Both 'Ada kissed Nico', and 'Nico kissed Ada' are thus meaningful.

Role shift

A construction where a signer assumes the characteristics of another person/animal (the character) and linguistically marks his/her utterance accordingly, commonly by rotating his/her body towards the position in space associated to the character (and by other non-manual markers); role shift is typically used in narration to report someone else's utterance (attitude role shift, also called constructed discourse) or action (action role shift, also called constructed action).

Root

A root is the part of a word that carries the main conceptual meaning expressed by that word and that cannot be segmented any further.

Scope

Scope refers to the domain over which a certain feature – be it semantic or phonological – has an effect; e.g. negation can have semantic scope over part of a sentence or the whole sentence (sentential scope), and a non-manual marker like headshake can have scope (i.e. can extend) over part of a sentence or the whole sentence.

Secondary movement

Movements of the hand that are not path movements; articulator-internal movements: handshape changes, orientation changes, and hand-internal movements like finger wiggling.

Secondary predication

A secondary predicate is an expression that attributes a property to a nominal phrase (that can be the subject or another argument of the main verb) but it is not the main predicate of the clause. In ‘The boys arrived home exhausted’, for example, the underlined element expresses a secondary predication on the main subject.

Sentence

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).

The typical sentence contains at least a predicative nucleus consisting of a subject and of a predicate (for example, in “John is smart” the property of being smart is predicated of John and in “Mary thinks that John is smart” the property of thinking that John is smart is predicated of Mary). However, there can be elliptical sentences with a minimal structure.

Serial verb construction

The serial verb construction, also known as (verb) serialization or verb stacking, is a syntactic phenomenon by which two or more verbs or verb phrases are put together in a single clause. Serial verb constructions are often described as coding a single event.

Shared sign language

A sign language that emerged in a village community, due to an increased likelihood of deafness; often a considerable proportion of the hearing population also knows the sign language (also known as village sign language or rural sign language).

Signing space

Space in front of the signer that plays a role at different linguistic levels: phonology (location specification of lexical signs), morphology (e.g. agreement), semantics (e.g. topographic descriptions), pragmatics (e.g. reference tracking, contrast).

Simple movement

A simple movement is a movement that consists of a change in only one phonological parameter (e.g. location or orientation).

Simultaneity

The combined expression of two (or more) signs – be they manually or non-manually articulated – at the same time (by the same person).

Size-and-Shape-Specifier (SASS)

A Size-and-Shape-Specifier is a classifier(-like) item that expresses the size and shape of an entity, usually by outlining its boundaries.

Sluicing

Sluicing is an ellipsis phenomenon which elides everything from a direct or indirect question except the question word, as in ‘Ada will call someone, but I don’t know who’.

Small clause

A small clause is a construction that has the semantics of a clause, with its typical subject-predicate divide, but it lacks either a verb or the markers of (verbal) inflection typically associated with finite clauses. An example is ‘Ada smarter’ in ‘I consider Adasmarter’.

Spatial agreement

Sign languages have the option of exploiting space for agreement: the sign encoding the lexical verb is modified to include agreement with the locus in space associated with the argument(s) of the verb. Typically, the orientation and the direction of movement is modified and oriented towards the point in space associated with the external argument, the internal argument or both. Not all verbs agree in space.

Spatial verb

A verb that can be spatially modified to indicate the locative source and/or locative goal of an event, e.g. WALK (from a to b), PUT-DOWN.

Specificity

Indefinite noun phrases can be specific and non-specific. An indefinite is specific when the signer, but not the addressee, knows the referent of the noun phrase. An indefinite is non-specific indefinite when neither the signer nor the addressee know its referent.

Speech act

A speech act is a linguistic act that is performed by a speaker while uttering a sentence. Speech acts can either be explicit performative or implicit performative and they are typically performed to make an assertion, a question, a command or to convey surprise.

Spreading domain

A spreading domain is a prosodic domain over which a manual or non-manual articulation is extended.

Stem

A stem (also called a base) is the morphological unit to which inflection and derivation applies.

Stem modification

A stem modification (also called stem-internal change or base modification) is a word formation process which affects the phonological form of the stem (e.g. English *sing* – *sang* – *sung*); stem modification may combine with affixation.

Subordination

Subordination is a principle of hierarchical organization of linguistic constituents. More precisely, the constituent A is said to be subordinate to the constituent B if A depends on B.

Subordination conjunction

See complementizer.

Suppletion

Suppletion refers to a word form which is associated with another form but has a completely or partially different phonological form, also called base allomorphy (e.g. *go* – *went* and *bad* – *worse* in English).

Suprasegmental features

Phonological or prosodic features that associate with the segmental layer of a word/sign; e.g. tone in spoken languages, non-manual features in sign languages; suprasegmental features constitute a layer on top of the segmental layer.

Syllable

A prosodic unit that is composed of a sequence of segments and that is the domain for stress assignment; in spoken languages, a syllable consists minimally of a vowel, in sign languages minimally of a movement.

Syntactic category

Building blocks of syntax; e.g. lexical categories such as noun, verb, etc., functional categories such as tense, number, etc., and phrasal categories such as Noun Phrase, Tense Phrase, etc.)

Telic

Telic eventualities are conceptualized as involving a change of state that amounts to the end point of the event described by the predicate.

Temporal clause

A temporal clause is a type of adverbial clause expressing a temporal relationship between two clauses. The time of the event in the adverbial clause can be before, after or simultaneous with the time of the event in the main clause.

Tense

Tense is a morphosyntactic category that refers to the reference time of an event with respect to utterance time. The reference time can either be identical to the utterance time, precede the utterance time (past) or be located after the utterance time (future).

Thematic role

Thematic roles encode the general semantic interpretation of an argument as a specific participant in an event/action described by the predicate. Typical thematic roles are agent, stimulus, experiencer, patient, theme, benefactive, recipient or instrument.

Topic

If the content provided by the sentence can be divided in old information and new information, a topic is the constituent that the rest of the sentence talks about. A topic can be a constituent familiar from the previous sentence but it can be a new argument of conversation. The latter case involves so-called topic shift and is a way to switch to another topic in discourse.

Transitional movement

A movement that is phonetically required to move the hand from the end point of one sign to the beginning point of the next sign, i.e. a movement that is not part of the lexical specification of either of the two adjacent signs.

Transitive

Refers to argument-taking properties of a verb; a transitive verb requires an internal and an external argument (e.g. *visit*, *love*).

Turn-taking

Turn-taking refers to a change in the role of discourse participants: from addressee to active speaker/signer, and vice versa; turn-taking signals are used to initiate turn-taking.

Unaccusative

An intransitive verb whose only argument is assigned the thematic role patient or theme instead of agent (e.g. *melt*, *fall*).

Unergative

An intransitive verb whose only argument is assigned the thematic role agent (e.g. *run*, *swim*).

Voice

The voice of a verb refers to the relation between the event expressed by the verb and the participants identified by its arguments. Typically, when the subject is the agent or experiencer, the verb is in the active voice; when the subject is the patient or undergoer, the verb is said to be in the passive voice.

Wh-phrase

The wh-phrase is a constituent of a clause that is characterized as a question operator. A wh-phrase can be a word, as 'what' in 'What do you see ?' or an entire phrase, as 'which girl' in 'Which girl do you see?'.

Wh-question

Content interrogatives or wh-questions are used to ask the addressee to fill in some specific missing information and thus elicit a more elaborate answer than just 'yes' or 'no'. In many languages, they contain a specialized set of interrogative words or phrases that have a common morphological marking (*what, which, who, why, when* etc.). Since in English this marking is the morpheme *wh-*, these interrogative phrases are called wh-phrases, and content interrogatives are often called wh-questions.

Word

Word is a term which is sometimes used interchangeably with 'word form'; otherwise it has to be qualified by the terms 'phonological' and 'grammatical'.

Word form

A word form is the realization of a lexeme in a grammatical context; word forms carry grammatical information and are inflected for number, tense, etc.