

# 41. Sign Languages

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## 41.1 Introduction

In this chapter, basic Information Structure (IS) notions will be applied to sign languages (SLs), that is, languages in the visual-gestural modality of signal transmission (as opposed to the oral-auditory modality of spoken languages). It will be demonstrated that IS notions are relevant for SLs, just as they are for spoken languages – as is expected, of course, given that SLs are fully-fledged natural languages with complex structures on all levels of linguistic description (Sandler & Lillo-Martin 2006).

At first sight, it may appear a little awkward to discuss SLs as a group within a single chapter. After all, one would not devote a chapter to ‘spoken languages’, but rather to a single language or a language family (as in chapters 33–40). Comparative studies on SL structure have revealed that SLs differ from each other structurally and that, to a large extent, they differ along similar lines as spoken languages do (Perniss et al. 2007; Pfau 2012). Still, in certain areas of grammar, SLs also show striking similarities, some of which are likely to be motivated by the visual-gestural modality (Meier 2002). As the following discussion shall reveal, there are also interesting similarities in the realm of IS – and it may therefore not be so awkward after all to discuss SLs as a group in this chapter instead of focusing on a single SL.

In Section 41.2, we will set the stage by providing some background information on SL structure and notation. Subsequently, the structure of the chapter reflects the well-known basic distinctions Topic–Comment (Section 41.3) and Focus–Background (Section 41.4). We will show that, across SLs, IS is encoded by syntactic and prosodic strategies, sometimes in combination, while morphological markers, the third strategy commonly found in spoken languages, are not attested. In Section 41.5, we conclude by briefly addressing modality effects, that is, features in the expression of IS that are unique to SLs, such as the use of space and body leans. Throughout the chapter, we take a comparative perspective; that is, an effort will be made to provide and compare data from different SLs.

## 41.2 Background on sign language structure

Space does not allow us to provide a detailed overview of aspects of SL structure. Therefore, we will focus on two aspects that will turn out to be relevant to the

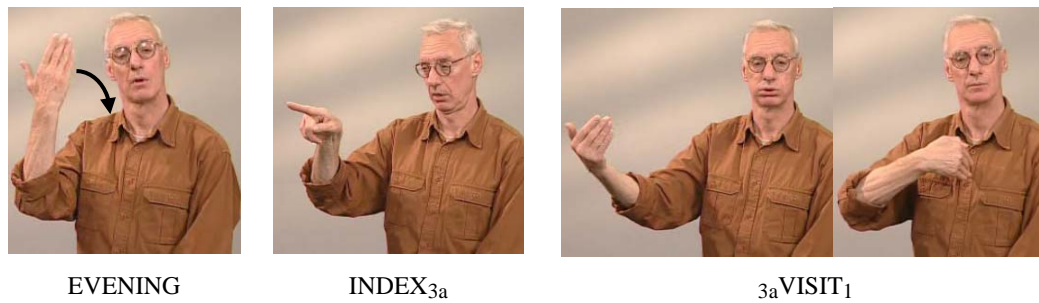
discussion of IS in Sections 3 and 4: the grammatical use of the signing space and of non-manual markers.

In most SLs investigated to date, the signing space in front of the signer's body can be employed for referential purposes. This space can be used, for instance, to localize non-present referents. In the SL of the Netherlands (*Nederlandse Gebarentaal*, NGT) example in (1a), the signer talks about his brother, who is not present in the discourse setting. The lexical sign BROTHER is followed by an indexical (pointing) sign towards location 3a (forward right) in the signing space, thereby localizing the referent at this arbitrary location. Subsequently, the same location can be used for pronominalization, that is, the second instance of INDEX<sub>3a</sub> in (1a) is interpreted as 'he'. Interestingly, some verbs, the so-called 'agreeing' or 'directional' verbs, can be modulated such that they target loci in signing space – be it the locus of a present referent or a locus established by means of INDEX. In (1a), the verb VISIT, which in its citation form moves forward from in front of the signer's body, is directed from location 3a towards the signer, thereby agreeing with the subject and object ('he visits me'; see Lillo-Martin & Meier (2011) for a recent discussion of this phenomenon). The example is visualized by the video stills in Figure 41.1 (for VISIT, the beginning and end location of the movement are shown).<sup>1</sup>

- (1) a. br/top  
 POSS<sub>1</sub> BROTHER INDEX<sub>3a</sub>, EVENING INDEX<sub>3a</sub> VISIT<sub>1</sub> [NGT]  
 'As for my brother, he will visit me tonight.'
- b. wh  
 JOHN BUY WHAT YESTERDAY [ASL]  
 'What did John buy yesterday?'



<sup>1</sup> Following standard conventions, SL examples are glossed in English in SMALL CAPS. Obviously, these glosses do not provide any information about the phonological form of a particular sign. Subscript numbers (in some examples, subscript letters) indicate points in the signing space used in pronominalization and verbal agreement, whereby '1' is used for a locus close to the signer, '2' for a locus close to the addressee, and '3' for established loci and loci close to present third person referents. INDEX/IX stands for a pointing sign (usually with index finger extended) and POSS for a possessive pronoun. The convention SIGN-SIGN is used when two English words are necessary to gloss a single sign; SIGN^SIGN indicates that two signs are combined in a compound. Lines above the glosses indicate the scope (i.e. onset and offset) of a particular non-manual marker. Note that abbreviations used may refer to the form (e.g. 'br' – brow raise) or the function (e.g. 'top' – topic) of a particular marker. Other abbreviations used in this chapter include: 'neg' – negative headshake and 'wh' – wh-question marker (further abbreviations will be explained in the context of specific examples).



**Fig. 41.1.** Video stills illustrating example (1a). © Nederlands Gebarententrum (Dutch Sign Centre; NGC 2002); stills used by permission.

Example (1a) also illustrates the use of a non-manual marker, namely a brow raise accompanying a topic NP. The topic constituent is followed by a prosodic break (indicated by the comma). Actually, across SLs, non-manual markers – i.e. mouth configurations, head and body movements, and facial expressions – may fulfill functions at all levels of grammar (see Pfau & Quer (2010) for an overview). Here, we only provide one more example of a syntactic marker. Across SLs, wh-questions are commonly marked by furrowed brows, as illustrated by the American SL (ASL) example in (1b) (Petronio & Lillo-Martin 1997:26). While both markers in (1) can be argued to fulfill a syntactic function, it has also been claimed that at least some non-manuals are prosodic in nature and can thus be compared to intonational contours in spoken language (Sandler 2011). Under this assumption, the wh-marker in (1b) could be considered the prosodic reflex of a [+wh]-feature.

### 41.3 Topic – comment distinction

Traditionally, topic constructions have received more attention in the SL literature than focus constructions. On the one hand, topics (especially their frequent use in ASL) have been subject to investigation since the early days of sign language research (Friedman 1976; Ingram 1978); on the other hand, they have been studied for various unrelated SLs, such as ASL (Aarons 1994; Todd 2008), Finnish SL (FinSL: Jantunen 2007), Hong Kong SL (HKSL: Sze 2008b, 2011), Israeli SL (ISL: Rosenstein 2001), and NGT (Coerts 1992; Crasborn et al. 2009). The data reveal that across SLs, topic (backgrounded) information tends to occupy a left-peripheral position in the clause; also, it is often accompanied by a non-manual marker (e.g. raised eyebrows) and followed by a prosodic break. It has thus been argued that topichood in SLs is commonly syntactically and prosodically marked. In addition, some SLs have even

been claimed to be topic-prominent, for instance, ASL (McIntire 1982), British SL (Deuchar 1983), and ISL (Rosenstein 2001).<sup>2</sup>

In this section, we will address a number of complexities concerning the use and interpretation of topics. First, in Section 41.3.1, we will present and discuss different types of topics, focusing on semantic and syntactic distinctions that are well-known from the study of spoken languages (see chapter 4). We then turn to the issue of non-manual marking, and the occasional absence thereof, in Section 41.3.2. Finally, in Section 41.3.3, we investigate possible combinations of topics, that is, topic stacking.

### 41.3.1 Types of topics

#### 41.3.1.1 Semantic distinctions

Topic constituents can be linked to the preceding discourse in various ways and may include different types of information. Here we adopt the basic semantic distinction between ‘aboutness’ and ‘scene-setting’ topics (Jacobs 2001), which is, amongst others, applied by Sze (2008b, 2011) in her study on HKSL.

It is generally assumed that an aboutness topic represents what the sentence is about. It includes information which is either familiar to the interlocutors or identifiable from the preceding context. Based on these characteristics, Sze (2011:137) identifies the fronted object in (2a) as the topic of the sentence; this NP is followed by a prosodic break but it is not non-manually marked (see Section 41.3.2 for further discussion). The NGT example in (2b) contains a topicalized subject, which is non-manually marked and the articulation of which is prolonged by means of a final hold (as indicated by the horizontal line) (Coerts 1992:223). For both examples, we must assume that the topicalized NP has been mentioned in the preceding discourse.

[HKSL]

- (2) a. INTERPRETER<sup>^</sup>SIGN-LANGUAGE, GOVERNMENT PAY-THEM NOT-HAVE  
 ‘The sign language interpreters, the government does not pay (them).’

\_\_\_\_\_ top \_\_\_\_\_ neg

- b. AIRPLANE—| COME NOT [NGT]  
 ‘As for the airplane, it did not arrive.’

In contrast to aboutness topics, scene-setting topics provide a spatial or temporal context within which the main predication holds (Chafe 1976). They may thus involve either locative expressions or temporal information (be it expressed by adverbials, NPs, or subordinate clauses). While aboutness topics include discourse-old information, scene-setting topics may include both discourse-new or -old information. Two

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<sup>2</sup> Slobin (in press) goes further by claiming that *all* SLs are topic-prominent, based on Li and Thompson’s (1976:466) observation that “[i]n topic-prominent languages, there will be a surface coding for the topic, but not necessarily for the subject”.

examples from FinSL, in which a locative expression (3a) and a temporal adverbial (3b), respectively, occupy the topic position, are provided in (3); both topics are marked non-manually (Jantunen 2007; ‘ew’ = eyes wide).

- (3) a. ew & br  
 NIGHT CLUB INDEX<sub>a</sub>, INDEX<sub>1</sub> WORK DOORMAN [FinSL]  
 ‘That night club, I work (there) as a doorman.’
- b. ew & br  
 NOW EVENING, INDEX<sub>1</sub> GO PUB [FinSL]  
 ‘This evening, I (will) go to the pub.’

At the same time, the examples in (2) and (3) also illustrate an important distinction related to the thematic roles assigned by the verb. Simplifying somewhat, aboutness topics are generally arguments of the verb (object in (2a), subject in (2b)), while scene-setting topics are adjuncts (see also Crasborn et al. (2009) for the distinction of ‘argument’ and ‘spatio-temporal’ topics). Sze (2011), however, points out that, occasionally, adverbials may also represent what the sentence is about.

A third semantic type mentioned in the literature are contrastive topics. Just like aboutness topics, contrastive topics refer to previously mentioned information and are arguments of the verb; unlike aboutness topics, however, they create a contrast between the topic constituent and a previously mentioned referent (see example (5) below for further discussion).

#### 41.3.1.2 Syntactic distinctions

Besides semantic characteristics, topics are also commonly distinguished based on their syntactic properties or, to be more precise, the extent to which they are syntactically integrated into the rest of the sentence. The crucial distinction, which has first been explicitly discussed for SLs by Aarons (1994), is that between ‘base-generated’ and ‘moved (fronted)’ topics. According to Aarons, the topic VEGETABLE in the ASL example (4a) must be base-generated in topic position, as it does not constitute an argument of the verb. Commonly, in these cases, an argument of the main clause bears a semantic relationship to the topic – in (4a), a relation of class membership (Aarons 1994:152). Note that the example also illustrates that topics need not be specific and definite.

- (4) a. top  
 VEGETABLE, JOHN LIKE CORN [ASL]  
 ‘As for vegetables, John like corn.’
- b. top  
 MARY<sub>i</sub>, JOHN LIKE INDEX<sub>i</sub> [ASL]  
 ‘As for Mary, John likes her.’



As for the syntax of topic constructions, Crasborn et al. (2009) observe that in NGT, a clause-final indexical sign may optionally be used, which is co-referent with the topic constituent. Crucially, this sign is different from the (resumptive) pronouns attested in examples like (1a) and (4b) above, as it does not occupy the position of the respective argument (NGT is an SOV language). The example in (7a) actually contains three pointing signs targeting the same position: the first one localizing the topic NP GIRL, the second one being a resumptive pronoun in subject position (indicative of left dislocation), and the third one appearing in clause-final position (Crasborn et al. 2009:359). In previous studies on ASL (Padden 1988) and NGT (Bos 1995), it has been argued that such clause-final pronominal signs always refer to the subject (hence the name ‘subject pronoun copy’). Crasborn et al., however, provide examples in which the final INDEX refers to an object (7b) or a locative expression. They argue that the final INDEX actually refers to the topic and therefore label the phenomenon as ‘topic agreement’.

- (7) a. GIRL INDEX<sub>left</sub>, INDEX<sub>left</sub> BOOK THROW-AWAY INDEX<sub>left</sub> [NGT]  
‘That girl, she threw away the book.’
- b. BOOK INDEX<sub>right</sub>, INDEX<sub>left</sub> THROW-AWAY INDEX<sub>right</sub> [NGT]  
‘He threw away the book.’

### 41.3.2 Non-manual marking

Ever since the early studies on IS in SLs, it has been observed that topicalized constituents are commonly accompanied by specific non-manual markers. A marker that is mentioned in basically every study addressing this issue is brow raise; in addition, head movements are often described. Ingram (1978:204), for instance, observes that “ASL topics may be marked by with the raising of the eyebrows, the tilting of the head, the twitching of a shoulder” and goes on by pointing out that it is “not yet known whether the choice of topic marker is determined by individual preference [...], by sociolinguistic influences, by grammatical context, or by a combination of these”. Similarly, Liddell (1980) mentions brow raise and a slight backward head tilt for ASL, while Coerts (1992) concludes that ‘eyebrows up’ is the only non-manual feature characteristic of topics in NGT as it is the only feature in her data that accompanied more than 50% of all topics (90.6%).<sup>4</sup> Other markers that one may come across in the literature include ‘eye gaze at addressee’ and ‘head nod’ (see Sze (2011:126f) for a convenient overview of non-manual markers as identified in different studies).

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<sup>4</sup> Janzen (1999) argues that the non-manual topic marker (in particular, raised eyebrows) grammaticalized from a communicative questioning gesture commonly used by speakers. This non-manual co-speech gesture entered the grammar of ASL as a yes/no question marker and then developed further into the topic marker (for grammaticalization in SLs, see Pfau & Steinbach 2011).

In other words: the abbreviation ‘top’ as used in some of the above examples is often a cover term for a set of non-manual markers. Aarons (1994) was the first one who attempted to establish a correlation between topic type and non-manual marking. She distinguishes three subtly different non-manual markers, glossed as ‘tm1’, ‘tm2’, and ‘tm3’, which systematically accompany different types of topics in ASL. Here we only consider the former two, the form of which Aarons (1994:156) describes as follows:

- tm1 – raised brows; head tilted slightly back and to the side; eyes widened; head moves down and forward → moved topics
- tm2 – large movement of head back and to the side; eyes very wide; head moves down and forward → base-generated topics

She observes that ‘tm1’ accompanies moved topics like the one in (5) while ‘tm2’ occurs with base-generated topics of the type illustrated in (4). Note that it may well be the case that these (and other) markers are compositional in the sense that different components (e.g. brow position, head position) contribute distinct meanings.

All of the non-manual markers discussed so far are domain markers in that they extend over a syntactic/prosodic domain. In addition, there are boundary markers. Left-peripheral topics generally constitute an intonational phrase which is followed by a prosodic break and which may also be manually marked by a phrase-final hold (as in (2b)). A non-manual marker which is frequently observed in this context is an eye blink (‘bl’) coinciding with the final hold or following the topic constituent, thus marking the prosodic boundary (Sze 2008a; Herrmann 2010), as illustrated in the German SL (*Deutsche Gebärdensprache*, DGS) example in (8) (Herrmann 2010:23).<sup>5</sup>

- bl
- (8) YOUR DOG, NAME WHAT [DGS]  
 ‘Your dog, what was his name again?’

All of Aarons’ examples include a non-manual (domain) marker accompanying all types of topics (moved and base-generated, arguments and adjuncts). Similarly, Jantunen (2009:165) points out that in his data, topics “were always layered with some sort of a position of the eyes and eyebrows”. Later research on other sign languages, however, suggests that SLs may differ from each other when it comes to non-manual marking. Rosenstein (2001), for instance, claims that topics in ISL are not marked by brow raise – at least not in spontaneous discourse. Sze (2008b, 2011) observes that in

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<sup>5</sup> Liddell (1980) and Aarons (1994) further observe the presence of a head nod (‘hn’) on the subject of the main clause in case of VP topicalization; see example (i) (Liddell 1980:30).

- (i) top hn  
 CHASE CAT DOG  
 ‘As for chasing the cat, the dog did it.’



HKSL, only a very small number of aboutness topics – including hanging topics, left-dislocated topics, and topical (clause-internal) subjects – are accompanied by brow raise and/or a specific head position (see e.g. (2a) above). Also, they are not consistently followed by an intonational break. In contrast, scene-setting topics in her data (with the exception of temporal adverbials) are much more likely to be accompanied by either brow raise, a forward head tilt, or both. In (9), the NP SECONDARY-TWO, which sets up a temporal domain, is marked by brow raise and forward head tilt ('fht') (Sze 2011:14).

- \_\_\_\_\_ br & fht
- (9) SECONDARY-TWO, START PLAY-BASKETBALL, HAVE-COMPETITION [HKSL]  
 FARE-BETTER-THAN  
 'At secondary two (= grade 8), I started playing basketball and had competitions; I was better than (other senior schoolmates).'

In contrast to HKSL, in NGT and Russian Sign Language (RSL) both aboutness topics (10a) and scene-setting topics (10b) can be marked by eyebrow raise (Kimmelman, in prep.). However, neither of the two types of topics is obligatorily marked; in fact, the majority of topics remains unmarked. Furthermore, with respect to aboutness topics, the NGT and RSL data reveal another contributing factor: only shifted aboutness topics in these two SLs can be marked by eyebrow raise.

- (10) a. \_\_\_\_\_ br  
 IX CAT IX, THINK [RSL]  
 'The cat thinks.'
- \_\_\_\_\_ br
- b. IX WALL, RAIN PIPE [RSL]  
 'There is a rain pipe on the wall.'

Taken together, the data from different SLs reveal (i) that topics are commonly, but not consistently, marked by non-manual domain and boundary markers, (ii) that different types of topics may be accompanied by subtly different domain markers, and (iii) that SLs may differ with respect to the form and frequency of the markers employed.

### 41.3.3 Topic stacking

In his study on ASL topics, Ingram (1978) points out that topic NPs may combine with temporal and/or locative phrases to form what he calls the 'theme' of the sentence. Put

differently, he may have been the first one to observe that argument and adjunct topics may be stacked, as shown in (11) (adapted from Ingram 1978:204).<sup>6</sup>

- (11)  $\text{_____top}$   
LONG-TIME-AGO, GIRL SMALL, DECIDE WALK IN WOODS [ASL]  
‘A long time ago a little girl decided to walk in the woods.’

Aarons (1994) further investigated the possibilities of topic stacking in ASL. She finds that there is a maximum of two topics adjoined to CP and also describes some interesting combinatorial constraints. First, she observes that two base-generated topics of the types presented in (4) may be combined, as illustrated in (12) (Aarons 1994:176). However, while in (12a), the order of the two topics, neither of which is co-referential with an argument of the verb, is free, in (12b), reversal of the two topics would lead to ungrammaticality; that is, a topic which is co-referential with an argument of the clause (JOHN) must precede a topic which is in a class-member relationship with an argument of the clause (VEGETABLE).

- (12) a.  $\text{_____tm2} \quad \text{_____tm2}$   
VEGETABLE, CHINA IX, PEOPLE PREFER BROCCOLI [ASL]  
‘As for vegetables, in China, people prefer broccoli.’
- b.  $\text{_____tm2} \quad \text{_____tm2}$   
JOHN<sub>i</sub>, VEGETABLE, IX<sub>i</sub> PREFER ARTICHOKE [ASL]  
‘As for John, as far as vegetables are concerned, he prefers artichokes.’

Second, grammaticality judgments by native signers indicate that two moved topics can never co-occur, irrespective of order, as shown by the ungrammaticality of (13a) (Aarons 1994:179). Third, when it comes to the combination of a base-generated and a moved topic, only the sequence of base-generated topic followed by moved topic appears to be marginally acceptable (13b), while the reverse order is judged ungrammatical (Aarons 1994:177).

- (13) a.  $\text{_____tm1} \quad \text{_____tm1}$   
\* JOHN<sub>i</sub>, MARY<sub>j</sub>, t<sub>i</sub> LOVE t<sub>j</sub> [ASL]  
‘John, Mary, he loves her.’
- b.  $\text{_____tm2} \quad \text{_____tm1}$   
? JOHN<sub>i</sub>, MARY<sub>j</sub>, IX<sub>i</sub> LOVE t<sub>j</sub> [ASL]  
‘As for John, Mary he loves.’

Crasborn et al. (2009) discuss topic stacking from a different perspective, focusing not on the co-occurrence of moved and base-generated topics but rather on the combination

<sup>6</sup> The example actually comes from a study on pauses in ASL by Grosjean and Lane (1977). Ingram does not provide the non-manual marker in his gloss, but points out that the constituent GIRL SMALL carries a non-manual topic marker. The commas reflect pause durations as measured by Grosjean and Lane.



## 41.4 Focus – background distinction

Although the focus – background distinction in SLs has been explored in less detail than topics, the expression of focus has been relatively well studied for ASL (Wilbur 1994, 1996; Neidle 2002), and some data is available for other sign languages, including Brazilian SL (*Língua de Sinais Brasileira*, LSB: Nunes & de Quadros 2008) and NGT (Van der Kooij et al. 2006); for an overview, see also Wilbur (2012). Based on the available data from these languages, we first address types of focus in Section 41.4.1; this will be followed by a discussion of non-manual marking of focus in Section 41.4.2, while the association with focus will be reviewed in Section 41.4.3.

### 41.4.1 Types of focus

It has been shown that different types of focus, including information focus, contrastive focus, and emphatic focus, each have a different means of expression across SLs. Crucially, just like topics, all three types of focus can be expressed both syntactically and non-manually (see Section 41.4.2 below). Before addressing the three types of focus, we should briefly address the relation between focus and stress in SLs. As in many spoken languages, the focused constituent in SLs generally has to be stressed (Wilbur 1994, 1999). Despite a disagreement among researchers as to how exactly stress is realized in different SLs, the most common features of a stressed sign are longer duration, larger movement trajectory, and higher velocity of the movement (Wilbur 1999; Van der Kooij et al. 2006; Van der Kooij & Crasborn 2012). As Van der Kooij and Crasborn (2012) point out, there is no research on potential analogues of focus projection in sign languages.

#### 41.4.1.1 Information focus

As for the first type of focus under consideration, information focus is often not marked syntactically (Lillo-Martin & de Quadros 2008), which means that the constituent expressing information focus remains *in situ*, as in (16a), which could be an answer to the question ‘What did you read?’. However, in ASL the focused constituent can optionally be moved to a clause-initial position – SpecFocP in Neidle (2002) and Lillo-Martin & de Quadros (2008). The example in (16b) illustrates the co-occurrence of a left-peripheral information focus (BANANA) with a base-generated topic (FRUIT). As pointed out by Lillo-Martin and de Quadros (2008:169), this sentence could be uttered

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the fact that examples like (13b) are only marginally acceptable and (ii) that they wrongly claim that the combination of two base-generated (aboutness) topics is ungrammatical in general (see (12b)).



construction. As for the first (question) part, they argue that it is an embedded interrogative and not a relative clause, as ASL relative clauses never contain *wh*-words. In addition, they show that the question part can also be a polar question. As for the second (answer) part, they provide evidence that it actually is a partially elided declarative clause. For illustration, consider the example in (17b), which includes a polar question in the first part and the optionally omitted material in the second part (Caponigro & Davidson 2011:336).

#### 41.4.1.2 Contrastive focus

With respect to the second type of focus, contrastive foci in SLs are also often marked by topicalization, as has already been mentioned in the context of example (5). Aarons (1994), for instance, has shown that in ASL, topicalization can be used to express contrast, as illustrated in (18) (Aarons 1994:159; example slightly adapted).

- (18) JOHN<sub>i</sub> NOT-LIKE JANE.                 <sup>tm1</sup> MARY<sub>j</sub>, INDEX<sub>i</sub> LOVE *t<sub>j</sub>*.      [ASL]  
           ‘John doesn’t like Jane. *Mary* he loves.’

Lillo-Martin and de Quadros (2008) also claim that in ASL and LSB, the constituent which is in contrastive focus is moved to the focus projection in the left periphery of the sentence. As pointed out previously, however, Wilbur (1997) has suggested that a left-peripheral contrastive constituent can either be a contrastive focus or a contrastive topic. This implies that topicalization as a syntactic mechanism is used to express a variety of meanings, and not just contrastive focus.

Interestingly, syntactic marking of contrast can also be achieved by certain modality-specific means, in particular, by making use of the signing space or the two manual articulators. As for the former, two referents that are contrasted can be localized in opposite locations in the signing space, and this strategy alone can yield a contrastive reading in SLs. Moreover, contrasted referents may trigger the use of a so-called ‘dominance reversal’ (Frishberg 1985).

Dominance reversal is a phenomenon connected to the fact that signers usually use one hand more actively than the other, so that one-handed signs, for instance, are signed with this dominant hand (‘dh’). However, sometimes the roles of the hands are switched with the non-dominant hand (‘ndh’) becoming more active. According to Frishberg, this strategy can be applied in order to separate a topic (signed with one hand) from the comment (signed with the other hand), as in the Jordanian SL (*Lughat il-Ishaara il-Urdunia*, LIU) example in (19a) (Hendriks 2007:250), but it may also serve the purpose of contrasting referents, as in the NGT example in (19b) (adapted from Van der Kooij & Crasborn 2012). The latter use implies that referents localized contrastively (to the right and to the left of the signer) can be signed with two different hands, leading to the dominance reversal.

- (19) a. dh: MULTI-COLOURED-COAT [LIU]  
 ndh: BEAUTIFUL GOOD  
 ‘The multi-coloured coat was beautiful and good.’
- $\frac{\text{neg}}{\quad} \quad \frac{\text{hn}}{\quad}$
- b. dh: NO SON IX SELF IX [NGT]  
 ndh: NO WIFE  
 ‘No, it’s not my wife, it’s my son [who went to the movies]’

In addition to syntactic marking, contrastive focus or, more generally, contrast is usually marked non-manually. The non-manual marking associated with it can be the same as the one that is associated with information focus (Lillo-Martin & de Quadros 2008), but contrastive focus appears to be marked more consistently (and other special means are also available, see Section 41.4.2).

#### 41.4.1.3 Emphatic focus

Turning to the last type of focus, emphasis in SLs is usually connected to the phenomenon of doubling, which means that a constituent referring to the same object/activity appears twice within a single clause, as illustrated for the modal verb CAN in the LSB example in (20) (de Quadros 1999; cited in Nunes & de Quadros 2008:178).

- (20) I (CAN) GO PARTY  $\frac{\text{hn}}{\quad}$  CAN [LSB]  
 ‘I *can* go to the party.’

This phenomenon has been described for many SLs, including ASL, LSB, and HKSL (Sze 2008b). According to Nunes and de Quadros (2008), doubling in ASL and LSB is used to express emphasis and it surfaces when two copies of a moved constituent are overtly realized. Alternative analyses of doubling have been proposed by Petronio (1991), who connects doubling to all types of focus, and by Fischer and Janis (1990), who argue that doubling is motivated by morphosyntactic factors. Recently, Kimmelman (2012) has proposed a unified account of doubling in RSL and NGT. Based on the observation that different types of constituents – from pronouns to full clauses – can be doubled, he claims that doubling in these two sign languages serves for foregrounding of both topical and focal information, both at the syntactic and discursive level.

Although prominent across SLs, doubling as a grammatical phenomenon is not unique to the visual-gestural modality. Kandybowicz (2007) has shown that it occurs in many spoken languages from different language families, and that it fulfills similar functions related to IS: emphasis, contrast, or polarity.

#### 41.4.2 Non-manual marking

Similar to topics, foci in SLs can be marked non-manually. Interestingly, non-manual marking of foci is in many respects similar to non-manual marking of topics. For instance, according to Lillo-Martin and de Quadros (2008), different types of focus (information, contrastive, and emphatic) in ASL and LSB are consistently marked by eyebrow movement and a backward head tilt; judging by pictures provided in their article, contrastive focus is also marked by a forward head tilt. In other SLs, similar non-manual markers have been observed. In DGS, for instance, replacing and corrective foci are marked by raised eyebrows and head tilts and movements, while information and selective foci are not consistently marked (Waleschkowski 2009). In addition, Van der Kooij and Crasborn (2012) claim that information and contrastive foci in NGT can be marked by a large number of non-manuals. In particular, all kinds of focus are characterized by eye contact between the signer and the addressee and mouth actions; focus can be also marked by body leans, head tilt, head nods, and brow raise.

Until recently, it was largely unknown how exactly different non-manual markers interact with each other. Lately, however, the importance of this question is being understood. For instance, Van der Kooij and Crasborn (2012) discuss the possibility that in NGT, raised eyebrows, open eyes, and backward head tilts are all realizations of an abstract phonological feature [open up!]. It would therefore be insightful to study the features that can have multiple phonetic realizations and find out their IS-related functions.

In addition to non-manual markers that are used to mark both topics and foci, there are non-manual markers associated specifically with focus and contrast, namely body leans and contrastive spatial localizations. Wilbur and Patschke (1998) have found that forward and backward body leans in ASL serve to mark inclusion vs. exclusion in general, and, more specifically, that they may also mark stress, accompany the focus particles *EVEN* and *ONLY*, and mark focus and contrast. According to Van der Kooij et al. (2006), body leans fulfill similar functions in NGT: in particular, the focus particles *only* and *also* are accompanied by backward and forward leans, respectively. Unlike ASL, however, in NGT contrast is expressed by left- vs. rightward body leans, as shown in (21), where two actions are contrasted (Van der Kooij et al. 2006:1607, slightly adapted).

- \_\_\_\_\_ lean leftward      \_\_\_\_\_ lean rightward  
\_\_\_\_\_ headshake
- (21) NO, INDEX RIDE-BIKE, INDEX ASL STUDY, INDEX [NGT]  
'No, he is not out biking, he is studying ASL.'



Non-manual contrast marking by sideward body leans is probably a manifestation of a more general strategy, namely localizing contrasted referents in opposite areas in the signing space, as discussed in Section 41.4.1.2. By leaning towards these contrastive locations, the signer further emphasizes the contrast. Actually, the same contrastive opposition is also manifest in dominance reversals.

The fact that three related strategies – body leans, contrastive localization, and dominance reversal – are used to express contrast in SLs may be an argument in favor of considering contrast a separate notion of IS, and not a subtype of focus (see chapter 15). However, Van der Kooij and Crasborn (2012) have suggested that in longer stretches of discourse, these strategies can be used to mark focus (without contrast) as well. Therefore this question requires further research, in particular, the analysis of data from various SLs.

### 41.4.3 Focus particles

Focus-sensitive particles, such as *only* and *also*, also exist in SLs. These particles have, for instance, been claimed to exist in ASL (Wilbur 1994) and NGT (Van der Kooij et al. 2006). Herrmann (2011) investigates and compares the use of focus particles in NGT, DGS, and Irish SL, describing both similarities and differences between the three languages. Manually expressed particles are usually associated with non-manual marking. Focus particles are often marked by non-manuals connected to focus, such as eyebrow raise and head tilt, as well as by additional markers. For instance, the manual sign ONLY in ASL and NGT is often accompanied by a backward body lean, while the particle ALSO is usually accompanied by a forward body lean (Wilbur & Patschke 1998; Van der Kooij et al. 2006). Moreover, these non-manuals alone can express the relevant meaning, that is, the manual sign is optional, as is evident from example (22) (Van der Kooij et al. 2006:1603).

- forward
- (22) NEWSPAPER, BOOK INTERESTING [NGT]  
 ‘The newspaper, but also the book, is interesting.’

According to Herrmann (2011), particles expressing meanings similar to *only* and *also* are present in many SLs; however, a particle that is functionally equivalent to *even* has not yet been found in any SL. The emphatic meaning connected to this latter particle in spoken languages can only be expressed non-manually in SLs, or by a non-manual combined with a manual particle with a different function. For example, in DGS, the emphatic non-manual expression can be combined with the sign ALSO, yielding the emphatic meaning (23) (Herrmann 2011:251, slightly adapted; PF stands for a particle, ‘g-pu’ for a palm-up gesture).

- |      |                                      |              |                     |      |       |
|------|--------------------------------------|--------------|---------------------|------|-------|
|      | <u>hn+br</u>                         | <u>tense</u> |                     |      |       |
|      |                                      | _____        | even                |      |       |
| (23) | TIM IX <sub>3</sub> BOOK             | ALSO PF      | [READ] <sub>F</sub> | g-pu | [DGS] |
|      | ‘Tim has <i>even</i> read the book.’ |              |                     |      |       |

This fact is interesting from a typological perspective, being an argument for universality of the restrictive and additive particles, but not the emphatic ones. However, the status of the non-manual marker that can serve to express emphatic meaning is not clear as this marker can probably still be considered a lexical manifestation of the corresponding semantics, albeit a non-manual lexeme.

### 41.5 Modality effects

While spoken languages exist in the auditory modality, sign languages exist in the visual-spatial modality. Furthermore, SLs use several partially independent articulators to transfer information, namely the two hands, the torso, the head, the lips, and the eyebrows, among others. Therefore it is always important to determine whether and, if so, how modality influences structure and functioning of a sign language. Separating modality-specific from modality-independent properties of languages is also crucial to the quest for linguistic universals and our understanding of the linguistic capacity in general. For this reason, we will briefly summarize the possible modality effects in the field of IS in SLs.

The first major modality effect that appears in connection to IS is the crucial role of non-manual marking. It has been claimed that non-manual marking in SL is in many respects parallel to intonation (pitch movement) in spoken languages (Pfau & Quer 2010). However, despite the parallels, non-manual marking is formally much more elaborate than intonation due to the availability of multiple articulators. These different articulators are commonly used to express several separate bits of information simultaneously; for instance, eyebrows can mark information focus while a body lean may express contrast at the same time. In addition, several non-manual features can be a realization of a more abstract phonological feature (see Section 41.4.2 above). Furthermore, non-manuals interact with manual signs in a non-trivial way: they can double the meaning of the sign (as in the case of non-manual marking accompanying ONLY or ALSO); they can have a separate meaning (e.g. a sideways body lean that expresses contrast), or they can create a meaning in combination with the manual sign (as in the case of emphatic non-manual marking and the sign ALSO meaning ‘even’). As a result, in SLs the non-manual channel can be employed to express elaborate semantic distinctions in the field of IS.

Another group of effects of modality on IS is connected to the presence of two hands as partially independent articulators, which in principle would allow for expressing two streams of information simultaneously. Due to processing difficulties,

the hands are not always used independently: it is almost impossible to produce or understand two separate utterances at the same time. However, the hands do not always act as one articulator either, and signers can exploit their partial independence to structure information. For instance, dominance reversal can be used to express contrast and also to separate the topic, signed with one hand, from the comment, signed with the other hand (Frishberg 1985). Moreover, the use of the non-dominant hand in general is probably connected to IS: it may convey less important or backgrounded information and maintain a continuous topic in discourse (Vermeerbergen et al. 2007). Although a few studies are available, the role of the two hands in relation to IS awaits further research.

The third group of effects is connected to the use of space, a hallmark of the grammar of SLs. As mentioned previously, referents are often localized in the signing space, and this localization is connected to topicality (Barberà 2012) and contrast. Furthermore, localization can be realized not only directly (through pointing signs) but also indirectly by means of body leans and dominance reversals. As has already been suggested, these mechanisms may be relevant for the discussion of universality of IS notions (Section 41.4.1.2).

Finally, another interesting difference between SLs and spoken languages has surfaced in the discussion of structures that have been analyzed as wh-clefts, a construction also attested in spoken languages. Recently, however, it has been claimed that these structures actually constitute question-answer pairs of a type not attested in spoken languages (Caponigro & Davidson 2011). It is not clear how this phenomenon can be directly connected to the visual-gestural modality of SLs; however, if it is confirmed that only SLs have such pairs, a modality-specific explanation would be welcome.

To sum up, the discussion in this chapter reveals that across SLs, IS is expressed in ways similar to what has been described for spoken languages. Crucially, the basic IS notions, such as topic and focus, which have been developed based on spoken languages alone, can also be applied to SLs. However, modality, as manifested in multiple simultaneously used articulators and the use of space, also has its effect on IS.

## References

- Aarons, Debra (1994). *Aspects of the Syntax of American Sign Language*. PhD Dissertation, Boston University.
- Baker-Shenk, Charlotte L. (1983). *A Microanalysis of the Nonmanual Components of Questions in American Sign Language*. PhD Dissertation, University of California, Berkeley.
- Barberà, Gemma (2012). 'When Wide Scope is not Enough: Scope and Topicality of Discourse Referents', in M. Aloni, F. Roelofsen, G. Sassoon, K. Schulz, V. Kimmelman, and M. Westera (eds.), *Amsterdam Colloquium 2011* (LNCS 7218). Berlin: Springer-Verlag, 62–71.

- Bos, Heleen (1995). 'Pronoun Copy in Sign Language of the Netherlands', in H. Bos, and T. Schermer (eds.), *Sign Language Research 1994: Proceedings of the Fourth European Congress on Sign Language Research*. Hamburg: Signum, 121–47.
- Caponigro, Ivano, and Davidson, Kathryn (2011). 'Ask, and Tell as Well: Clausal Question-Answer Pairs in ASL', *Natural Language Semantics* 19(4): 323–71.
- Chafe, Wallace (1976). 'Givenness, Contrastiveness, Definiteness, Subjects, Topics, and Point of View', in C. Li (ed.), *Subject and Topic*. New York, NY: Academic Press, 25–55.
- Coerts, Jane (1992). *Nonmanual Grammatical Markers: An Analysis of Interrogatives, Negations and Topicalisations in Sign Language of the Netherlands*. PhD Dissertation, University of Amsterdam.
- Crasborn, Onno, Van der Kooij, Els, Ros, Johan, and De Hoop, Helen (2009). 'Topic Agreement in NGT (Sign Language of the Netherlands)', *The Linguistic Review* 26: 355–70.
- Deuchar, Margaret (1983). 'Is BSL an SVO Language?', in J. Kyle, and B. Woll (eds.), *Language in Sign*. London: Croom Helm, 69–76.
- Fischer, Susan, and Janis, Wynne (1990). 'Verb Sandwiches in American Sign Language', in S. Prillwitz, and T. Vollhaber (eds.), *Current Trends in European Sign Language Research: Proceedings of the 3<sup>rd</sup> European Congress on Sign Language Research*. Hamburg: Signum, 279–94.
- Friedman, Lynn A. (1976). 'The Manifestation of Subject, Object, and Topic in the American Sign Language', in C.N. Li (ed.), *Subject and Topic*. New York: Academic, 125–48.
- Frishberg, Nancy (1985). 'Dominance Relations & Discourse Structures', in W. Stokoe, and V. Volterra (eds.), *SLR '83: Proceedings of the III. International Symposium on Sign Language Research*. Silver Spring, MD: Linstok Press, 79–90.
- Grosjean, François, and Lane, Harlan (1977). 'Pauses and Syntax in ASL', *Cognition* 5: 101–17.
- Hendriks, Bernadet (2007). 'Simultaneous Use of the Two Hands in Jordanian Sign Language', in M. Vermeerbergen, L. Leeson, and O. Crasborn (eds.), *Simultaneity in Sign Languages: Form and Function*. Amsterdam: Benjamins, 237–55.
- Herrmann, Annika (2010). 'The Interaction of Eye Blinks and Other Prosodic Cues in German Sign Language', *Sign Language & Linguistics* 13(3): 3–39.
- Herrmann, Annika (2011). *Modal and Focus Particles in DGS, NGT and ISL*. PhD Dissertation, Goethe University, Frankfurt/Main.
- Ingram, Robert M. (1978). 'Theme, Rheme, Topic, and Comment in the Syntax of American Sign Language', *Sign Language Studies* 20: 193–218.
- Jacobs, Joachim (2001). 'The Dimensions of Topic-Comment', *Linguistics* 39(4): 641–81.
- Jantunen, Tommi (2007). 'On Topic in Finnish Sign Language'. Manuscript, University of Jyväskylä, Finland.
- Janzen, Terry (1999). 'The Grammaticization of Topics in American Sign Language', *Studies in Language* 23(2): 271–306.
- Johnston, Trevor, and Schembri, Adam (2007). *Australian Sign Language. An Introduction to Sign Language Linguistics*. Cambridge: Cambridge University Press.
- Kandybowicz, Jason (2007). 'On Fusion and Multiple Copy Spell-out. The Case of Verbal Repetition', in N. Corver, and J. Nunes (eds.), *The Copy Theory of Movement*. Amsterdam: Benjamins, 119–50.
- Kimmelman, Vadim (2012). 'Doubling in Russian Sign Language and Sign Language of the Netherlands', in *Proceedings of IATL 27*. Cambridge, MA: MITWPL, 61–86.

- Kimmelman, Vadim (in prep.), 'Topics in Russian Sign Language and Sign Language of the Netherlands'. Manuscript, Universiteit van Amsterdam.
- Kooij, Els van der, Crasborn, Onno, and Emmerik, Wim (2006). 'Explaining Prosodic Body Leans in Sign Language of the Netherlands: Pragmatics Required', *Journal of Pragmatics* 38: 1598–1614.
- Kooij, Els van der, and Crasborn, Onno (2012). 'The Phonology of Focus in Sign Language of the Netherlands', to appear in *Journal of Linguistics*.
- Li, Charles N., and Thompson, Sandra A. (1976). 'Subject and Topic: A New Typology of Language', in C. Li (ed.), *Subject and Topic*. New York, NY: Academic Press, 457–89.
- Liddell, Scott K. (1980). *American Sign Language Syntax*. The Hague: Mouton.
- Lillo-Martin, Diane, and Meier, Richard P. (2011). 'On the Linguistic Status of 'Agreement' in Sign Languages', *Theoretical Linguistics* 37(3/4): 95–141.
- Lillo-Martin, Diane, and Quadros, Ronice M. de (2008). 'Focus Constructions in American Sign Language and Lingua de Sinais Brasileira', in J. Quer (ed.), *Signs of the Time. Selected Papers from TISLR 8*. Hamburg: Signum, 161–76.
- McIntire, Marina (1982). 'Constituent Order and Location in ASL', *Sign Language Studies* 37, 345–86.
- Meier, Richard P. (2002). 'Why Different, Why the Same? Explaining Effects and Non-effects of Modality upon Linguistic Structure in Sign and Speech', in R.P. Meier, K.A. Cormier, and D.G. Quinto-Pozos (eds.), *Modality and Structure in Signed and Spoken Languages*. Cambridge: Cambridge University Press, 1–25.
- Neidle, Carol (2002). 'Language across Modalities: ASL Focus and Question Constructions', *Linguistic Variation Yearbook* 2: 71–98.
- NGC/Nederlands Gebarententrum (2002). *Basisgrammatica Nederlandse Gebarentaal* (CDRom), NGC & University of Amsterdam: Bunnik & Amsterdam.
- Nunes, Jairo, and Quadros, Ronice M. de (2008). 'Phonetically Realized Traces in American Sign Language and Brazilian Sign Language', in J. Quer (ed.), *Signs of the Time. Selected Papers from TISLR 8*. Hamburg: Signum, 177–90.
- Padden, Carol (1988). *Interaction of Morphology and Syntax in American Sign Language*. New York: Garland.
- Perniss, Pamela, Pfau, Roland, and Steinbach, Markus (2007). 'Can't You See the Difference? Sources of Variation in Sign Language Structure', in P. Perniss, R. Pfau, and M. Steinbach (eds.), *Visible Variation: Comparative Studies on Sign Language Structure*. Berlin: Mouton de Gruyter, 1–34.
- Petronio, Karen (1991). 'A Focus Position in ASL', in J.D. Bobaljik, and T. Bures (eds.), *Papers from the Third Student Conference in Linguistics 1991 (MIT Working Papers in Linguistics 14)*. Cambridge, MA: MITWPL, 211–25.
- Pfau, Roland (2012). 'Manual Communication Systems: Evolution and Variation', in R. Pfau, M. Steinbach, and B. Woll (eds.), *Sign Language. An International Handbook*. Berlin: Mouton de Gruyter, 513–51.
- Pfau, Roland, and Quer, Josep (2010). 'Nonmanuals: Their Prosodic and Grammatical Roles', in D. Brentari (ed.), *Sign Languages (Cambridge Language Surveys)*. Cambridge: Cambridge University Press, 381–402.
- Pfau, Roland, and Steinbach, Markus (2011). 'Grammaticalization in Sign Languages', in H. Narrog, and B. Heine (eds.), *The Oxford Handbook of Grammaticalization*. Oxford: Oxford University Press, 683–95.

- Puglielli, Annarita, and Frascarelli, Mara (2007). 'Interfaces: The Relation between Structure and Output', in E. Pizzuto, P. Pietrandrea, and R. Simone (eds.), *Verbal and Signed Languages. Comparing Structures, Constructs, and Methodologies*. Berlin: Mouton de Gruyter, 133–67.
- Rosenstein, Ofra (2001). *Israeli Sign Language – a Topic Prominent Language*. MA Thesis, Haifa University.
- Sandler, Wendy (2011). 'Prosody and Syntax in Sign Languages', *Transactions of the Philological Society* 108(3): 298–328.
- Slobin, Dan I. (in press). 'Typology and Channel of Communication: Where Do Signed Languages Fit in?', in B. Bickel, L. Grenoble, D.A. Peterson, and A. Timberlake (eds.), *What's Where Why? Language Typology and Historical Contingency: A Festschrift to Honor Johanna Nichols*.
- Sze, Felix Y.B. (2008a). 'Blinks and Intonational Phrasing in Hong Kong Sign Language', in J. Quer (ed.), *Signs of the Time. Selected Papers from TISLR 2004*. Hamburg: Signum, 83–107.
- Sze, Felix Y.B. (2008b). *Topic Constructions in Hong Kong Sign Language*. PhD Dissertation, University of Bristol.
- Sze, Felix Y.B. (2011). 'Nonmanual Markings for Topic Constructions in Hong Kong Sign Language', *Sign Language & Linguistics* 14(1): 115–47.
- Todd, Peyton (2008). 'ASL 'Topics' Revisited', *Sign Language & Linguistics* 11(2): 184–239.
- Vermeerbergen, Myriam, Leeson, Lorraine, and Crasborn, Onno (eds.) (2007). *Simultaneity in Sign Languages: Form and Function*. Amsterdam: Benjamins.
- Waleschkowski, Eva (2009). 'Focus in German Sign Language', Poster presented at the Workshop 'Nonmanuals in Sign Languages', Frankfurt am Main.
- Wilbur, Ronnie B. (1994). 'Foregrounding Structures in ASL', *Journal of Pragmatics* 22: 647–72.
- Wilbur, Ronnie B. (1996). 'Evidence for the Function and Structure of Wh-clefts in American Sign Language', in W.H. Edmondson, and R.B. Wilbur (eds.), *International Review of Sign Linguistics*. Mahwah, NJ: Erlbaum, 209–56.
- Wilbur, Ronnie B. (1997). 'A Prosodic/Pragmatic Explanation for Word Order Variation in ASL with Typological Implications', in K. Lee, E. Sweetser, and M. Verspoor (eds.), *Lexical and Syntactic Constructions and the Constructions of Meaning*. Amsterdam: Benjamins, 89–104.
- Wilbur, Ronnie B. (1999). 'Stress in ASL: Empirical Evidence and Linguistic Issues', *Language and Speech* 42(2–3): 229–50.
- Wilbur, Ronnie B. (2012). 'Information Structure', in R. Pfau, M. Steinbach, and B. Woll (eds.), *Sign Language. An International Handbook*. Berlin: De Gruyter Mouton, 462–89.
- Wilbur, Ronnie B., and Patschke, Cynthia G. (1998). 'Body Leans and the Marking of Contrast in American Sign Language', *Journal of Pragmatics* 30: 275–303.