Focus constructions in Catalan Sign Language (LSC)

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Abstract

Information structure (IS) notions are present in all human languages, spoken or signed, and are the key to understand how we human organize information in discourse. Due to the fact that signed languages research is very recent, IS notions, such as the focus-ground and the topic-comment distinctions, have not been not described in such an accurate way as they have been in many spoken languages. For Catalan Sign Language (LSC), few studies are found regarding IS notions. Hence, the main goal of the present study is to provide a basic description of the main syntactic and prosodic strategies used to express focus in Catalan Sign Language (LSC). The data analyzed in this study have been collected through elicitation tasks and also through consultation of the LSC corpus, which is currently being annotated. In addition, an overview on the main linguistic studies on IS in SLs is offered.

**Keywords:** information structure (IS); focus-ground; topic-comment; Catalan Sign Language (LSC); sign languages (SLs); syntax; prosody; non-manual markers (NMMs).
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List of glossing annotation conventions

MAN                      Lexical sign
1-HELP-3                 Directional verb with agreement 1st and 3rd person ‘I help him/her’.
DRINK-WITH-A-STRAW       Translation equivalent to a single sign
IX                       Index sign
IX1                      First person pronoun
IX2                      Second person pronoun
IX3                      Third person pronoun
[MAN]ₖ                   Focus scope
________________________ Non-manual marking scope
_____rb                   Raised eyebrows
_____fb                   Furrowed eyebrows
_____nb                   Neutral eyebrow movement
_____hn                   Head nod
_____hs                   Head shake
_____ht                   Head tilt
_____hthr                 Head thrust
_____neg.shake            Negative headshake
_____left-bl              Leftward body lean
_____right-bl             Rightward body lean
_____forward-bl           Forward body lean
____backward-bl           Backward body lean
___________rhq            Rhetorical question
Sub index (x, y)          Locations in manual signing space
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1. Introduction

For the last 40 years many linguistic studies have been conducted to show that sign languages are human languages expressed through the visual-gestural modality. As natural languages, SLs also present different ways of packaging information in discourse. Information Structure (IS) notions such as the topic-comment and the focus-ground distinctions are present and relevant in SLs as well as in spoken languages (Kimmelman & Pfau, in press). Some linguists have also shown that many sign languages (SLs) use syntax and prosody for purposes of information packaging. However, research in this field is very recent, and many aspects of IS have not been studied yet in detail. By contrast, many spoken languages have been described regarding information structure. Catalan, for instance, exploits syntax and intonation for information packaging purposes, syntax having a main role in this matter. The present study is aimed at contributing to the description of one of the aspects of IS in Catalan Sign Language (LSC): the expression of focus.

The structure of this study is the following: section 1 presents a brief introduction to sign languages (SLs) and Catalan Sign Language (LSC), as well as a basic description of the main notions of IS. Section 2 provides some of the previous research done in IS for both spoken languages (OLs) and sign languages (SLs). Section 3 explains the methodology used in this study for collecting the data. Section 4 presents the analysis done for LSC based on elicited data and corpus data. Finally, in section 5 conclusions and future research are explained.

1.2. Sign languages and Catalan Sign Language (LSC)

Sign languages (SLs) are natural languages that can be analyzed at the phonological, morphological, syntactic and discourse level, just as any other spoken language of the world (Quer, 2004). The Ethnologue\(^1\) list includes 114 SLs from different countries all over

\(^1\)[http://www.ethnologue.com](http://www.ethnologue.com)
the world. Catalan Sign Language is one of them. However, there are many SLs that have not been identified and studied yet (Quer, 2004).

Catalan Sign Language (LSC) is the language of the Signing Deaf and Deaf-blind community in Catalonia. This community is formed by around 25,000 signers, from which 12,000 are deaf (Quer, 2010). LSC is legally recognized in Spain together with Spanish Sign Language (LSE), however, in Catalonia, signers use only LSC, so there is no bilingualism LSC-LSE (Barberà, 2012). The Catalan Parliament, approved a law in 2010 (Llei 17/2010) in which the right to use LSC is recognized (Quer, 2010). Following this law, Institut d’Estudis Catalans – the Catalan Academy, in charge of the normativization and normalization of the Catalan languages – was assigned the responsibility of normalizing, normativizing, and promoting research on LSC in Catalonia.

1.3. Information structure

Information structure (IS) (also called information packaging) is the general term used to describe “the structuring of sentences by syntactic, prosodic, and morphological means that arises from the need to meet the communicative demands of a particular context or discourse” (Vallduví & Engdahl, 1996). Given a context, speakers package information in different ways that adapt to different mental states (Vallduví, 1995).

Moreover, speakers must consider several factors in order to organize the pieces of information in their discourse: (1) the general knowledge of the addressee, (2) the knowledge of the addressee related to prior conversations with him/her, and (3) the knowledge of the addressee given prior mention in the current discourse (Wilbur, 2012). Given these factors, speakers must decide if the information is either given, that is old or ‘not new’ information, or new information.
There is a lot of diverse terminology used to name the different concepts or notions that form IS. However, all the proposals can be reduced to two main distinctions: topic-comment and focus-ground (Vallduví & Engdahl, 1996).

1.4. Topic-comment distinction

Generally, the term topic refers to the part of the sentence that presents what the sentence is about, and the term comment refers to the update presented on that topic. Moreover, it is argued that topics usually present old information. Furthermore, as Vallduví & Engdahl (1996) claim, there are different definitions of the term topic at the conversational level. For instance, topicality can be considered as “a measure of the salience of a discourse entity that reflects the status of that entity with respect to its presence or absence in the previous discourse” (Givón, 1983, as cited in Vallduví, 1992). In addition, the terms topic-comment and theme-rheme are often used to differentiate topic and focus, topic being the old information, and focus the new information in the discourse. However, sometimes new information can be placed in a topic position, and, moreover, we can also find that not all the given information is a topic.

Vallduví & Engdahl (1996) argue that the use of the term topic is a terminological minefield. However, they find it clear that the topic is the portion of the discourse which acts as an anchor to the previous discourse or the hearer’s mental world, and the comment is the one that makes some new contribution. For the purpose of the present study we will assume these definitions from Vallduví & Engdahl (1996).

1.5. Focus-ground distinction

The focus is commonly defined as the part of the sentence that presents new, dominant, or contrary-to-expectation information in the discourse. By contrast, the ground refers to the part of the sentence that provides the shared information (Vallduví & Engdahl, 1996).
Focus can be classified into different types. Wilbur (2012) distinguish three main types: (1) information focus, (2) contrastive focus, and (3) emphatic focus. Regarding contrastive focus, further classifications are found in the existing literature. Kimmelman (2014), for instance, subdivides contrastive focus into two further subtypes: selective focus and corrective focus. Additionally, focus constructions can be distinguished depending on their scope: narrow focus vs. broad focus (Wilbur, 2012). All these types of focus are further described in more detail in section 2.6.

For the purpose of the present study, the notion of contrast in contrastive focus is treated as a characteristic of some types of focus, namely selective and corrective focus. Therefore, in this work, focus constructions in LSC are classified and described following the next categorization: information focus, contrastive focus (subdivided into selective focus, and corrective focus) and emphatic focus.²

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² Also found as ‘completive focus’ in the existing literature.
³ This classification is based in the classification used by Kimmelman (2014)
2. State of the art

In this section, an overview of the main research done until now on IS notions both in spoken languages and in sign languages is presented. Firstly, some of the studies on IS done in spoken languages are briefly presented, including both topic-comment and focus ground distinctions. Secondly, previous research on IS for SLs is presented following the same organization. Note that special attention is given to focus-ground distinction, which is the main “focus” of this study.

2.1. Information structure in OLs

IS notions in spoken languages can be linked to syntax as well as to intonation, or even to morphology. Some languages like English are known as [+plastic]. In these languages the elements that have prominence in a sentence may be marked by intonation and stress patterns. For example, English allows having the same word order to express different information packaging (Vallduví, 1990), as illustrated in (1), where the part of the sentence that presents new information is highlighted with capital letters.

(1) a. The boss hates BROCCOLI.
   b. The boss HATES broccoli.

   (Vallduví, 1990)

However, other languages like Catalan are known as [-plastic], because they do not allow changes in the stress patterns to convey information packaging. Instead, these languages use variations in syntax to mark topicalized elements (Vallduví, 1990), as well as focused elements, as exemplified in (2).

(2) a. L’amo odia el BRÒQUIL.
   b. L’amo l’ODIA, el bròquil.

   (Vallduví, 1990)
Vallduví & Engdahl (1996) point out that there is some overlap between topic-comment and focus-ground distinctions, as illustrated in the examples (3-5) below, where topic is marked by italics, and focus by capital letters.

(3) What about Mary? What did she give to Harry?
   She [C gave [b a SHIRT] to Harry.]

(4) What about Mary? What did she do?
   She [C gave a shirt to HARRY.]

(5) What about Harry? What did Mary give to him?
   To Harry she gave [b a SHIRT]
   (Vallduví & Engdahl, 1996)

The answers to the examples above are all truth-conditionally equivalent, but differ in the way they package information. Moreover, these examples show that the topic-comment and the focus-ground distinctions complement each other in order to account for different empirical facts (see Vallduví & Engdahl, 1996 for an overview).

2.2. Topic-comment distinction in OLs

As mentioned in section 1.4, the notion of topic is defined in many different ways in the existing literature. On the one hand, one extended definition for topic is the following: “the most general characteristic of predicative constructions is suggested by the terms ‘topic’ and ‘comment’ for their ICs [immediate constituents]: the speaker announces a topic and then says something about it” (Hocket 1958, as cited in Vallduví & Engdahl, 1996 & Vallduví, 1992). In line with this definition, the notion of topic can also be seen as the portion of information that determines what the sentence is about (Reinhart, 1982; Gundel 1974, as cited in Kimmelman 2014). Sentences (6) and (7) below, from Vallduví (1992),
illustrate this notion of ‘aboutness’ topic, identified as the constituent to the left of the vertical line.

(6) John | ran away.

(7) That new book by Thomas Guernsey | I haven’t read yet.

On the other hand, Vallduví (1992) points out that Reinhart (1982) defined topic through the metaphor of file cards. Namely, Reinhart argued that the topic was represented through a file card under which the comment was stored in the context. Under this view, topic serves the purpose of organizing and classifying information in discourse (Reinhart, 1982, as cited in Vallduví, 1992).

Moreover, according to Gundel (1988), as cited in Vallduví & Engdahl (1996), sentences maybe topicless. These sentences are also called “presentational or news sentences (Schmerling, 1976), neutral descriptions (Kuno, 1972), or thetic sentences (Kuroda, 1972; Sasse, 1987)” (Vallduví & Engdahl, 1996). This kind of sentences are characterized by being all-focus sentences.

2.3. Focus-ground distinction in OLs

As mentioned in section 1.5, the focus is the new information that speakers add to the context of the discourse. Vallduví (1991) claims that the focus is the “information the hearer is instructed to enter into knowledge-store”. Moreover, Vallduví & Engdahl (1996) claim that the focus is considered the part of the sentence that is “informative, newsy, dominant, or contrary-to-expectation”.

In a sentence, the informational focus is almost universally marked by intonation, so that the focused portion of information must be placed in the part of the sentence where the pitch contour is most prominent (cf. Sgall et al. 1984, Lambrecht 1987, inter alia, as cited in Vallduví, 1990). As it was briefly presented in section 1.3., some languages, like Catalan, use
syntax in order to place the focused element in the position where the pitch accent is most prominent, whereas other languages like English, do not undergo syntactic operations, and, instead, they shift the position of the nuclear stress (Vallduví & Engdahl, 1996).

The *ground* is the non-focused information, which indicates the hearer where and how the focus information should be entered into the knowledge store. Vallduví (1990) argues that there are two different types of ground: the *link*, which indicates where the information should be entered, and the *tail*, which, if present, indicates which information should be substituted by the focus. This author then claims that the natural order of information should be link-focus-tail, as illustrated in the following example from English, from Vallduví & Engdahl (1996):

(8) And what about the president? How does *he* feel about chocolate?

[void, The president] [F HATES] [i, chocolate].

For Catalan, Vallduví & Engdahl (1996) argue that only the overt phrases within the core clause correspond to the focus, and the ground appears in a detachment slot external to the core clause. They claim that the elements of the sentence that are not focal are removed by a syntactic operation instead of just changing the stress patterns, as illustrated in (9) below.

(9) Què en fareu, del ganivet?

‘What will you do with the knife?’

[void, El, ficarem al CALAIX].

obj

‘We’ll put it in the drawer.’

(Vallduví & Engdahl, 1996)

Vallduví & Engdahl (1996) also analyse West Germanic (Dutch and German), and Hungarian and Turkish. As for the former, they claim that Dutch and German behave much like English, as they allow a shift in the intonational structure. Hungarian and
Turkish, on the other hand, make use of syntactic strategies, like Catalan, but differ in that they do not remove ground to a position external to the clause. Instead, these languages place focused arguments in a preverbal position, and ground elements may appear either postverbally or in a lefthand position preceding the focus.

Moreover, many spoken languages can express focus constructions through morphological strategies. For instance, Navajo uses the morpheme *ga'* to mark the focused element in a sentence, as exemplified in (10).

(10)  Jáan chidiǐşh yiyíílcho.
John car.Q 3s-past-wreck
‘Did John wreck the CAR?’
NDA. [Jáan] [chidiìs oh ga’] (yiyíílcho).
no John truck F 3s-past-wreck
‘No, John wrecked the ‘TRUCK.’’

(Vallduví & Engdahl, 1996)

In sum, spoken languages make use of syntactic, prosodic, and morphological strategies for focus marking purposes, and IS notions in general.

2.4. Information structure in SLs

As Kimmelman & Pfau (in press) point out, sign languages are fully-fledged natural languages that present different ways of packaging information in discourse. Information Structure (IS) notions such as the topic-comment and the focus-ground distinctions are present and relevant in SLs as well as in spoken languages (Kimmelman & Pfau, in press). Therefore, the existing literature has investigated many aspects of IS such as the topic-comment and the focus-ground distinctions and has found that SLs have different ways of encoding information in discourse that vary from language to language. However, research in this field is very recent, and many aspects of IS have not been studied yet in detail.
Pfau & Quer (2010) claim that “while information structure has to do with the discourse function of a constituent and is pragmatic in nature, topicalization also has an impact on the constituent order and can therefore be located at the syntax-pragmatics interface”. In the same way, Sandler & Lillo-Martin (2006) argue that “sign languages, like spoken Hungarian, Mayan languages, and Catalan, widely exploit syntactic variations as well as prosody for purposes of information packaging”. Moreover, Kimmelman & Pfau (in press) also point out that in SLs, information structure is expressed through syntax and prosody, and sometimes through both in combination, while morphological strategies have not been attested.

In addition, SLs present two important aspects that are relevant for the study of information structure and must be taken into account: the use of signing space and non-manual markers (NMMs) for grammatical purposes (Kimmelman & Pfau, in press). Space is commonly used for referential purposes, and non-manual markers, namely facial expressions, head and body movements, and mouth gestures or vocalizations, are used to express different grammatical functions (Pfau & Quer, 2010). These two aspects are due to the visual-gestural modality of SLs, and thus are not found in the oral-auditory modality of spoken languages.

However, some NMMs can also be found at the prosodic level, assuming prosodic functions that are similar to intonation in spoken languages (Sandler, 2011). Many studies have argued for the existence of suprasegmental phonological structure in SL. These studies claim that prosodic constituents such as phonological word, phonological phrase and intonational phrase can be identified in SLs (Sandler, 1999). As mentioned earlier, these prosodic constituents in the visual modality of SL are expressed by non-manual markers, mainly by facial expressions. As Dachkovsky & Sandler (2012) point out, “the view that facial expression in sign language corresponds to intonation in spoken language...”
has been suggested by a number of researchers (e.g., Nespor & Sandler, 1999; Padden, 1990; Reilly, McIntire, & Bellugi, 1990a, 1990b; Sandler, 1999a, 1999c, 2005; Wilbur, 1991, 2000)."

2.5. **Topic-comment distinction in SLs**

According to Kimmelman & Pfau (in press), topics can be classified in two different ways, depending on their semantics or their syntax. From a semantic point of view, these authors distinguish three types of topics: (1) aboutness topics, which present what the sentence is about, and are generally arguments of the verb; (2) scene-setting topics, which provide a spatial or temporal context, and are generally adjuncts; and (3) contrastive topics, which also refer to information that has been already mentioned in the previous discourse, but unlike aboutness topics, these ones involve a contrast between the topicalized constituent and the previous referent.

From a syntactic point of view, Kimmelman & Pfau (in press) also distinguish three different types of topics: (1) base-generated topics, which are co-referential with a resumptive pronoun within the clause, and are not arguments of the verbs in the core clause; (2) moved (or fronted) topics, which present a movement to the left periphery of the clause, and (3) hanging topics, which are not co-referential with an argument of the clause following it.

Moreover, Pfau & Quer (2010) claim that a strong predominance of sentence-initial position for topics has been noticed in SLs by many researchers. If a topic is in initial position, it may have moved to a position outside the clause (*topicalization*), or it may have been base-generated in this position. In addition, the same authors also point out that sentence topics are realized at the left edge of the clause and are co-articulated with specific non-manual markers, like raised eyebrows, which is considered the basic marking of topics.
Nevertheless, these authors suggest that other non-Manuals can be articulated at the same time, depending on the information structure status of the topic.

In the existing literature, there are some studies in American Sign Language (ASL), Israeli Sign Language (ISL), and Hong Kong Sign Language (HKSL), which describe topic constructions in a more accurate way. For instance, Pfau & Quer (2010) point out that in American Sign Language (ASL), “different types of topics are accompanied by slightly different non-manual markers such as eyes wide open, backwards movement of the head, mouth open, or head jerked up and down (Aarons. 1994)”. Aarons (1994) identifies the following three distinct topic markers:

- **tm1**: raised brows; head tilted slightly back and to the side; eyes widened; head moves down and forward. These topics are considered *moved topics*.

- **tm2**: large movement of head back and to the side; eyes very wide, head moves down and forward. These topics are considered based-generated new information topics.

- **tm3**: head forward, jerked slightly up and down; mouth open; upper lip raised; eyebrows raised; eyes wide open, fixed gaze, slight rapid headnods.” These topics are considered shifted topics.

Moreover, in Israeli Sign Language (ISL), topicalization has also been described in more detail from a prosodic point of view. Nespor & Sandler (1999) argue that topicalized constituents form their own intonational phrases, as we can see in the example (11) below from Quer (in press).

(11) ![Example of ISL Topicalization](image)

Moreover, in Israeli Sign Language (ISL), topicalization has also been described in more detail from a prosodic point of view. Nespor & Sandler (1999) argue that topicalized constituents form their own intonational phrases, as we can see in the example (11) below from Quer (in press).
By contrast to ASL and ISL, Hong Kong Sign Language (HKSL) is not considered a topic prominent language. For HKSL, it has been argued that “only scene-setting topics are marked non-manually, not aboutness topics” (Sze, 2015).

Regarding the language under study, LSC, it has been claimed that basic word order is SOV, and syntax and prosody are used in topicalization and information structure purposes in general, as illustrated in example (12) below from Pfau & Quer (2010), where two sentences with a topicalized constituent are shown.

(12)  

a. ONION, INDEX₁ HATE

   ‘Onions, I hate.’

b. INDEX₁ BROTHER INDEX₃, TOMORROW MORNING, INDEX₃ CAR BUY

   ‘As for my brother, tomorrow morning he will buy a car.’

Pfau and Quer (2010) also describe that in LSC “the topicalized constituent is usually followed by an intonational break, which is marked by a change of different non-manuals simultaneously and possibly an eye blink”. However, for LSC the potential differences in topic markers such as the ones identified in ASL have not been described in detail.

2.6. Focus-ground distinction in SLs

The focus-ground distinction has been less studied in SLs than others aspects of information structure such as topics. Nevertheless, there are studies on focus in American Sign Language (ASL) (Wilbur, 1994, 1996; Neidle, 2002), Brazilian Sign Language (LSB) (Nunes & de Quadros, 2008), and Sign Language of the Netherlands (NGT) (Van der Kooij et al., 2006) as cited in Kimmelman & Pfau (in press).

As in many spoken languages, like English, focus in SL maybe marked also prosodically instead of just syntactically. Moreover, Kimmelman (2014) points out that “the focused
constituent in SL generally has to be stressed (Wilbur 1994, 1999).” Regarding this issue, Kimmelman & Pfau (in press) claim that there is a disagreement among researchers as for describing how signs are stressed in SLs. However, they point out that a stressed sign is mostly characterized by being longer in duration, having a larger movement trajectory, and also higher velocity of the movement.

Moreover, it has been found that different types of focus (information focus, contrastive focus, and emphatic focus), which can be expressed syntactically and non-manually, are encoded in different ways across sign languages (Wilbur, 2012). In the following subsections different types of focus constructions and their variations across SLs are presented.

2.6.1. Information focus

Information focus is the one that provides the exhaustive new information (Wilbur, 2012), and it can be usually identified by question-answer pairs. This type of focus is often expressed *in-situ* with no syntactic marking. However, in ASL the focused element can also be moved to sentence-initial position (Lillo-Martin, 2005), as illustrated in example (13) from Kimmelman & Pfau (in press), where there is a base-generated topic (FRUIT) co-occurring with an information focus placed in the left periphery (BANANA).

(13) \[ \text{t} \quad \text{I-focus} \quad \text{FRUIT, BANANA, JOHN LIKE MORE} \quad \text{[ASL]} \]

‘As for fruit, John likes bananas best.’

For ASL, it has also been argued that the order of words is adjusted “to put a focused item in a position of syntactic prominence, final position, which is also the position for prosodic prominence” (Wilbur, 1997), just as it happens in spoken Catalan. Three types of constructions with focus in final position are described by Wilbur (1997): (1) rhetorical question construction or WH-clefting, which takes the form of a WH-question followed by
an answer, as illustrated in example (14) below; (2) doubling, in which a focused element appears twice: in its usual position and also in sentence-final position (this strategy is used for emphatic focus, and thus will be further addressed in section 2.6.3); and (3) a base-generated construction, in which the prominent item appears in final position, as illustrated in example (15) from Wilbur (1997).

\[(14) \quad \text{rhq} \quad \text{LEE(fs) PAINT WHAT? CHAIR}\_f \quad \text{hn} \quad \text{What Lee painted was the chair.'}\]

\[(15) \quad \text{rb} \quad \text{MY SISTER, DOCTOR}\_f \quad \text{[ASL]} \]

Regarding wh-clefts, Wilbur (1994) considers them as being syntactically and prosodically a single sentence.\(^4\) She claims that these constructions are pseudoclefts which serve the purpose of focusing a constituent, as illustrated in example (14) above. Furthermore, wh-clefting have been also attested as being a focus marker in other SLs such as Spanish Sign Language (LSE) (Morales-López et al., 2012), NGT, and RSL (Kimmelman, 2014).

2.6.2. Contrastive focus

Kimmelman (2014) points out that “contrastive focus occurs when the context provides overt alternatives to the alternative in focus in a particular sentence”, and he also adds that in SLs, contrastive focus is also often marked by topicalization, that is to say, moving the constituent to the left of the sentence. Moreover, Kimmelman (2014) argues that some SLs use contrastive spatial locations for the expression of contrasted referents. The two contrasted referents can be localized on the opposite sides of the signing space (left and right), or the signer can localize them by body leans towards each side. Furthermore, contrast can be expressed through dominance reversal. This phenomenon takes place when

\(^4\) Traditional analysis treats wh-clefting as a rhetorical question followed by a separate answer (Baker-Shenk, 1983, as cited in Wilbur, 1994).
the non-dominant hand of the signer becomes active, and it implies that referents localized contrastively (to the right and to the left of the signer) can be signed with two different hands. As mentioned in section 1.5, Kimmelman (2014) distinguishes two types of contrastive focus: selective focus and corrective focus. However, other classifications can be found in the existing literature regarding the notion of contrast.

For ASL, Schlenker et al. (2016) complement Wilbur (1999) –who establishes that focus in ASL is preferably realized by movement– and show cases of ASL focus constructions in which only prominence and non-manuals serve for the purpose of realizing contrastive and exhaustive focus.5 In these cases, syntactic movement is not applicable, and thus prosody is used alone to express focus, as illustrated in (14) where the sign ‘Bill’, which is articulated as a trembling fingerspelled letter, receives focus marking by means of prosody alone. Schlenker et al. (2016) claim that as these names are semantically conjoined one does not expect any syntactic movement.

\[(16)\]

Context: The speaker is trying to teach groups of students to work together.

```
TODAY IX-1 SEVERAL MEETING-rep FIRST MEETING ANN CHARLES EDITH DENIS FINISH
ANN BILL EDITH DENIS
```

‘Today I have several meetings. My first meeting is with Ann, Charles, Edith, and Denis, then with Ann, Bill, Edith, and Denis.’

These authors showed the same results for French Sign Language (LSF), which is historically related to ASL –as both languages come from Old French Sign Language. Namely, they found that contrastive focus was marked with raised eyebrows in both languages; forward body leans were found only in ASL, and, in LSF, head nods with greater sign amplitude were used instead. Moreover, Schlenker et al. (2016) claim that

---

5 Exhaustive focus understood as “embedded focused elements that trigger exhaustive readings in the scope of other operators and that would require the insertion of exhaustivity operators –with clear truth-conditional consequences” (Schlenker et al., 2016)
greater sign amplitude is also a common feature of ASL contrastive focus, as well as longer hold times and speech accelerations, which were seen in both languages.

Regarding exhaustive focus, Schlenker et al. (2016) found that raised eyebrows and greater sign amplitude was common in both languages, accompanied by forward body leans in ASL and head nods in LSF. They also found that in ASL exhaustive focus was sometimes marked by a longer hold time or speed acceleration.

For NGT, Kooij et al. (2006) argue that leftward and rightward body leans are present in corrective focus sentences, as well as left-right spatial contrast, as illustrated in example (15) from Kooij et al. (2006).

(17) Lean: _______________ leftward _______________ rightward  
     Head: ___________ neg.shake _______ forward

     NGT: NO, FRIEND INDEX, BROTHER INDEX, SELF INDEX

     English: ‘No, not my friend, it’s my brother [who is learning ASL]’

2.6.3. Emphatic focus

Emphatic focus is used to emphasize an element of the discourse (Wilbur, 2012). This type of focus is usually related with doubling in sign languages (Kimmelman & Pfau, in press). In LSB, Quadros (1999) and Nunes & de Quadros (2008) propose that a focused element is allowed to appear doubled at the right edge of the sentence, as illustrated in example (16) from Quadros (2003).

(18) JOHN NEVER GO NEVER

     ‘John never went to that place’ [LSB]

Moreover, both ASL and LSB present a strong use of sentence-final position for prominence and can appear in the sentence twice: (1) in the usual sentence-internal position, and (2) doubled in the sentence-final position (Lillo-Martin & de Quadros, 2005).
In sum, different SLs have been argued to use different syntactic and prosodic strategies in order to express focus constructions, as summarized in table 1 below. Note that this table is not an exhaustive collection of all the strategies used in these SLs to express focus, but just a summary of some of the strategies reviewed in this section on the basis of the relevant literature.

<table>
<thead>
<tr>
<th></th>
<th>Information focus</th>
<th>Contrastive focus</th>
<th>Emphatic focus</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ASL</strong></td>
<td>Syntax</td>
<td>Wh-clefts</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sentence initial position</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sentence final position (base-generated)</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Prosody</td>
<td>-</td>
<td>Raised eyebrows</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Forward body leans</td>
</tr>
<tr>
<td><strong>LSF</strong></td>
<td>Syntax</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Prosody</td>
<td>-</td>
<td>Longer hold times</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Speech accelerations</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Greater sign amplitude</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Raised eyebrows</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Head nods</td>
</tr>
<tr>
<td><strong>LSB</strong></td>
<td>Syntax</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Prosody</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>NGT</strong></td>
<td>Syntax</td>
<td>-</td>
<td>Left-right spatial contrast</td>
</tr>
<tr>
<td></td>
<td>Prosody</td>
<td>-</td>
<td>Leftward and rightward body leans</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Head forward</td>
</tr>
<tr>
<td><strong>LSE</strong></td>
<td>Syntax</td>
<td>Wh-clefts</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Prosody</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Table 1. Summary of some syntactic and prosodic strategies used in different SLs for expressing focus
3. Methodology

In this section, a description of the methodology used for eliciting the data for this research is provided. First, the profile of the participants is explained. Second, a description of the different tasks performed for eliciting the data is provided. Third, a brief description of the search done in the LSC corpus is given. Finally, an explanation of the process of annotation of the project corpus is presented.

3.2. Participants

The participants of the present study are two Deaf native signers, a man and a woman, of middle age. Both of them were raised in Catalonia, in Deaf families, and educated in specific schools for deaf children where Catalan Sign Language was the main language used for communication between students.

3.3. Elicitation tasks

Different tasks were combined for the purpose of eliciting focus constructions in LSC. Namely, these tasks were aimed at eliciting information, selective and corrective focus constructions. The design of these tasks was inspired in the methodology used by Kimmelman (2014), and Herrmann (2013), and it also took into account Matthewson (2004) proposal for conducting semantic fieldwork. Moreover, some of the tasks were adapted on the basis of the Questionnaire for Information Structure (QUIS) (Skopeteas et al., 2006) developed at the University of Potsdam, and the Totem Field Storyboards (TFS)⁶.

3.3.1. Task 1. Picture elicitation task

The first task conducted was based on pictures taken from the Questionnaire for Information Structure (QUIS). This task was composed of 30 items, each of which

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included a picture and a question about the picture, as illustrated in figure 1. The 30 items were divided in 3 subgroups of 10 items each. Each subgroup was meant to elicit a different type of focus: information focus, selective focus, and corrective focus. Moreover, items were also created in a way that allowed us to elicit different focus scopes from a syntactic point of view: subject-focus, object-focus, verb-focus, VP-focus, and sentence focus. For this task, 31 sentences were elicited and analyzed in total.

‘Who is riding the horse, the man or the woman?’

Expected answer: The **MAN** is riding the horse

Figure 1. Example of an item of the picture elicitation task

The procedure in this task was the following: first, participants were shown a picture in a laptop, and afterwards, they were asked a question about it. The items were presented randomly to the participants. Before starting the task, participants were asked to answer with complete sentences. However, it was an unnatural way of answering for them, especially with information focus items, so many of the answers elicited were elided sentences, which presented only the focused part of the answer.

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7 Two different answers were elicited for the first question, codified as 1a and 1b.
3.3.2. Task 2. Storyboard telling task

This task was performed in a second session. In order to elicit more naturalistic data participants were presented a storyboard with two characters. They were asked to choose one of them and start a dialogue between them in order to perform the story. Two different storyboards were used, one for eliciting theme-focus, and the other one for eliciting agent-focus. Both storyboards were chosen from the Totem Field Storyboards (TFS) webpage and were created by Littell (2010)\(^8\). In this task, items were meant to elicit data from a semantic perspective, though in all cases the elicited agent corresponds to the subject, and the theme to the object. The results in this task were more naturalistic than in task 1, and 16 sentences were elicited and analyzed.

3.3.3. Task 3. Translation task

This task was performed in two sessions. In the first session, 15 contexts were presented, 5 for each focus type (information, selective, and corrective focus). In line with task 1, items were created to elicit different types of focus scope from a syntactic point of view. Each context was explained to the participants in LSC and afterwards they were shown a sentence written in Spanish, and they were asked to translate it into LSC\(^9\).

For the second session, the same 15 contexts were reused in a way that different types of focus and also different focus scopes could be elicited. The procedure was the same for this session: participants were explained the context in LSC and then asked to translate into LSC a sentence written in Spanish. Both sessions allowed us to elicit 73 different sentences, as in many cases more than one answer was possible for each context.

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\(^8\) The materials used for task 2 are included in annex 1.

\(^9\) The materials used for task 3 are included in annex 2.
3.3.4. Task 4. Felicity judgment task

After eliciting each of the previous tasks, different sessions were conducted in order to verify the results obtained. Therefore, for the purpose of verification a fourth task was created. In this task participants were asked to watch the videos recorded in previous sessions and tell their judgment in terms of felicity. Namely, they were explained the context of the sentence again and they were asked if the data videotaped was felicitous or infelictious taking into account that context. Furthermore, if more than one answer was videotaped they were asked to say which one was more felicitous. When an infelicitous sentence was detected they were asked to produce the felicitous counterpart and they were videotaped again.

3.4. Search in the LSC corpus

In order to elicit data for emphatic corpus, a preliminary search in the collected data for the LSC corpus of the Institut d'Estudis Catalans, which is currently being annotated, was done.
The search was mainly done in the tasks where there was a narration, such as a storytelling.

3.5. Annotation of the project corpus

All the data elicited in the four tasks was videotaped and annotated using ELAN. This annotation tool is very common among sign language researchers as it allows to synchronize linguistic tiers with video files. As illustrated in figure 2, different linguistic tiers were created in ELAN for the annotation of the most relevant linguistic information of the data elicited: (1) the transcription of the LSC sentences into English using the annotation system with glosses; (2) the focus scope –subject-focus, object-focus, verb-focus, VP-focus and sentence-focus–; (3) the focus type –information, selective, contrastive or emphatic focus–; (4) the most relevant non-manual markers –eyes, eyebrows, head movements, body leans, and mouthing and mouth gestures–, which were
separated in different tiers, and (5) the location of the signs in the manual signing space – rightward, leftward, forward or backward. A specific tier called ‘comments’ was also created also for any relevant observation that could appear in the process of annotation.

Figure 2. Sentence annotated with ELAN

In brief, the project corpus contains 120 sentences videotaped and annotated\(^\text{10}\), which were annotated with ELAN for the analysis of this study. Table 2 below illustrates the number of items elicited from each of the tasks performed in this study.

<table>
<thead>
<tr>
<th>Task 1</th>
<th>Task 2</th>
<th>Task 3</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Items elicited</td>
<td>31</td>
<td>16</td>
<td>73</td>
</tr>
</tbody>
</table>

Table 2. Number of items elicited

\(^{10}\) All the sentences videotaped are included in annex 3, which is submitted as a DVD.
4. The expression of focus in LSC

In this section, a description of the main strategies used in LSC for expressing focus constructions is presented. For LSC, it has been claimed that syntax and prosody are used in topicalization and information structure purposes in general. Consequently, as is explained in the next sections, this pattern can apply to focused constructions as well. The following section presents, first, a description of the syntactic strategies found for focus marking purposes, and, second, a description of the prosody of these kind of constructions, focusing on both manual and non-manual prosodic marking.

4.2. Syntactic marking

As mentioned earlier, in section 2.6, syntax is one of the strategies attested in SLs for focus marking purposes. In this subsection, a basic description of the main syntactic strategies used in LSC for expressing focus is provided. Firstly, focus movement is explained, and secondly, the strategy of doubling is presented.

4.2.1. Focus syntactic movement

The data collected for this research show that LSC presents sometimes syntactic marking of focus by placing the focused element in final position. This syntactic movement to the right of the sentence occurs mainly in narrow focus, that is to say, when the scope of the focus affects only a single constituent. The data analyzed show many cases of subject-focus and object-focus which are placed in final position, as illustrated in figures 3 and 4. These figures show two examples of information focus with the focused constituent moved towards the end of the clause where the pitch accent is more prominent.
‘Who gave you the shirt?’

a. CLOTHES SHIRT 3-GIVE-1 [FATHER]₉

‘FATHER gave me the shirt.’ [32][11]

Figure 3. Subject-focus sentence with rightward syntactic movement

‘What do you eat?’

b. EAT [BREAD]₉ [63]

‘(I) eat bread’

Figure 4. Object-focus sentence with rightward syntactic movement

In the same line, for verb-focus sentences the focused elements are also placed towards the end of the sentence. However, for verb-focus constructions there is apparently no need for the constituent to be moved: as the basic word order in LSC is SOV the verb is usually placed by default in final position.

[11] This number refers to the number of encoding of the sentence, which can be found in the CD annexed. Note that the complete code is FOC_000032_EB+TG_160517, but due to the limitation of space only the number is added in the paper.
In broad focus this movement is not that commonly observed. In the cases elicited for broad focus (VP and sentence-focus), all the elements of the sentence are in focus, so they mainly present the basic word order SOV, as illustrated in figure 5 below. Nevertheless, the basic word order SOV in LSC can sometimes be altered by other factors than IS, such as the type of verb.

A woman is pulling a car, right?

hs

(NO(nmm), MAN STRONG COKE DRINK-WITH-A-STRAW], [29]

‘No, A MAN IS DRINKING A COKE WITH A STRAW’

Figure 5. Broad focus sentence with no syntactic movement.

Notwithstanding, LSC also present some cases of narrow focus constructions in which there is no syntactic movement, and the focused element is marked only by prosody. In these cases, the prosody seems to be more marked than it is in the sentences which feature syntactic movement of the focused constituent, as illustrated in figure 6: in sentence (a), which does not present syntactic movement, raised eyebrows appear only in the scope of the focused constituent, in contrast with sentence (b). However, other factors can trigger the use of this non-manual marker, so this question will be further addressed in section 4.2.2.1.
What do you like more, dancing or singing?

---

rb

a. \([DANCE]\), LIKE MORE \([74a]\)

‘DANCING, I like more.’

---

rb

b. LIKE MORE \([DANCE]\) \([74d]\)

‘I like more DANCING’

---

Figure 6. Selective focus sentences in LSC.
4.2.2. Doubling

Doubling is commonly described in the existing literature as being a common strategy for marking emphatic focus, as explained in § 2.6.3. For LSC, this strategy is also used for this purpose. Some instances of doubling in LSC can be found in the LSC corpus of the Institut d’Estudis Catalans, which is in process of annotation. The phenomenon of doubling can apply to focused verbs, as illustrated in examples (15), (16) and (17). Moreover, it can also be found in focused objects as exemplified in (18), and also in wh-particles such as ‘where’ in example (19).

(19) FROG [ESCAPE WANT ESCAPE]_f
‘Frog WANTS TO ESCAPE.’

(20) [GO TOGETHER CINEMA GO]_f
‘(We) WENT TO THE CINEMA TOGETHER.’

(21) IX1 SAVE, [NOT WANT FINE WRITE WANT-NOT]_f
‘I was safe, (the policeman) DIDN’T WANT TO WRITE THE FINE.’

(22) DRINK [WATER ONE RESPONSIBLE WATER]_f
‘A RESPONSIBLE PERSON drinks WATER.’

(23) [OBSESSION WHERE FROG WHERE]_f
‘(He) was OBSESSED ABOUT WHERE THE FROG WAS.’

Kimmelman (2014) argues that ‘doubling is used to foreground a part of new information of the sentence, if the signer feels the need to distinguish between more and less relevant new information’. Data observed in the LSC corpus seems to agree with this claim as the examples above show many cases of broad focus in which just part of the focus is doubled.

4.2.3. Focus particles

Focus particles are attested in many SLs such as DGS (Herrmann, 2013), and NGT and RSL (Kimmelman, 2014). One of the most common focus particles is the sign ONLY,
which is found also in our data. This particle is used when the focus needs to be restricted from a larger number of alternatives, as illustrated in figure 7.

![Image of sign language sequence]

‘Did you buy everything I told you?’

[NO POTATOES ONLY, AFTERNOON REST]

‘No, ONLY THE POTATOES, (I will buy) the rest IN THE AFTERNOON. [62a]

Figure 7. Example of information focus sentence with ONLY focus particle.

Therefore, the sign ONLY can be considered a restrictive focus particle, in line with the analysis of focus particles of Herrmann (2013) for DGS. Moreover, in the process of elicitation of the data, an unexpected sign appeared spontaneously in the informant’s answers regarding corrective focus. Namely, this sign is glossed INDEED, and is sometimes articulated after the element in focus to emphasize the correction (figure 8).

![Image of sign language sequence]

You like singing, right?

[SING LIKE NOT INDEED DANCE]

‘(I) don’t like singing, (I like) DANCING INDEED.’

Figure 8. Example of corrective focus with the sign INDEED.

---

12 This sign is glossed EN-REALITAT in Catalan.
This sign has been preliminary classified in this section. However, due to a lack of time no deeper analysis could be done on focus particles, so further research is needed in order to describe more accurately this phenomenon, and confirm if the sign INDEED can be also classified in this group as a focus particle in LSC.

4.2.4. Wh-clefting

As already mentioned in section 2.6.1, wh-clefts are a common syntactic strategy of SLs for expressing focus. Hence, many SLs, like LSE, NGT, and RSL, among others, show instances of this type of construction. Moreover, these constructions are attested in by Quer et al. (2005), who claim that “are used to emphasize a constituent of the sentence by means of a rhetorical question”. Unfortunately, the data elicited for the present study does not contain examples from these type of constructions, so this is a question that is left open for future research.

In short, many syntactic strategies are involved in the expression of focus in LSC. Namely, in this section we have seen that syntactic movement, doubling, wh-clefts, and focus particles are present in LSC for focus marking purposes. However, a deeper analysis needs to be done in order to explain in more detail some of these strategies.

4.3. Prosodic marking

Prosody in SLs is mainly marked by NMMs (as mentioned in § 2.4). Consequently, some NMMs are involved in the expression of focus. Nonetheless, focused signs are also marked by manual features, such as a longer duration of the sign, a larger movement trajectory, and a higher velocity of the movement, as mentioned earlier (§ 2.6). This section provides a basic description of both manual and non-manual prosodic marking of focus constructions in LSC.
4.3.1. Manual marking

As mentioned above, some researchers argue that focused signs are stressed by having a larger duration, a higher velocity and a larger movement trajectory. This section mainly focuses in the manual realization of the sign, namely, it analyzes its duration, repetition and its localization in the manual signing space. Questions related with velocity and length of the movement of the signs are also important to define in the description of focus. However, these issues are not addressed in the present study due to a limitation of time, and are therefore left open for future research.

4.3.1.1. Duration of the sign

Many researchers argue that signs that are in focus are usually articulated with a longer duration in time (Kimmelman & Pfau, in press). In order to account for this statement, the present study analyzed and compared focused signs to their non-focused counterparts in the elicited data. The duration of the signs was measured using ELAN.

The data analyzed show that there is a difference in duration between a focused sign and its non-focused counterpart. Namely, the sign under information and contrastive focus scope presents a larger duration in comparison with its non-focused counterpart, as illustrated in table (2) below, where duration of the sign MAN in milliseconds is presented in three different contexts: (1) non-focus, (2) information focus, and (3) selective focus. Moreover, it seems that there are also slight differences in duration among different types of focus: a shorter duration for the sign under information focus scope compared with its selective focus counterpart. Some studies argue that focus involving contrast tends to be more marked in comparison with focused elements in which no contrast is observed, such as information focus (Zimmerman & Onea, 2011, as cited in Kimmelman 2014). However, for LSC duration between information focus signs and contrastive focus signs differ only in a few milliseconds, so this differences have not been considered as relevant. For NGT
and RSL, Kimmelman (2014) found that the duration of signs under information focus scope was longer than the one found for signs under selective focus scope. This author argues that in the elicitation of selective focus, the focused alternatives were given in the questions that were asked to the informants, so the information under focus was not as new as the one provided in information focus items. A similar pattern could be the responsible for no finding differences between information and selective focus in the present study, as some elicitation tasks were inspired in Kimmelman’s methodology, and for selective focus, the alternative was already given in the question asked to the informants as well. However, a larger amount of data would be necessary in order to confirm these results.

<table>
<thead>
<tr>
<th>Items</th>
<th>Duration of the sign in milliseconds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-focused</td>
<td>304 ms 348 ms</td>
</tr>
<tr>
<td>Who is eating a banana?</td>
<td>428 ms</td>
</tr>
<tr>
<td>Selective focus</td>
<td>431 ms</td>
</tr>
</tbody>
</table>

Table 3. Duration of the sign MAN in different contexts.

Notwithstanding, an important issue need to be considered: the examples of information and selective focus are articulated in isolation as fragments. Therefore, a longer pause is found after the articulation of the sign, which typically yields a longer duration of the sign
in these two contexts. Therefore, this question needs to be further investigated with examples that contain informative and selective foci appearing in a non-final position.

4.3.1.2. Repetition of the sign

The data analyzed in the present study show that some signs repeat their movement more times when they are under focus scope than when they are not. For instance, in my project corpus the movement of the sign HORSE [14] is repeated five times when focused, whereas its unfocused counterpart is usually repeated two or three times at most. However, more data is needed to make an accurate analysis on this issue.

4.3.1.3. Manual signing space

Manual signing space is used mainly in focused constructions which present some contrast. In the data analyzed, selective and corrective focus are the ones which show some use of manual signing space. In this type of constructions, focused elements which involve some kind of contrast are usually placed in different locations of the signing space, being the most common locations the left and the right sides of the body signer, as illustrated in figure 9, where the sign RIDE is placed in different locations in the signing space. Therefore, for LSC, the signers make use of this left-right distinction in the manual signing space, usually placing each contrasted element in the opposite sides of the signing space.
However, the data show some cases in which the signers do not make use of a specific position in manual signing space to articulate the focused element in contrast. All these cases have in common that they do not present the non-focused element in the sentence where the focused element is articulated.

Some data elicited from task 1, though, presents a different behavior with respect to the use of manual signing space than the one found in the data elicited from the other tasks, and show some cases of information focus with use of the manual signing space, which is not found in instances of information focus from the other tasks. Moreover, the data elicited from task 1 does not present a systematic organization left-right of the contrasted elements in the signing space, and sometimes presents signs located in front of the signer’s body which contrast with respect of the distance to the signer’s body. However, there is one important issue to bear in mind: in this task the use of the signing space was mainly
conditioned by the position of the elements in the pictures that were shown to the informants.

It also needs to be mentioned that many signs are articulated in contact with the body of the signer—for instance, the signs MOTHER and FATHER are articulated in the face of the signer. In these cases, the place of articulation is always the same, and the signing space is not used for contrast marking purposes—unless there is an index or a verb associated to the argument, as in example (a) in figure 9 above. If no referent is marked in the signing space, for these signs, contrast is marked mainly by body leans and head tilts, as is explained in more detail in § 4.2.2.3. and § 4.2.2.4. Moreover, when more than two alternatives are in focus the signers also make use of left-right body leans to mark the contrast among them (this is also explained in more detail in § 4.2.2.3), and sometimes the sign LIST is also used instead of the NMMs or the use of signing space.

To sum up, it seems that LSC focused signs show a longer duration and more repetitions than its unfocused counterparts. Moreover, when the focus expressed involves some kind of contrast, LSC signers make use of the signing space in order to express it, usually locating the signs in the opposite sides of the manual signing space in front of them.

4.3.2. Non-manual marking

In this section, the main NMMs found in focus constructions are explained. Namely, for the present study, eyebrow movement, mouthing, body leans, and head movements are described, as they are the most salient NMMs found in the data elicited for focus marking purposes.

4.3.2.1. Eyebrow movement

Eyebrow movement is found in many SLs as a marking of focus. Namely, for DGS it has been found that raised eyebrows is a corrective focus marking (Waleschkowsky, 2009, as
cited in Kimmelman & Pfau, in press). For ASL and LSF eyebrow movement has also been claimed as being a consistent marking of different types of focus (Lillo-Martin & de Quadros, 2008). In the present study, some interesting findings have been observed for LSC.

On the one hand, raised eyebrows are found mostly in information focus when there is not syntactic movement to mark the focus, and therefore the focused element is not moved towards the end of the sentence, as illustrated in figure 10. Moreover, this NMM is also observed in some instances of information focus in which the non-focused part of the sentence is elided and the signer articulates just the focused constituent.

\[
\text{Who is eating an apple?}
\]

rb

[\text{WOMAN PERSON}], \text{APPLE EAT-APPLE} [1b]

‘The WOMAN is eating an apple’

Figure 10. Example of information focus with raised eyebrows.

On the other hand, instances of furrowed eyebrows are found in most corrective focus sentences. Figure 11 below show two examples of the same sentence which differ only in the type of focus: example (a) is an information focus sentence and example (b) is a corrective focus sentence. As can be observed below, the former displays raised eyebrows while the latter features furrowed eyebrows. Moreover, other NMMs differ in these two
examples, such as, for instance, a head tilt in example (b), which is not found in example (a).

Figure 11. Examples of (a) information focus and (b) corrective focus in LSC.

However, this NMM is also found quite systematically in the non-focused elements of the sentence. It seems thus that the furrowed eyebrows are marking the correction both in the focused and the non-focused constituents, so it cannot be said that this NMM is a focus
marker itself. Another evidence that furrowed eyebrows is not a focus marker is that in some examples presenting broad focus scope, such as the one illustrated in figure 12, the focused constituent present raised eyebrows instead of furrowed eyebrows.

You have to help your mother with her English homework, right?

NO, MOTHER ENGLISH 1-HELP-3 NOT-NECESSARY, [FATHER FOOD COOK 1-HELP-3] fl {61a}

‘No, I don’t have to help my mother with her English (homework), I have to help MY FATHER COOKING DINNER.’

Figure 12. Example of corrective focus sentence with broad focus scope.

Furthermore, data show that selective focus is the type of focus that presents more variation in this matter. Namely, a specific eyebrow marking has not been found for this type of focus constructions. For instance, in the items elicited from task 1, which were presented with a neutral wh-question, selective focus does not present any eyebrow marking. However, in the data elicited from task 3, where the sentence elicited was contextualized, other pragmatics factors, such as some presuppositions, trigger the appearance of this NMM. So, we can conclude that for selective focus there is no
consistent eyebrow marking, as most of the examples elicited present a neutral eyebrow position.

In sum, raised eyebrows and furrowed eyebrow are more commonly found in the expression of focus in LSC. The former is mostly found in information focus when the focused constituent is not moved towards the end of the clause, and the latter, is usually found in corrective focus to mark the correction that is being made. However, for selective focus no specific eyebrow marking has been found. Moreover, it is important to remember that eyebrow movement can express many other grammatical functions –i.e. conditionals, interrogatives, and topics are also marked with raised eyebrows–, so further research needs to be done in order to make a more accurate analysis.

4.3.2.2. Mouthing

Mouthing is found repeatedly in the data regardless the type of focus construction. It is the most salient and systematic NMM found until now in the focus data analyzed. However, mouthing is sometimes found in the non-focused elements of the sentence as well, and this issue makes it difficult to determine whether mouthing is a focus marker. Kimmelman (2014) also found mouthing in many NGT focused constructions, but he argues that mouthing is not a focus marker, as it is also sometimes present in the non-focused elements of the sentence. However, Crasborn and van der Kooij (2013) argue that mouthing is one of the most important markers of focus in NGT.

In our data, 79% of the elicited sentences present mouthing or mouth gestures. From this 79%, 92% of the cases present mouthing and an 8% display some mouth gesture. However, out of the 92% which display mouthing, a 54% of the items are articulated with the non-focused part of the sentence, and a 46% of the items are focus-only –both all-focus sentences and elided sentences. Moreover, out of this 54% of the items which display
mouthing and are articulated with the non-focused part of the sentence, a 74% show mouthing just in the focused element, and a 26% present mouthing also in the non-focused element. In addition, for the latter, it seems that the mouthing is more intense and clear in the focused constituent than in the rest of the sentence. Nevertheless, the intensity of mouthing needs further research and more data to be clarified.

In conclusion, data elicited show that for LSC, mouthing is clearly a focus marker. Notwithstanding, as already mentioned in the analysis of the other NMMs, a larger amount of data, and a more accurate analysis of the intensity and clarity of the mouthing is needed in order to confirm this statement.

4.3.2.3. **Body leans**

Body leans, as well as spatial locations, are commonly associated with focus and contrast in the existing literature (Kimmelman & Pfau, in press). Our data is in line with this claim, and show many instances of body leans, for selective and corrective focus in LSC. The data elicited show that leftward and rightward body leans are more common in LSC than forward and backward leans to express contrast. For instance, in the example of figure 14...
below, the signer articulates the first contrasted element on the left side of his body, and the second on the right.

Who finished the BA this year, you or your brother?

‘MY BROTHER finished the BA, I finished the MASTER.’

Figure 14. Example of selective focus sentence with left and rightward body leans.

However, to a much lesser extent, the signers make use also of forward and backward body leans. If there is a contrast between past and present actions, signers also make use of forward and backward body leans, aligned with the absolute temporal axis, as illustrated in figure 15.
You finished the BA this year, right?

No, I didn’t finish the BA, IT WAS IN THE PAST. This year I FINISHED THE MASTER.

To sum up, body leans in LSC are used in the expression of focus constructions involving some kind of contrast. Leftward and rightward body leans are more commonly used in LSC for marking contrast. Nevertheless, sometimes forward and backward body leans are also used due to other factors, such as placing actions in time, but further research is needed to clarify all the factors that are involved in this issue.

4.3.2.4. Head movement

Head movements are also attested as a focus marker in many SLs. For ASL and LSF, for instance, backward head tilts are consistently found in different type of focus (Lillo-Martin & de Quadros, 2008). For LSC, data show that different types of head movements, namely, head thrusts, head tilts, and head nods, accompany different types of focus constructions.
For information focus, the most systematic head movement is a forward head tilt, accompanied by a chin down movement, as illustrated in example (a) in figure 16. However, some examples of information focus also show a backward head tilt with a chin up movement, as illustrated in example (b) in figure 16.

Figure 16. Examples of information focus with forward and backward head tilts.

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13 This sign is glossed in Catalan as BERENAR, which is a meal eaten in the afternoon before dinner. English has no translation as this is a cultural-related concept, so the term SNACK was chosen as the closest translation for the glossing.
As for selective focus, the main head movement found is a head nod, which marks the focus, and which is sometimes accompanied also by a head tilt to mark the contrast, as illustrated in figure 17. This finding is similar to the findings from Kimmelman (2014) who claims that selective focus constructions are marked by a head nod in RSL.

What is the girl eating, an apple or an icecream?

\[ \text{hn+ht} \]

[APPLE]\_\_ EAT

‘(She) is eating an apple.’

Figure 17. Example of selective focus with head nod and head tilt.

Regarding corrective focus, the most common movement found in the data to mark this construction is a head thrust movement sometimes accompanied with a head tilt to mark the contrast, as illustrated in figure 18.

You ate an apple, right?

\[ \text{lthr+ht} \]

IX1 NOTHING, [WOMAN]\_\_ IX3 \_\_ [76a]

‘I didn’t, the WOMAN did.’

Figure 18. Example of corrective focus with head thrust and head tilt.
However, in this type of focus constructions, if the focused element is preceded by the sign INDEED, the head thrust is realized under the scope of this sign and not under the scope of the focused element.

In short, backward and forward head tilts are found systematically in information focus constructions. Moreover, head nod is the most common focus marker for selective focus, and head thrust is more commonly found in corrective focus. In addition, for both selective and corrective, head tilts are commonly found in order to express the contrast with the non-focused alternatives.

To sum up, this study claims that LSC makes use of both syntax and prosody for expressing focus. Table 4 below summarizes the findings of my analysis. Notwithstanding, this is not a complete description, and more research is needed to confirm the results shown here.

<table>
<thead>
<tr>
<th></th>
<th>Information focus</th>
<th>Selective focus</th>
<th>Corrective focus</th>
<th>Emphatic focus</th>
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<tr>
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<td>Yes</td>
<td>-</td>
</tr>
<tr>
<td>Wh-clfts</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<tr>
<td><strong>Prosody</strong></td>
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<tr>
<td>Manual markers</td>
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<td>Longer duration of the sign</td>
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<tr>
<td>Repetition of the sign</td>
<td>More repetitions of the movement</td>
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<td>-</td>
<td>Furrowed brows</td>
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<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<td>Left-right</td>
<td>-</td>
</tr>
<tr>
<td>Head movements</td>
<td>Backward and forward head tilts</td>
<td>Head nods + (leftward/rightward head tilts)</td>
<td>Head thrust + (leftward/rightward head tilts)</td>
<td>-</td>
</tr>
</tbody>
</table>

Table 4. Summary of the main strategies involved in the expression of focus in LSC
5. Conclusions and future research

In conclusion, as it was found for many other SLs, this work shows that LSC makes use of both syntax and prosody for focus marking purposes. On the one hand, regarding syntax, rightward movement is commonly found for the elements under focus scope. However, no syntactic movement can also be found in many instances of focus constructions. In these cases, other NMMs are present in order to mark the focus, namely, raised eyebrows. Moreover, doubling of part of a broad focused constituent can be used for emphatic focus marking purposes, in order to distinguish more relevant information from the focused constituent. Furthermore, some focus particles such as INDEED, and ONLY, are found in the data. The former is found in corrective focus sentences and is used for emphasizing the correction that is being made, and the latter is used in a restrictive sense.

On the other hand, regarding prosodic markers, two main distinctions can be made: (1) prosodic manual markers, and (2) prosodic non-manual markers. As for prosodic manual markers, it has been found that duration, repetition, and the use of signing space are relevant in LSC for focus marking purposes. As for prosodic non-manual markers, the main NMMs found in the data under focus scope are: eyebrow movement, mouthing, body leans, and head movements.

For eyebrow movement, it has been found that raised eyebrows are mainly an information focus marker, and furrowed eyebrows are found mostly in corrective focus sentences. However, selective focus sentences do not present any specific eyebrow movement. By contrast, mouthing is the most systematic NMM found in the data. Although there are some instances of mouthing also found in the non-focused elements of the sentence, most of the examples elicited show a clear distinction in mouthing between the focused and the unfocused part of the sentence. So, for this NMM, we claim that it seems to be clearly a focus marker.
Regarding body leans, data show many instances of left-right body leans, which are used to express contrast among different alternatives. However, some instances of forward and backward body leans are also found in some specific examples, which seem to be triggered by independent factors. As for head movements, head nod, head thrust, and head tilt are the most common ones found in the data elicited. These movements are distributed in different ways depending on the focus type as we have seen in table 4, above.

Nevertheless, this description is just a basic and first general picture of how focus constructions are expressed in LSC. Hence, further research is needed in order to provide a more accurate analysis of this type of constructions. Namely, it is necessary to make a more in depth syntactic analysis, in order to describe more accurately the syntactic movements found in the data, as well as focus particles and wh-cleft phenomena, which are commonly found in focus constructions. Moreover, other aspects such as possible gradable differences among different types of focus constructions, and the interaction between NMMs and different types of focus needs to be further investigated.

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14 Many researchers argue that contrast is a gradable phenomenon. This view claims that different degrees of contrast may show different or additional grammatical means (Repp, 2014).
6. References


Quer, Josep. 2010. La llengua de signes catalana, una llengua pròpia més de Catalunya. Universitat Pompeu Fabra, Barcelona.


Annex 1. Storyboards used in the elicitation of data in task 2

Storyboard 1. Agent focus (Littell, 2010)
Storyboard 2. Theme focus (Littell, 2010)
Annex 2. Examples of task 3 (Translation task)

1. Information focus:

Context: You meet with a friend to go for a walk. When she arrives she is hanging a bag with a present inside. You know it is her daughter's birthday, so you ask her: What did you buy to her?

Answer to translate: I bought her a SOCCER BALL.

2. Selective focus

Context: You are at work and contact your nanny through ooVoo\textsuperscript{15}. You are worried because your kids should eat more fruit. It's lunch time, so you ask her what your children are eating as a dessert, an ice-cream or an apple?

Answer: They are eating AN APPLE.

3. Corrective focus

Context: You are talking with a friend you haven’t seen for a long time. Her brother finished the BA this year, but you think it was her who finished, so you ask her: you finished your BA this year, right?

Answer: No, I didn’t finish my BA this year, MY BROTHER did.

\textsuperscript{15} ooVoo is a video chat commonly used by Deaf signing people in Catalonia.