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Encoding different types of topics and foci in German Sign Language. A cartographic approach to sign language syntax

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This paper presents a comprehensive overview of the encoding strategies of different types of topics and foci in (the southern variant of) German Sign Language (*Deutsche Gebärdensprache*, DGS). The discussion will be guided by two main hypotheses: (i) the existence of a strict, universal ordering of topic and focus projections in the tradition of Rizzi (1997) and (ii) the Bodily Mapping Hypothesis (Bross & Hole 2017; Bross 2020), i. e., the hypothesis that scope is expressed in a systematic way in sign languages: the higher an operator is located in the syntactic tree, the higher the articulator expressing it will be. As this study is concerned with very high CP categories, the Bodily Mapping Hypothesis predicts that the categories under discussion will be marked with the highest possible articulators, i.e., the eyebrows. Concerning topics, base-generated frame setters (epistemic, locative, and temporal frames) and moved aboutness topics will be discussed as well as structures resembling pseudo-clefts. Concerning focus, contrastive and mirative focus as well as regular cleft sentences will be examined.

Keywords: German Sign Language; Deutsche Gebärdensprache; Focus; Contrastive Focus; Mirative Focus; Topic; *Wh*-Clefts; Pseudo-Cleft; Cleft Sentences; Cartography; Bodily Mapping Hypothesis; Left Periphery

1 Introduction

The topic and focus system of German Sign Language, a basic SOV language used by approximately 80.000 people in Germany, is poorly described. While there are some brief mentions in conference handouts or posters (Pfau 2006; 2008; Waleschkowski 2009) and in the grammar book by Happ & Vorköper (2014), there are only two more detailed discussions of the topic and focus system of German Sign Language: Herrmann (2013) (see also Herrmann 2015) describes focus marking in relation to focus particles and Bross (2020) describes topic marking and contrastive focus. The goal of this article is to extend these findings against the background of two hypotheses: that different types of topics and foci are cross-linguistically strictly ordered and that the choice of the articulator in sign languages depends on the structural position of the category to be expressed in the syntax (the Bodily Mapping Hypothesis). While these hypotheses were already investigated in Bross (2020), this paper explores a whole range of additional categories.

The paper is structured as follows: in the next subsections, the notational conventions are briefly described, the hypotheses underlying the paper are introduced, and some background information on German Sign Language is given. Additionally, the data elicitation will be introduced. In Section 2, the expression of topics will be discussed. It will be shown that, similar to what has been described for American Sign Language (Aarons 1994; 1996), two different types of topics occupying two different structural positions

exist in German Sign Language (see also Bross 2020). Additionally, it will be argued that the language exhibits three different types of frame-setting topics occupying different positions: epistemic frames, temporal frames, and locative frames. I will show that topics, in all cases, are marked via upper-face non-manuals in DGS. Finally, so-called question-answer pairs will be discussed.

Section 3 is concerned with the expression of foci. In line with Bross (2020), it will be argued that the expression of contrastive focus is subject to dialectal variation, but in all cases involves upper-face non-manuals. After discussing contrastive focus, it will be shown that mirative focus is marked by a unique set of upper-face non-manual markers together with movements of the head. After discussing question-answer pairs, a construction which has also been analyzed as pseudo-clefts, regular cleft sentences will be described. Both constructions are, again, marked non-manually with the upper face. The findings are concluded in Section 4.

1.1 Notational conventions

Manual signs are written in CAPITALS using English glosses. If one manual sign corresponds to several English words, this is indicated by a hyphen. The gloss 8-O’CLOCK, for example, consists of one manual sign while the English equivalent consists of several words. The reduplication of signs is glossed using plus signs. The sign PERSON + +, for example, indicates that the sign for person was reduplicated. In all cases in this paper, reduplication indicates plural reference.

Sign languages make use of spatial locations that are assigned to referents. These locations are glossed using indices with 1 meaning first person, 2 meaning second person, and 3 meaning some other referent. At the same time, index 1 indicates that the signer points (or otherwise refers) to herself/himself, index 2 means that the signer points to the addressee, and index 3 means that the signer points to some other location in signing space. The abbreviation IDX is used for an index. An example is given in (1).

- (1) IDX₁ PAM₃ HIT₃
 ‘I hit him.’

The example is to be read as follows. The signer first points to himself, then produces the sign PAM (a shorthand for “person agreement marker”; for details cf. Rathmann 2003) which agrees with the location of some 3rd person referent, and finally signs the verb sign HIT which also is signed towards the location of this 3rd person referent.

Non-manual markings, i. e., markings of the head, face, or torso which are simultaneously produced with manual signs are glossed using a line notation. The start of the line indicates the beginning of non-manuals and the end of the line marks where the non-manuals stop. An example is given in (2).

- (2) PAUL BUY WHAT^{wh}
 ‘What did Paul buy?’

The example is to be interpreted in the following way: The signer produces three manual signs that are accompanied by a non-manual marking glossed “wh”. The exact appearance of the non-manuals is described in the main text. The glosses of the non-manual markers either represent their grammatical function (e.g., “wh” for a *wh*-question) or encode the appearance of the non-manuals (e.g., “br” for brow-raise) when appropriate.

Finally, dashed lines are used to indicate that the spread of nonmanuals is optional. An example is given in (3).

- (3) $\frac{\text{epis. frame}}{\text{POSS}_1 \text{ DREAM, FRAME}_{\text{loc}}, \text{PERSON}++ \text{ PEACEFULLY TOGETHER LIVE}}$
 ‘In my dream, people lived peacefully together.’

The example is to be interpreted in the following way. First, the signer produces two manual signs, namely the first person possessive pronoun and the sign for dream. These two signs are obligatorily accompanied by a non-manual marking labeled “epis. frame”. Then, the signer produces the string $\text{FRAME}_{\text{loc}} \text{ PERSON}++ \text{ PEACEFULLY TOGETHER LIVE}$ which can optionally be accompanied by the same non-manuals. The commas indicate short intonational breaks.

1.2 Theoretical background and hypotheses

The discussion of the expression of topics and foci in German Sign Language will be guided by two main hypotheses: the existence of a strict cartographic ordering of functional projections and the Bodily Mapping Hypothesis (Bross & Hole 2017; Bross 2020), which states that scope is systematically mapped onto the body in sign languages.

1.2.1 Hypothesis 1: Cartographic ordering

Concerning the first hypothesis, it is assumed that topics and foci are hosted in dedicated functional projections in the left periphery of the clause (Rizzi 1997). While there was only one projection for focused elements and two positions for topics in Rizzi’s (1997) original proposal, researchers later suggested more fine-grained structures. Rizzi’s (1997) original proposal is shown in (4). As shown in the structure, the topic projections were thought to be recursive (hence why they are marked with an asterisk).

- (4) [Force [... Topic* [... Focus [... Topic* [... Fin [... TP/IP ...]]]]]]

This structure was later refined in that two (or sometimes more) distinct topic positions were assumed: (1) a structurally higher position hosting non-integrated topics which are used as frame-setters, i.e., as topics setting the scene for the information to follow, and (2) a structurally lower one for integrated topics which are used as aboutness topics, i.e., as topics which have already been established in discourse. The terminology “non-integrated” versus “integrated” already indicates that the former (frame-setting) are not as tightly linked to the clause as the latter (aboutness topics) (Shaer & Frey 2004). Syntactically, this is mirrored by the assumption that frame-setting topics are base-generated in their position, while aboutness topics move to their position (cf. Rodman 1974; Reinhart 1981; Cinque 1990; De Swart & de Hoop 2000; Benincà & Poletto 2004; Shaer & Frey 2004; Frascarelli 2007). A structure with positions for aboutness and frame-setting topics is shown in (5).

- (5) [Frame-setting topic [... Force [... Aboutness topic [... Focus ...]]]]

The structure in (5) is still an oversimplification. Several researchers have tried to argue for more refined structures. Pittner (2004), for example, argues for three different kinds of frame-setting topics which are ordered as in (6).

- (6) [Epistemic frame [... Temporal frame [... Locative frame ...]]]

I will discuss Pittner’s distinctions in (6) in more detail in Section 2.2. To conclude, the first hypothesis guiding the research presented here is that there are several distinct positions exhibiting a rigid order in the left periphery. To test this hypothesis, ordering restrictions between different categories were tested whenever possible. As topics and (contrastive)

focus cannot be combined in one clause in DGS, ordering restrictions are only discussed for the different types of topics.¹

1.2.2 Hypothesis 2: the Bodily Mapping Hypothesis

The second hypothesis concerns the encoding of different parts of the clausal spine in sign languages. According to Bross & Hole (2017) and Bross (2020), scope is systematically mapped onto the body in sign languages:

(7) **The Bodily Mapping Hypothesis (BMH)**

The higher the scope of an operator, the higher the articulator used for its expression will be. Alternatively, neighboring categories are allowed to be expressed by articulators of the same height.

Note that the BMH itself is embedded in the Cartographic framework as it concerns the encoding strategies of presumably rigidly ordered functional projections. The consequence of the hypothesis in (7) is that descending the clausal spine should mean descending the signer's body (which does not exclude the possibility that neighboring categories are expressed with one and the same articulator). Bross & Hole (2017) and Bross (2020) show that, indeed, all CP-related functions they tested, for example sentence type marking (except for unmarked declaratives), mirative constructions, speech-act-indicating expressions, or epistemic modality, find non-manual expressions with the eyebrows, i.e., the highest possible articulator in DGS. Scalarity, the evaluation of something as being *(as) little/much (as)* (cf. Hole 2015), a category right above the tense node, is expressed using the cheeks in DGS. As in most sign languages, DGS does not exhibit a grammaticalized tense system. A tense system is, however, found in a variety of Italian Sign Language, as described by Zucchi (2009). Verbs in Italian Sign Language inflect for tense by using the shoulders. The finding that the only sign language systematically marking tense uses the shoulders as articulators is important as the BMH is a hypothesis about sign languages in general and should not only apply to DGS (but see the discussion below). Taken together, these findings are in line with the idea that descending the clausal spine means descending the body. For the categories below tense (and above the VoiceP), it is argued that they find manual expression.

A case in point to illustrate the difference between CP and TP/IP categories is the difference between epistemic modality (a CP category) and deontic modality (a TP/IP category). While DGS exhibits manual modal verbs like *MUST* or *CAN*, these are banned in epistemic contexts, as illustrated in (8). Instead, epistemic modality is expressed by squinted eyebrows in combination with tilting the head sideways and sometimes (repeated) head nods and closed eyes (Happ & Vorköper 2014; Herrmann 2013; Bross & Hole 2017; Bross 2020). See also Figure 1.



Figure 1: An example of epistemic modality.

¹ Note that it is not clear yet whether this constraint is specific to DGS or holds true for sign languages in general.

(8) **Epistemic modality:**

- a. (LIGHT EXISTENTIAL) $\overline{\text{PAUL AT-HOME}}$ ^{epistemic}
 ‘(The light is on.) Paul must be at home.’
- b. (LIGHT EXISTENTIAL) * $\overline{\text{PAUL AT-HOME MUST}}$ ^{epistemic}
 Intended: ‘(The light is on.) Paul must be at home.’

Deontic modality, in contrast, is expressed by using manual modal verbs in DGS. Leaving the modal verb out as in epistemic constructions does not lead to the desired reading, as illustrated in (9).²

(9) **Deontic modality:**

- a. (PAUL PARENTS STRICT) PAUL 8-O’CLOCK AT-HOME MUST
 ‘(Paul’s parents are strict.) Paul must be at home at 8 o’clock.’
- b. (PAUL PARENTS STRICT) *PAUL 8-O’CLOCK AT-HOME
 Intended: ‘(Paul’s parents are strict.) Paul must be at home at 8 o’clock.’

This, however, does not mean that clauses with deontic modals never receive non-manual markings. On the contrary, they often do; for example they can indicate how strict an obligation is, but crucially these signer evaluations are structurally high evaluations and are not obligatory, but optional (see also Footnote 7).

Arguments in favor of the BMH come from the fact that, cross-linguistically, sign languages encode high CP functions via upper-face non-manual markers, i.e., with the eyebrows (and sometimes the eyes). As mentioned, in some cases, this is achieved via non-manuals alone and in other cases sign languages make use of a combination of manual signs and (obligatory) non-manuals for encoding higher CP functions. Just to name a few examples, it was found that upper-face non-manual markers are employed in topic marking (e.g., Aarons 1994; 1996 for American Sign Language or Coerts 1992; Brunelli 2011 for Sign Language of the Netherlands),³ marking of different sentence types (e.g., Neidle et al. 2000; Zeshan 2004; Zeshan 2006), relative clauses (e.g., Pfau & Steinbach 2005; Cecchetto, Geraci & Zucchi 2006; Branchini & Donati 2009; Branchini 2014), conditionals (e.g. Liddell 1980; Coerts 1992), or epistemic modality (Herrmann & Pendzich 2003; Bross & Hole 2017). For a cross-linguistic overview of the use of non-manuals in sign languages see also Pfau & Quer (2008).

However, it is still not entirely clear if the BMH will stand up to scrutiny and if so, how strict the mapping between scopal height and articulators really is—also cross-linguistically. Two versions, a strict interpretation and a weak interpretation, are conceivable:

- (10) a. **Strong version of the BMH:** The structure of the clausal spine is directly mapped onto the body in sign languages in that CP functions are encoded via facial non-manuals and TP/IP-internal categories are expressed manually.

² Note that the example in (9b) is not ill-formed by itself. However, it would mean something like ‘Paul is at home at 8 o’clock’. To be more precise, leaving out the epistemic non-manuals changes the meaning to a non-epistemic one.

³ Note that Sze (2011; 2015) observes that while scene-setting topics are marked non-manually, aboutness topics are unmarked in Hong Kong Sign Language (HKSL). However, she also notes that “the majority of aboutness topics in HKSL are realized as grammatical subjects” (Sze 2015: 844). This is in line with the BMH. A similar result is presented in Kimmelman (2019) who studied topics in Sign Language of the Netherlands and Russian Sign Language. Kimmelman’s study found no or nearly no non-manual markings for aboutness and scene-setting topics. However, aboutness topics were defined as “subjects that are old information” (Kimmelman 2019: 69), while for scene-setting topics he mainly identified place and time descriptions. This, again, is in line with the BMH.

- b. **Weak version of the BMH:** Scope is systematically mapped onto the body: the higher the scope, the higher the articulator, but sign languages differ in the exact cutoff points.⁴

Another question is how strict this mapping should be assumed to be. One possibility would be a bi-directional mapping. This would predict that CP functions are not only always expressed by facial (10a)/bodily high (10b) non-manuals, but also that facial/bodily high non-manuals always reflect CP-categories (e.g., signer's evaluation).⁵ Another possibility would be a one-directional mapping. This would mean that CP-categories are always expressed by facial/bodily high non-manuals, but that facial/bodily high non-manuals do not always reflect CP-related categories, but can have other uses as well.⁶

Note that a valid question to ask would be how the BMH could be falsified, i.e., what would qualify as a counter-example. Evidence against this hypothesis would consist, for example, of (a) left-peripheral functions being systematically expressed only manually and/or (b) structurally lower functions being systematically expressed non-manually by facial articulators. Thus, a sign language with a manual topic or focus marker and no obligatory accompanying non-manuals would qualify as a counter-example as well as a sign language expressing, for example, deontic modality with obligatory facial non-manuals—at least for the BMH assuming a bi-directional mapping.⁷

1.3 German Sign Language

German Sign Language (*Deutsche Gebärdensprache* or DGS for short) is a natural sign language mainly used in Germany. Estimates assume that there are approximately 80 000 deaf people living in Germany (e.g., Deutscher Gehörlosenbund 2019). This number is often equated with the number of deaf sign language users in Germany (e.g., Herrmann 2007; Schwager & Zeshan 2014). However, on some estimates, the number of signers is much higher. The European Union of the Deaf (Wheatley & Pabsch 2012) or the Ethnologue (Simons & Fennig 2018), for example, assume that there are approximately 200 000 deaf signers in Germany.

DGS is considered to be a (non-ethnically defined) minority language with a special sociolinguistic status since fewer than 10% of deaf children are born into deaf families with exposure to DGS from birth. Thus, the number of native signers acquiring DGS from birth in which caretakers use the sign language as their everyday means of communication is much lower. Additionally, most DGS users are bilingual to a certain extent as they are usually exposed to German, at least in its written form (Grosjean 1996).

DGS exhibits a basic SOV word order in both matrix and subordinate clauses. Deviations from the SOV order can be observed for information structural reasons, such as topicalizations (e.g., Keller 1998; Pfau & Glück 2000; Oomen et al. 2020), as discussed below. While DGS is a tenseless language, temporal adverbials (as well as locative adverbials) precede the subject (Herrmann 2013; Happ & Vorköper 2014).

⁴ This means that sign language might differ in where exactly in the hierarchy a switch between different encoding strategies (e.g., upper face versus lower face) occurs.

⁵ Note that the question what counts as a “bodily high” articulator is left open. According to the hypothesis in (10b) this may depend on the sign language one is looking at.

⁶ It may also turn out that the BMH only affects facial non-manuals being able to spread over constituents and that lexical non-manuals which are part of a lexical item and cannot spread are excluded. Note that there are some special cases of non-manuals which I generally exclude from the BMH. These include mouthings which are mouth movements resembling syllables from a surrounding spoken language as well as performative non-manuals like chewing movements when signing with verbs of eating.

⁷ Note that sentences with deontic possibility modals often involve non-manuals of the lower lips (although deontic modality scopes inside of the TP/IP domain) in DGS. These non-manuals, however, are not obligatory but express a (structurally higher) signer evaluation.

DGS is taken to be a head-final language; it has, for example, been proposed that NegP (Pfau 2002; Pfau & Quer 2002) and the TP (Pfau & Quer 2002; 2007) are right-headed. In line with this idea, modal verb signs tend to occur in a clause-final position (Pfau & Quer 2007). It was argued, however, that headedness may be different in the higher CP-layer, as the distribution of non-manuals markers can be taken as evidence for left-headed structures in this area (Bross 2020).

1.4 Data elicitation

The data presented in this article was elicited from a total of nineteen signers from Southern Germany living in the cities of Munich (eight signers), Stuttgart (seven signers), and Heidelberg (four signers), with thirteen of the signers being female. The mean age of the consultants was 30.05 ($SD = 8.90$). Ten participants are native signers in the narrowest sense in that their parents are also deaf sign language users, eight participants are early learners, defined here as having acquired DGS before the age of four, and one signer acquired DGS from the age of fourteen (but was visiting a deaf school starting from the age of seven). All consultants are deaf from birth. It was ensured that all consultants had proficient written language skills and all have at least a high-school diploma (German *Realschulabschluss*). Signers were recruited by “word-of-mouth recommendation” starting with local sign language interpreters (explicitly mentioning that the consultants should be preferably children of deaf signers and should have proficient written language skills).

The data was elicited in face-to-face interactions lasting two hours each. Each session was video-taped. The consultants were presented with written sentences, with contexts when necessary, each on a sheet of paper. Each sentence was presented to the consultant for a few seconds so they could read the sentence. Then, the sheet of paper was covered up and the participants had some time to think about the meaning of the sentence. Finally, they produced what was, in their view, the best translation of the meaning to DGS. In many cases, the resulting translation and possible paraphrases were discussed or the consultants were explicitly asked for acceptability judgments.⁸ Not all signers received the same set of sentences and different lexicalizations of the stimuli were used for the same category to minimize the influence of particular characteristics of the sentences’ semantics.

For the sake of concreteness, I will give an example of how the elicitation proceeded. For example, a signer was asked how he would express the sentence in (11) (the original sentence, of course, was in German) to elicit data on topic marking. The question in this case was if constituents that are not part of the argument structure of a verb can be used as frame-setting topics.

(11) As for vegetables, Paul likes pepper.

It turned out that the German equivalent of *as for* (‘was ... betrifft’) was not familiar to many consultants as it does not occur very frequently in spoken and written discourse. Thus, the signer asked what it meant. In this case, the author tried to explain the meaning in DGS:

(12) MEAN ... LIKE THEME SENTENCE
‘It means ... something like the theme of the sentence.’

Then the signer signalled that he had understood the meaning, thought for a minute, and provided the following translation:

⁸ This was done by the author who has completed three DGS courses and has several years of experience in sign language data elicitation.

- (13) $\overline{\text{THEME VEGETABLE, PAUL PEPPER LIKE}}$ ^{brow-raise}
 ‘Speaking of vegetables/if the theme is vegetables, Paul likes pepper.’

A problem with the structure in (13) is that it is not clear if it actually consists of two clauses (perhaps paraphrasable as ‘If the topic is vegetables, Paul likes pepper’). To check if it was possible to express the same meaning non-manually only, the author asked for another strategy by repeating what was signed by the consultant and suggested another alternative:

- (14) IDX_2 SIGN: $\overline{\text{THEME VEGETABLES, PAUL PEPPER LIKE}}$ ^{brow-raise} ...
 $\overline{\text{BUT CAN SENTENCE ALSO SIGN WITHOUT SIGN THEME}}$ ^{polar question}
 ‘You signed.’ repeats the sentence ‘but can you also sign the sentence without the sign for theme?’

Then the signer thought for a minute and signed:

- (15) $\overline{\text{VEGETABLE, PAUL PEPPER LIKE}}$ ^{base-top}
 ‘As for vegetables, Paul likes pepper.’

In this case, the signer produced a characteristic set of facial non-manuals described later in the paper. As these non-manuals were of special interest the author asked whether it was possible to sign the sentence without these non-manuals:

- (16) $\overline{\text{CAN ALSO SIGN WITHOUT FACIAL-EXPRESSION}}$ ^{polar question}
 ‘Can you also sign this without the facial expression?’

Questions about non-manual markers require metalinguistic skills as they are not consciously produced so the consultants usually signed the respective sentence without the non-manuals to test their intuitions (the gloss “hs” stands for a head-shake):

- (17) *thinking pause* $\overline{\text{FACIAL-EXPRESSION NOT CONSCIOUS}}$ *thinking pause*
 $\overline{\text{VEGETABLE, PAUL PEPPER LIKE}}$ ^{base-top} ... $\overline{\text{VEGETABLE PAUL PEPPER LIKE}}$ ^{hs}
 thinking pause $\overline{\text{CAN-NEG}}$ ^{hs}
 ‘I wasn’t aware that I used facial non-manuals.’ Repeats the sentence with and without non-manuals. ‘You can’t sign this (without the non-manuals).’

The resulting videos were cut into smaller parts with each part consisting of one sentence using Adobe Premiere Pro for later analysis. On the whole, the procedure was an incremental one: the analysis of the data from one session (or the comparison of two or more signers) often raised questions that were addressed in subsequent sessions with the same and/or other consultants. This also means that it was not possible to check every example presented here with all consultants. However, care was taken that each judgment presented here was discussed with at least five native signers of DGS.

One potential problem with this kind of data elicitation is that the signers might be influenced by the grammatical structure of the written sentences. Although this concern has to be taken seriously, most of the constructions elicited dramatically differ from spoken German and the consultants’ responses were additionally extremely stable—a fact that I take to be a strong indication that the influence of German was at least not very

substantial (see also Cecchetto, Geraci & Zucchi 2009: 281). An example of such a difference between spoken German and DGS is in the different encoding strategies of epistemic modality just mentioned. While German makes heavy use of modal verbs to express epistemic modality, modal verbs are banned in DGS in the same contexts. This, however, does not completely exclude the possibility of the influence of spoken German.

The contrast between epistemic and deontic modality highlights another reason for why this particular procedure was chosen. Sentences including deontic modals often include non-manuals which are, however, not obligatory. Most questions raised in the present paper relate to the obligatoriness of certain non-manual markings. For the categories under discussion it first needed to be determined whether there are any stable non-manuals when expressing the categories and if so, it was tested whether they would have to be used obligatorily or whether they were optional. While the first part of this question can maybe be answered by using corpus data (if available for the categories), the second part cannot, i.e., it is not possible to determine which non-manual marker express facultative signer evaluations and which ones are obligatory to express a certain grammatical category. To answer this question corpus data is unsuitable. Notwithstanding it needs to be stressed that future studies should also take naturalistic data from corpora into account to further back-up the claims made here.

The goal of the current study was to get a broad overview of many different constructions. The elicitation method discussed was chosen because it allows the investigation of many different phenomena in a rather short period of time. Admittedly, this also means, that there is a need of more detailed studies in the future which also use complementary methods, i.e., quasi-experimental judgement tasks, picture elicitation, or corpus studies.

2 Encoding of topics

In this section the expression of different kinds of topics will be discussed, namely: base-generated and moved topics, different types of frame-setting topics, as well as what looks like pseudo-cleft sentences.

2.1 Base-generated and moved topics

Aarons (1994; 1996) showed that there are two different types of topics in American Sign Language that are marked by distinct non-manual markers. Her distinction is based on the assumption that some topics are base-generated in the left periphery while others are moved there. This difference is illustrated in (18), from Aarons (1996). Note that American Sign Language is a basic SVO language.

- (18) American Sign Language
- a. $\overline{\text{VEGETABLE}}^{\text{tm2}}, \text{JOHN LIKE CORN}$
 ‘As for vegetables, John likes corn.’ Base-generated topic
- b. $\overline{\text{MARY}}^{\text{tm1}}, \text{JOHN LIKE } t_i$
 ‘Mary, John loves.’ Moved topic

As indicated by the glosses “tm1” and “tm2” (with “tm” standing for topic marking), the two types of topics receive different non-manual markings (both including the eye-brows). Aarons (1996) assumes that the topic in (18a) is base-generated in its position as it is not an argument of the verb. For the topic in (18b) she conversely assumes that it has moved to its clause-initial position as it is an argument of the verb. In the following, I will adopt the terms “base-generated” and “moved” topics, although it has to be noted that the possibility that what are called “moved topics” are actually base-generated constituents also cannot be excluded. In this case, we would assume the clause to contain a covert pronoun.

The distinction between base-generated and moved topics also applies to DGS, as described in Bross (2020). As in American Sign Language, the distinction is marked via different upper-face non-manual markers. Examples are given in (19), partly from Bross (2020).⁹

- (19) a. (Context: Paul likes all sorts of fruits.)
base-top
VEGETABLES, PAUL PEPPER LIKE
 ‘As for vegetables, Paul likes pepper.’ Base-generated topic
- b. (Context: We have beer, tea, and lemonade to offer.)
moved-top
BEER, PAUL *t_i* LIKE
 ‘Beer, Paul likes.’ Moved topic

As indicated by the glosses “base-top” and “moved-top”, DGS exhibits two distinct non-manual markings for moved and base-generated topics, similar to American Sign Language. The non-manuals are depicted in Figure 2. The non-manuals used for base-generated topics involve lowering of the eyebrows and dense eyes (note that the pressed lips in the first two pictures in the upper row is due to the mouthings and are not related to the topic).¹⁰ The non-manuals for the moved topics involve raising of the eyebrows (as already mentioned in, for example, Keller 1998; Kutscher 2007).

In line with the idea that there are two distinct positions for topics in the left periphery, it is not possible to freely combine base-generated and moved topics in one clause. Typically, it is argued that a structurally higher position for base-generated frame-setting topics and a lower position for moved aboutness topics exists in the CP domain (e.g.,



Figure 2: The non-manuals used for topics. Top row: base-generated; bottom row: moved topics. Note that the lower-face non-manuals are related to mouthings related to the lexical items.

⁹ Happ & Vorköper (2014: 386) report that subjects and objects, but not verbs, can be topicalized in DGS. This was also confirmed by the signers consulted for the present research project.

¹⁰ A mouthing is a mouth movement accompanying many manual signs in DGS (and in other sign languages). Mouthings are borrowed from spoken German and are thus a language contact phenomenon. I follow earlier analyses which assume mouthings to be performance phenomena (e.g., Hohenberger & Happ 2001).

Cinque 1990; Benincà & Poletto 2004; Frascarelli 2007). In fact, the order “base-generated” > “moved topic” is exactly the order found in DGS, as illustrated in (20) (examples, again from Bross 2020).

- (20) a. $\overline{\text{VEGETABLES}}$, $\overline{\text{PEPPER}}_i$, PAUL t_i LIKE
 ‘As for vegetables, as for pepper, Paul likes it.’
 b. $\overline{\text{PEPPER}}_i$, $\overline{\text{VEGETABLES}}$, PAUL t_i LIKE
 ‘As for pepper, as for vegetables, Paul likes it.’

Taken together, there are two structurally distinct types of topics in DGS which neatly fit into the assumption of two topic positions: one structurally higher for base-generated topics and one structurally lower for moved topics. Additionally, both receive upper face markings, as predicted by the BMH.

2.2 Frame-setting topics

In this section, I will discuss different types of frame-setting topics and will show that they are strictly ordered according to the hierarchy in (6), repeated here for convenience in (21), as proposed by Pittner (2004).

- (21) [Epistemic frame [... Temporal frame [... Locative frame ...]]]

Evidence for this ordering comes from German data as the frame-setters in this language need to follow exactly this order. This is illustrated in (22), taken from Pittner (2004: 276).

- (22) *weil in seinem Traum im Mittelalter in Europa alle Frauen*
 because in his dream in.the Middle.Ages in Europe all women
schön waren
 beautiful were
 ‘[...] because in his dream in the Middle Ages in Europe all women were beautiful.’

Accordingly, locative frames, temporal frames, and epistemic frames in DGS will be discussed. Additionally, ordering restrictions among different types of locative expressions will be examined.

Locative and temporal adverbs/adverbials precede the subject in DGS, as already mentioned. Thus, they usually appear in a clause-initial position. When a locative and a temporal adverb are combined, temporal adverbs precede locative adverbs, as already predicted by the hierarchy in (21) (cf. Steinbach 2007, Herrmann 2013: 17, Happ & Vorköper 2014: 120, Herrmann 2015). However, locative and temporal adverbs have different uses. Either they are used as frame-setters (and then move to the left periphery) or are used as so-called “canonical” locatives/temporals (Maienborn 2001). In the latter use they are not part of the CP domain and located lower down in the structure. Irrespective of being used as frames or as canonical locatives/temporals, locative and temporal adverbs occur in a clause-initial position in DGS. This then predicts that locative/temporal adverbs are found with and without non-manual markings in DGS—and this is indeed what we find.

Before discussing the frame/canonical difference in DGS, some terminological remarks on the exact difference between frames-setting and canonical uses of adverbials are in order. A frame-setter is a kind of topic which sets the frame in which the information to follow should be interpreted and the use of a frame-setter implies “that there are other aspects for which other predications might hold” (Krifka & Musan 2012: 32) (see also

Chafe 1976; Krifka 2008). Syntactically, this is mirrored by the fact that frame-setters occupy a CP-position while canonical uses of adverbs (or adverbials) are located inside the clause. This difference has, at least in the case of locatives, truth-conditional consequences. Omitting a frame-setter usually changes the truth-value of a sentence, while omitting a canonical adverbial does not. This can be shown by the inferences which canonical and frame-setting uses of adverbials allow (cf. Maienborn 2001), as exemplified in (23).

- (23) a. Svea bought beer in Germany. Canonical locative
 → Svea bought beer.
 b. In Germany, all people drink beer. Locative frame
 ↔ All people drink beer.

The frame/canonical difference is exemplified for the locative adverbial SPAIN in (24). As shown, there are no additional non-manuals with canonical locatives but there are upper-face non-manuals with frame-setting locatives. While the locative in (24a) predicates something of the verb's eventuality argument, the locative in (24b) sets a frame for the proposition expressed in the example and is not event-related (Maienborn 2001). I will come back to the difference between canonical locatives and locative frames at the end of the section.

- (24) a. (Context: Where did Paul buy wine?)
 SPAIN PAUL WINE BUY
 'Paul bought wine in Spain.' Canonical locative
 b. (Context: What do people in different countries drink?)
 loc. frame
 SPAIN, PERSON++ WINE DRINK
 'In Spain, people drink wine.' Locative frame

The non-manuals used to mark locative frames are the same as the ones described for "base-generated topics" in Section 2.1. Thus, the main features are lowered eyebrows and dense eyes. Example of locative signs accompanied by frame-setting non-manuals are given in Figure 3.

The non-manuals used for temporal frames consist of a (sometimes slight) squint or raised eyebrows. It is as yet unclear where this variation comes from and sometimes one and the same consultant at times used a squint and raised eyebrows signing the exact same sentence at others. It might be the case that the slight squint indicates an epistemic frame (see below) and that the raised eyebrows indicate regular topicalization. I will leave this open for future research. Both non-manuals are depicted in Figure 4.

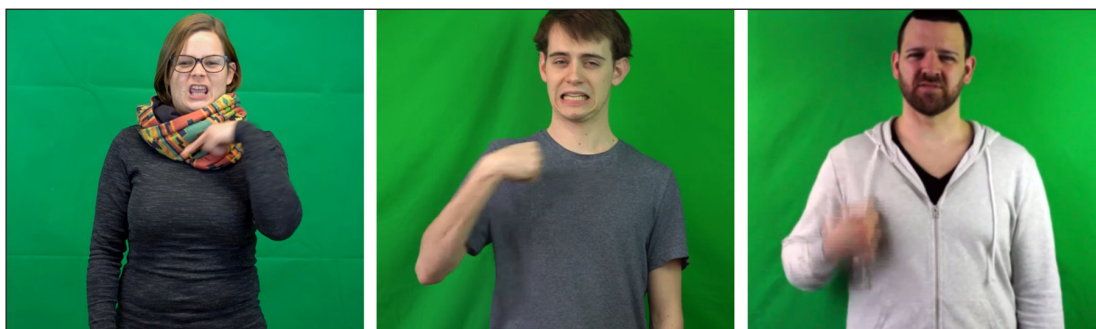


Figure 3: The non-manuals used for locative frames are lowered eyebrows and dense eyes. Note, again, that the lower-face non-manuals are related to mouthings.

Similar to temporal and locative frames, epistemic frames occur in a clause initial position. Epistemic frames are, again, accompanied by a squint. Sometimes dense eyes are used, often eye gaze is directed upwards. Examples of the non-manuals used with epistemic frames are given in Figure 5 (top). The non-manuals spread only over the topic constituent or, alternatively, over the whole clause (probably to mark the whole proposition as being



Figure 4: The non-manuals used for temporal frames. Top row: furrowed brows; bottom row: raised brows. Again, lower-face non-manuals are related to mouthings.



Figure 5: The two images at the top of the figure illustrate the non-manuals used for epistemic frames consist of squinted brows. The three images on the bottom of the figure show variants of the sign FRAME used with epistemic frames.

a hypothetical state of affairs). An additional feature of epistemic frames is that they can occur with a sign I labeled FRAME that locates the epistemic frame in signing space. The sign is restricted to the use of epistemic frames and thus cannot be used, for example, in combination with a temporal frame. The sign is depicted in the bottom row of Figure 5. A glossed example is given in (25).

- (25) $\overline{\text{POSS}_1 \text{ DREAM, FRAME}_{\text{loc}} \text{ PERSON++ PEACEFULLY TOGETHER LIVE}}$
 ‘In my dream, people lived peacefully together.’

Concerning the position of epistemic frames relative to other frame setters, signers strictly prefer epistemic frames to precede both temporal and locative frames, as illustrated in (26).

- (26) a. $\overline{\text{POSS}_1 \text{ DREAM, FUTURE, PERSON++ PEACEFUL TOGETHER LIVE}}$
 ‘In my dream, people will live peacefully together in the future.’
 b. $\overline{\text{POSS}_1 \text{ DREAM, EUROPE, PERSON++ PEACEFUL TOGETHER LIVE}}$
 ‘In my dream, people will live peacefully together in Europe.’

Taken together, all three types of frame setters receive non-manual markings with the upper face and are strictly ordered in the following way: epistemic frame > temporal frame > locative frame.

Further refinements concerning epistemic, temporal, and locative elements can be made. It has, for example, been proposed that the order of different locative expressions is fixed, as shown in (27) (e.g., Maienborn 1996; 2001). The difference between a canonical locative and an internal locative is that a canonical locative refers to the location of an event, while an internal locative refers to internal aspects of the event.¹¹

- (27) locative frame > canonical locatives > internal locatives

This order is exemplified by the English example in (28).

- (28) In China, people cook rice in their gardens in pots.
locative frame canonical locative internal locative

DGS shows exactly the same preference as English in this respect, i.e., locative frames are found in a clause-initial position, followed by a canonical locative, followed by an internal locative. An example is given in (29).

- (29) $\overline{\text{CHINA (IDX}_3\text{) GARDEN IDX}_{\text{loc}} \text{ PERSON++ POT IDX}_{\text{in}} \text{ RICE COOK}}$
 ‘In China, people cook rice in their gardens in pots.’

While the order of locative expressions always follows the order locative frame > canonical locative > internal locative (presumably because of some mereological principle), the position of the indices is subject to some variation as well as the exact position of the

¹¹ Maienborn (2001) exemplifies this by the sentence *The cook prepared the chicken in a Marijuana sauce*. On a canonical reading the cook would be located in floods of sauce. As this reading is rather bizarre the sentence is, under normal circumstances, interpreted as having an internal reading in which the locative *in Marijuana sauce* describes an internal aspect of the event of preparing the chicken.



Figure 6: Different locative expressions receive different indices. The utterance produced is a version of the example in (29).

subject. Thus, the order $GARDEN\ IDX_{loc}$ as well as the order $IDX_{loc}\ GARDEN$ is attested in my data. Additionally, the subject may also precede the canonical locative (cf. Figure 6).

Note that the locative frame, the canonical locative, and the internal locative receive different indices. While locative frames are often introduced by assigning the location a unique point on the contra- or ipsi-lateral side in space with the index finger, canonical locatives are also assigned a location in space; this, however, is achieved by a locational index (locating the garden in space). A locational index is signed with a B-handshape with the palm facing downwards performing a circular movement. Internal locatives receive indices in neutral signing space, i.e., in front of the signer. An example is given in Figure 6. It is, however, yet unclear how systematic this use of indices is. I will leave this question to future research.

In the next section I will briefly discuss a structure which has been analysed as pseudo-clefts in the literature. There is, however, some disagreement in the literature whether it is used for topic or focus marking. Thus, the section to follow constitutes a transition to the encoding of foci in DGS.

2.3 Pseudo-clefts or question-answer pairs?

Structures resembling pseudo-clefts have been described for many different sign languages (e.g., Wilbur 1996; Wilbur & Patschke 1999 for American Sign Language, Van Herreweghe & Vermeerbergen 2006 for Flemish Sign Language, Johnston & Schembri 2007 for Australian Sign Language, Hauser 2018 for French Sign Language, or Kimmelman 2019 for Sign Language of the Netherlands and Russian Sign Language). An example for such a structure from American Sign Language from Wilbur (1996: 210) is given in (30). The structure consists of a question-answer pair uttered by the same signer with the question part being marked with a brow raise (note that regular *wh*-questions in American Sign Language are marked by lowered brows), followed by an answer.

- (30) $\overline{\text{ME DISLIKE WHAT}}^{\text{br}}, \text{LEE POSS TIE}$
 ‘Lee’s tie is what I dislike.’

Wilbur (1996) analyzed structures like the one in (30) in American Sign Language as *wh*-clefts forming a single sentence used for focus marking. In spoken languages, pseudo-clefts can also be used for focus-marking purposes, but the main function is related to

topic-comment structure (Prince 1978; Gast & Levshina 2014). Similarly, Caponigro & Davidson (2011) argued that pseudo-clefts in American Sign Language instantiate a topic-comment structure. While Caponigro & Davidson (2011) also analyze the structure under discussion as a complex sentential unit, they, in contrast to Wilbur (1996), do not analyze them as pseudo-clefts, but instead as a complex declarative structure. One argument they present against a pseudo-cleft analysis is that question-answer pairs in American Sign Language allow a wide range of *wh*-elements. This is not what is usually found in *wh*-clefts. Thus, there is not only disagreement in the literature on the exact pragmatic function of question-answer pairs, but also disagreement on their syntactic structure.

Question-answer pairs have also been described for DGS (Happ & Vorköper 2014: 397; Herrmann, Proske & Volk 2019) as basically exhibiting the same structure as in American Sign Language. A simple example is given in (31).

- (31) $\overline{\text{TOPIC TALK WHAT}}$ ^{br}, BEER
 ‘The topic of the talk is beer.’

In a detailed study Herrmann, Proske & Volk (2019) support the idea that question-answer pairs form a complex declarative structure. An argument in favor of this idea is that question-answer pairs in DGS, similar to question-answer pairs in American Sign Language (Wilbur 1996; Caponigro & Davidson 2011), can be embedded under verbs selecting declaratives, but not under verbs selecting interrogatives. This is illustrated in (32) from Herrmann, Proske & Volk (2019: 114) (note that the hyphens indicate fingerspelling).

- (32) a. L-I-S-A HOPE [$\overline{\text{HER FATHER BUY WHAT}}$ ^{br} CAR NEW]
 ‘Lisa hopes that the thing her father bought is a new car.’
 b. * L-I-S-A ASK [$\overline{\text{HER FATHER BUY WHAT}}$ ^{br} CAR NEW]
 Intended: ‘Lisa asks if her father bought a new car.’

Additionally, they show that DGS allows a wide variety of *wh*-elements in question-answer pairs. Some examples from my own corpus are given in (33).

- (33) a. $\overline{\text{CHAIRPERSON NEW WHO}}$ ^{br}, PAUL
 ‘The new chairman is Paul.’
 b. $\overline{\text{MEETING WHEN}}$ ^{br}, 6-O’CLOCK
 ‘The meeting is at 6 o’clock.’
 c. $\overline{\text{MEETING WHERE}}$ ^{br}, MUNICH
 ‘The meeting is in Munich.’

This, again, may be taken as evidence against a cleft analysis. A further argument brought up by Herrmann, Proske & Volk (2019) against a cleft analysis of question-answer pairs in DGS is that sentential complements are allowed in the answer part. On Herrmann, Proske & Volk’s account, the answer constituent of the construction aims at foregrounding to indicate information focus.

Taken together, question-answer pairs in DGS are complex declarative sentences consisting of a question part marked by raised eyebrows followed by an answer part (which is typically unmarked according to Happ & Vorköper 2014: 397 and frequently accompanied by a short head nod according to Herrmann, Proske & Volk 2019). As mentioned,

there is disagreement on the pragmatic function of the construction: according to Wilbur & Patschke (1999) it marks focus, according to Caponigro & Davidson (2011) it marks a topic-comment structure, and according to Herrmann, Proske & Volk (2019) the answer part marks information focus. While I have no conclusive answer to the question of which account is on the correct track, I think that the idea that one single construction is used for focus and topic purposes is not contradictory. While there is also disagreement on the exact structural make-up of question-answer pairs, all analysis presented assume the non-manually marked constituent to be positioned in the left periphery.

On the assumption that the structure under discussion would be a special class of pseudo-clefts, one could assume that the non-manually marked constituent is exactly the part of the clause that is moved to the left periphery (as also argued by Wilbur 1996), presumably to SpecTopP (cf. Meinunger 1998 for spoken and Caponigro & Davidson 2011 for sign languages). Alternatively, one could assume that the structure is not a pseudo-cleft, but instead a special declarative construction consisting of one complex sentence. This, for example, was suggested by Caponigro & Davidson (2011) who proposed that question-answer pairs could be analyzed as embedded interrogative clauses. Both analyses are in line with the idea that CP material is marked with the upper face/high articulators in sign languages.

3 Encoding of foci

In this section, the expression of contrastive focus, mirative focus, and regular clefts will be discussed. As it does not seem to be possible to combine a clause containing a topic and a contrastively focused constituent it is not possible to determine the exact structural position of contrastive focus in DGS.

3.1 Contrastive focus

Constituents which are contrasted are constituents from a set “out of which they are selected to the exclusion of at least some other members of the set” (Neeleman et al. 2009: 17). What this section is concerned about are not contrasted constituents in general, but instead contrastively focused elements hosted in the left periphery of the clause; although there will be a brief remark on contrastivity in general at the end of the section (for a discussion of the notions of contrastivity see, for example, Zimmermann 2008 or Repp 2016). I take correctively focused elements as the clearest case of contrastive focus as contrasts and focus are most obviously combined. This is illustrated by the German example in (34). B’s answer is a correction. The correction itself, i.e., the DP *Wein* ‘wine’ is contrasted to beer, it is focused and represents new information, and it is overtly fronted.

- (34) A: *Thorolf hat Bier gekauft.*
 Thorolf has beer bought
 ‘Thorolf bought beer.’
- B: [*Wein_{foc}*] *hat Thorolf gekauft, nicht Bier.*
 wine has Thorolf bought not beer
 ‘Thorolf bought wine, not beer.’

Contrastively focused constituents also appear in a clause-initial position in DGS but can also be left *in-situ* (35). Thus, movement to SpecFocP either takes place overtly or at LF only. Waleschkowski (2009) reports that contrastive focus is marked by head nods, head tilts, raised eyebrows, and widened eyes in DGS. This is only partly in line with my own observations. While signers from the area of Baden-Württemberg mark contrastively focused constituents by tilting the head backwards and raising their eyebrows, signers from Bavaria systematically show the opposite pattern as they lower their brows and lower their heads (see also Bross 2020). This is depicted in Figure 7.



Figure 7: The non-manuals used for contrastive focus. Top row: Bavarian signers; bottom row: Baden-Württemberg signers. Figure partly adapted from Bross (2020).

(35) Context: Paul bought beer yesterday.

- a. $\overline{\text{OTTO}}_{\text{foc}} \text{ YESTERDAY } t_i \text{ BEER BUY}$
 ‘OTTO bought beer yesterday.’
- b. YESTERDAY $\overline{\text{OTTO}}_{\text{foc}} \text{ BEER BUY}$
 ‘OTTO bought beer yesterday.’

These findings are in line with the BMH. Contrastive focus and contrasts in general, however, need to be carefully kept apart. It has been noted in the sign language literature that body shifts are often used to contrast elements (e.g., Wilbur & Patschke 1998 for American Sign Language or Barberà 2012; 2014 for Catalan Sign Language). This means that one element to be contrasted is signed on one side of the body while the other element is signed on the other. At the same time, the whole upper body is slightly shifted. Thus, signing space also plays a role in contrasts or in contrastive focus. While this use of ipsi- and contralateral signing space is also found in DGS, as illustrated in the upper part of Figure 8, there are two arguments in favor of the idea that this spatial placement is not associated with contrastive focus. First, the same use of space can be observed in plain coordination not involving contrastive focus (but a contrast), as shown in the lower part of 8 (cf. Zorzi 2018a; b for a similar observation in Catalan Sign Language). The second argument relates to the fact that the localization of referents on the ipsilateral and contralateral side of the body is not obligatory, neither in contrasts nor in contrastive focus. In fact, there are situations in which it is simply ungrammatical to employ the signing space like this. This is, for example, the case if the contrast involves two verbs agreeing with the same object. This is illustrated in (36).¹²

¹² Examples, like the one in (36a), can be used to express contrasts or contrastive focus depending on context.



Figure 8: Two examples of the use of signing space in contrasts in DGS; upper part from Bross (2020).

- (36) a. $IDX_1 \text{ PAM}_3 \text{ HIT}_3 \text{ NEG } \overline{\text{PAM}_3} \text{ } \overline{\text{INSULT}_3}^{\text{foc}}$
 ‘I didn’t hit him, I insulted him.’
- b. $*IDX_1 \overline{\text{PAM}_{3a}} \overline{\text{HIT}_{3a}}^{\text{ipsilateral}} \text{ NEG } \overline{\text{PAM}_{3b}} \overline{\text{INSULT}_{3b}}^{\text{contralateral}}$
 ‘I didn’t hit him, I insulted him.’
- c. $*IDX_1 \overline{\text{PAM}_{3a}} \overline{\text{HIT}_{3a}}^{\text{ipsilateral}} \text{ NEG } \overline{\text{PAM}_{3a}} \overline{\text{INSULT}_{3a}}^{\text{contralateral}}$
 ‘I didn’t hit him, I insulted him.’

The examples in (36) involve one object which has a fixed location in signing space. It is not possible to have one verb agreeing with this location while the other verb does not as in (36b)—a behavior that is enforced through the body shift. Similarly, it is not possible to just shift the body position while leaving the agreement as is, as in (36c). Thus, the described use of the horizontal plane is related to contrasts, but not to contrastive focus as it also occurs without any focusing present.

3.2 Mirative focus

Besides contrastive focus, it has been argued that mirative focus also targets a position in the left periphery (e.g., Cruschina 2009; 2012; Belletti & Rizzi 2015). Mirative focus is used to indicate that a piece of information is unexpected or surprising for the speaker/signer. Different from general mirative constructions (which can be identified by the fact that they can be introduced by speaker-oriented adverbs, such as *surprisingly*), mirative focus indicates that a previously held belief is corrected. An example of mirative fronting from German is given in (37). The focused phrase is glossed “mir-foc” for better orientation.

- (37) A: Chiara hat ein neues Auto gekauft.
 Chiara has a new car bought
 ‘Chiara bought a new car.’

- B: [EIN NEUES AUTO_{mir-foc}] hat sie gekauft!? Ich dachte, sie wollte ein
 A new car has she bought I thought she wanted a
 neues Fahrrad kaufen!
 new bike buy
 ‘She bought a new car? I thought she was going to buy a new bike!’

Mirative focus has, to the best of my knowledge, not been described for any sign language so far. Similar to many spoken languages, mirative fronting is possible in DGS, as illustrated in (38). As shown in the example, the optional index sign, referring to Paul (i.e., the subject), indicates that overt mirative fronting is found in the language. In contrast to contrastive focus, with mirative focus it is not only the preposed constituent, but the whole clause which receives (obligatorily) non-manual markings with its intensity peak located clause-initially (to indicate this, the gloss “mir-foc” is left-aligned).

- (38) A: YESTERDAY PAUL IDX₃ NEW CAR BUY
 ‘Yesterday, Paul bought a new car.’
 mir-foc
 B: [NEW CAR]_i (IDX₃) t_i BUY IDX₁ THINK IDX₃ NEW COMPUTER BUY
 ‘He bought a new car? I thought he bought a new computer.’

Mirative focus is marked by a unique bundle of non-manuals: the head is slightly inclined forwards and the brows are lowered and form a strong squint. The non-manuals are shown in Figure 9.

There are two more notes to make concerning the non-manuals used in mirative focus. First, it has to be noted that the non-manuals are completely different from the general mirative utterances which are marked by raised eyebrows and wide-open eyes (Bross 2020). Thus, mirative focus and general mirativity can be easily told apart in DGS. An example of a regular mirative construction in DGS is shown in Figure 10 (note that the manual adverb SURPISINGLY is optional in this construction).

The second note is that the non-manuals in mirative focus constructions resemble what was described by Benitez-Quiroz, Wilbur & Martinez (2016) as “the not face”: a non-manual marker used with negation most likely cross-culturally. This is interesting to note as a development from polarity to mirativity seems to be a cross-linguistically stable path of grammaticalization. Examples from German involve the use of the modal particles *aber* ‘but’ and *ja* ‘yes’ as mirativity markers (Thurmair 1989), the use of *no way* in English (Davidse et al. 2014), or the use of the negative particle *ne* as a mirative marker in dialectal Dutch (Breitbarth & Haegeman 2014).

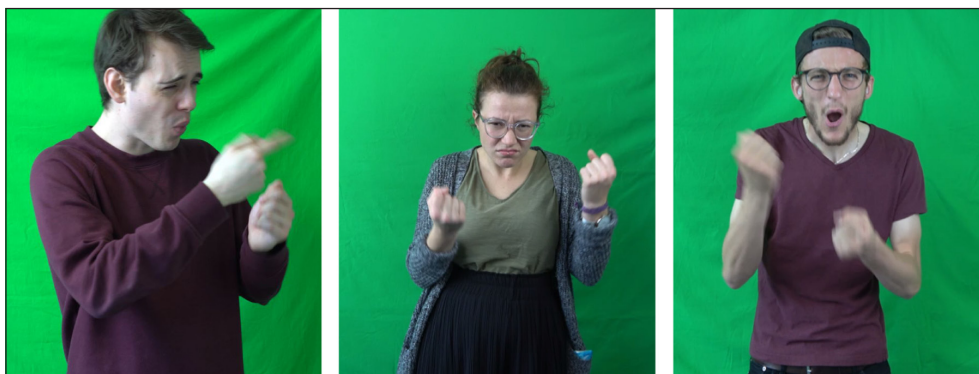


Figure 9: The non-manuals used in mirative focus constructions: the head is held straight and put forward, the brows are lowered and form a squint.

I will come back to these criteria at the end of the section after presenting the DGS data. An example of what I will argue to be a cleft sentence in DGS is given in (41). As illustrated, the construction under discussion contains a relative pronoun, glossed RELPRO-H which is signed towards the location of the referent it refers to. In the example, the name PAUL is signed in a position with the index 3. As RELPRO-H refers to Paul they share an index. The relative pronoun is obligatorily accompanied by a brow-raise (as are relative pronouns in relative clauses Pfau & Steinbach 2005). The sentence in (41) is additionally depicted in Figure 11.

- (41) PAUL₃ $\overline{\text{RELPRO-H}}_3^{\text{cleft}}$ BEER BUY
 ‘It was Paul who bought the beer.’

DGS exhibits two relative pronouns labeled RELPRO-H and RELPRO-NH. While RELPRO-H is used with animate (and preferably human) referents, non-animate arguments are marked with RELPRO-NH (Pfau & Steinbach 2005). Both signs are produced with the index finger of the dominant hand. In the case of RELPRO-H, the dorsal part of the index finger points to the location of the referent. In the case of RELPRO-NH, it is the finger tip that points to the location of the referent. As DGS lacks both copula verbs and expletive pronouns, the resulting structure can be called a “reduced cleft”.

As in most languages exhibiting cleft sentences, clefts in DGS look very similar to relative clauses (see Pfau & Steinbach 2005 for DGS relative clauses). An example of a DGS relative clause is given in (42).

- (42) MAN (IDX_{3a}) $\overline{\text{RELPRO-H}}_{3a}^{\text{relative}}$ PAM_{3b} WOMAN_{3b} KISS TODAY DIE
 ‘The man who kissed the woman died today.’

Relative clauses and regular cleft sentences can be differentiated by the fact that the former overtly contain two VPs ((PAM) WOMAN KISS and TODAY DIE in the example in (42)) while cleft sentences only contain one overtly realized VP (BEER BUY in (41)).

Clefts in DGS can be used contrastively, as illustrated in (43), as well as to answer *wh*-questions, as illustrated in (44).

- (43) PAUL₃ $\overline{\text{RELPRO-H}}_3^{\text{cleft}}$ BEER BUY NEG OTTO
 ‘It was Paul who bought the beer, not Otto.’



Figure 11: A depiction of the cleft sentence in (41).

- (44) A: $\overline{\text{BEER BUY WHO}}^{\text{wh}}$
 B: PAUL₃ $\overline{\text{RELPRO-H}_3}$ BEER BUY
 ‘It was Paul who bought the beer.’

Using cleft sentences to contrast two elements is a wide-spread strategy cross-linguistically. However, many languages, including English, do not allow cleft sentences as answers to *wh*-questions. Nonetheless, there are languages, like Italian Sign Language (Branchini 2014), Mandarin or French (Belletti 2009: 272–273) which permit this use.

Note that there are no plural relative pronouns in DGS (Pfau & Steinbach 2005). Thus, RELPRO-H can only be used to relate to one individual. Consequently, clefts in DGS receive an exhaustive interpretation. This can be shown by the fact that it is not possible to add that Maria also participated in the beer buying event in (41) in form of an afterthought (cf. (45a)), while this is easily possible in a regular sentence (45b). Note that the comma in the examples indicates a short intonational break.

- (45) a. PAUL₃ $\overline{\text{RELPRO-H}_3}$ BEER BUY, #WITH MARIA
 Intended: ‘It was Paul who bought the beer ... together with Maria.’
 b. PAUL BEER BUY, WITH MARIA
 ‘Paul bought the beer ... together with Maria.’

Comparing the criteria given in (40) to the DGS construction discussed in this section, we can conclude that we are dealing with clefts that are partitioned into two parts: a clefted constituent and an open sentence (cf. criterion (40a)). This partition is achieved by the insertion of a relative pronoun. Additionally, the clefted constituent, i.e., the constituent preceding the relative pronoun is focused (although not marked by any non-manuals) (cf. criterion (40b)) and the open sentence is presupposed (cf. criterion (40c)). Finally, as the DGS structure discussed above is necessarily exhaustive, criterion (40c), stating that clefts are never necessarily additive, is also met.

To conclude this subsection, we can summarize that DGS exhibits cleft sentences which involve, in line with the BMH, non-manual markings with the upper face.

4 Conclusions

In this article, I have presented how different types of topics and foci are expressed in Southern DGS and how different subtypes of topics can be combined. This was done against the background of two cartographic hypotheses that: (i) topic and focus phrases are located in strictly ordered dedicated functional projections and (i) the Bodily Mapping Hypothesis stating that the scopal domain of an operator is systematically mapped onto the body (i. e., the higher the scope the higher the articulator).

For topics, it was argued that DGS exhibits base-generated frame-setting topics (i. e., non-integrated topics) and moved aboutness topics (i. e. integrated topics). In line with the BMH, both topic types receive upper-face non-manual markings. Additionally, base-generated topics precede moved topics, as predicted by the assumption that base-generated topics are hosted in a structurally higher functional projection. Furthermore, it was shown that DGS exhibits different types of framesetters which, again, are marked non-manually with the upper face and are ordered in the following way:

- (46) Epistemic frames > Temporal frames > Locative frames > Aboutness topics

The last structure discussed were question-answer pairs, which also receive upper-face non-manual markings. It is however, not exactly clear how to analyze this structure, neither in terms of syntax nor in terms of function. There is, however, consensus in the literature that the construction is an information-structural category related to topic-comment or focus-background structuring (or both).

Concerning focus expressions, contrastive focus, mirative focus, and cleft sentences were discussed. While the expression of contrastive focus is subject to dialectal variation in DGS, upper-face non-manuals play a role in both dialectal variants. Additionally, it was shown that DGS exhibits mirative focus with overt mirative fronting. Again, upper-face non-manuals are used as a marking device. Finally, I argued that DGS exhibits cleft sentences which involve a relative pronoun marked by eyebrow raise. While it was not possible to investigate ordering restrictions between topic and focus, the findings presented at least make the following prediction: if the focused constituent in DGS clefts is indeed moved into a left peripheral focus position, topics should precede and not follow it (given that cleft sentences in DGS instantiate mono-clausal structures). This prediction should be tested in future investigations.

On the whole, there are a plethora of open questions left for future research. One point relates to the question of how frequently the constructions described in this paper are in natural signing, as correctly pointed out by an anonymous reviewer. What was described in the present paper is what is grammatically possible and not what is actually used in everyday signing or what is frequent or rare. Other points relate, for example, to the question of the exact grammatical status of the sign FRAME or the systematicity of the use of different locative expressions.

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Competing Interests

The author has no competing interests to declare.

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