The Morphosyntax of Polar interrogatives in LSC

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Any de defensa: 2015

Col·lecció: Treballs de fi de màster

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The purpose of this study is to provide a formal description of polar interrogatives clauses in LSC and, moreover, propose a syntactic analysis that can take account for any form this kind of structure can acquire. This study includes an overview of what is known so far about polar interrogatives in both oral and sign language modalities, paying especial attention to those linguistic devices that are used to mark this sentence type. LSC is not out of ordinary: as a SL, nonmanual marking is required in order to perform the sentence. Furthermore, a Q-sign (i.e. YES-NO) can be added sentence-finally to explicitly mark the utterance as a polar interrogative. Notwithstanding, this Q-sign carries some pragmatic meaning. Therefore, in order to provide a syntactic analysis that could explain polar interrogatives in LSC, the proposals which have tried to explain the same sentence type and carried out by Wilbur & Patsche (1999), Šarac & Wilbur (2006) and Šarac et al. (2007) for ASL, HZJ and ÖGS polar interrogatives; and Neidle et al. (1996, 2000) for ASL, are presented. Thus, some important information about the analysis of Pfau & Quer (2002, 2007) for negative constructions in ASL, LSC and DGS; and the analysis of Prieto & Rigau (2007) for polar interrogatives in Catalan are provided; since they support the proposal provided on this work for LSC polar interrogatives. Thus, it stands that the feature [+y/n Q], realized through NMMs, is a featural affix that needs to be attached to manual material; moreover, the Q-sign is located inside C°. In any case, this work represents an undeniable contribution to SLs knowledge, while it is contributing to the debate of typological variation within SLs. In addition, it can be conclude that polar interrogatives could be an area of macrotypological variation between oral and signed languages. Notwithstanding, in order to determine this, further research needs to be done.
A mi familia y amigos,
y a todos aquellos que también creyeron en mí.

There are many ways in which the thing I am trying
in vain to say, may be tried in vain to be said.

*Samuel Beckett*
Acknowledgements

Sometimes you find yourself at the right time at the right place… A series of coincidences result on carrying out this work. I could not deny that it was presented at first as a real challenge, but it finally turned into a “life present”. A present that has been an opportunity for me to learn and grow (professionally and personally), a present that has let me acquire more knowledge in a field that I consider completely fascinating, a present that has help me to understand my limitations, but has showed me how myself and I want to be.

This work would not have been possible without a large number of people that, of course, I would like to thank. First of all, I would like to thank Josep Quer for agreeing to be the way through this work turned possible: by accepting to be my Master Thesis Director. This would have not been achievable without his lessons, his corrections, his talks, his patience and his ideas. Also, without his belief in my potentials… I would not have done this if anyone had not thought that I was completely able to do it. I have learnt a lot of things from you, Josep, and I am sure that our adventure has not finished yet.

All of these pages would not exist without the invaluable help from Santiago Frigola and Delfina Aliaga. They, my informants, who have been sitting for countless hours while we talked about their language and have provided me all the examples I have presented, have been the centerpiece of this work. I just can say a big “Thank you!” I would like to thank Gemma Barberà, too. All I have to say is that she has been here since the very beginning. Thanks for your words and thanks for your hugs. You have been my unconditional support. I would like to thank all the people I met in FEAST 2015 and in COST SignGram Summer School 2015. I would like to specially thank Roland Pfau and Meltem Kelepir: your comments on the data I showed you were adequate for my understanding of how a language can work.
My family and friends have also been part of this work. Thanks for listening my theories and my findings when you do not even know what I was talking about. My parents, thank you for the support and affection I have always received from you. If I have reached this point is thanks to you. And how forget you, Marina, thanks for helped me to focus on other things, not only on these pages. Your laugh is contagious. I would like to thank my friends, Sara, Martí, Eli and GEJOS, because I am grateful you can be counted on the fingers of one hand. I appreciate your support. I would also like to thank my group of dance, you have been so inspiring. Finally, Albert, you have been a light in this process, I will always be grateful for everything I have learnt from you. Thanks for accompanying me on this journey called life.
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Sign Languages:

ASL  American Sign Language  LSE  Spanish Sign Language
Auslan  Australian Sign Language  LSF  French Sign Language
BSL  British Sign Language  NGT  Sign language of Netherlands
FinSL  Finnish Sign Language  NS  Japanese Sign Language
HKSL  Hong-Kong Sign Language  NZSL  New Zealand Sign Language
HZJ  Croatian Sign Language  ÖGS  Austrian Sign Language
IPSL  Indo-Pakistani Sign Language  TÍD  Turkish Sign Language
ISL  Israeli Sign Language  TSL  Thai Sign Language
LBS  Brazilian Sign Language  VGT  Flemish Sign Language
LSC  Catalan Sign Language

In general:

SL  Sign Language  Fin  Finiteness
OL  Oral Language  Top  Topic
Spec  Specifier  T  Tense
Xº  Head of the Phrase  I  Inflection
P  Phrase  NMM  Nonmanual marker
C  Complementizer

List of annotation conventions (glosses)

HOUSE  Lexical sign
DO-NOT-KNOW  Words needed to specify the meaning of a lexical sign
IX1  First person pronoun
IX2  Second person pronoun
IX3  Third person pronoun
Xe  In any sign (X), spatial referential index
      Nonmanual marking scope
y/n  NMMs associated with yes/no questions
wh-  NMMs associated with wh-question
top  NMMs associated with topicalization
e-y/n  NMMs associated with embedded yes/no questions
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1. Introduction

The present study is intended to be a significant research contribution to the formal characterization of Sign Languages (SLs) as it would describe and analyze a structure that was yet to be explored: the polar interrogative clauses\(^1\) in Catalan Sign Language (LSC). As it has been reported for oral languages (OLs), SLs also make use of different linguistic devices for marking polar interrogatives. LSC, in particular, marks polar interrogatives with a specific combination of NMMs (being the raised eyebrows the most prominent NMM) and allows for the appearance of a Q-sign (i.e. YES-NO Q-sign) at the end of the clause (most preferred position). The formal description of these marking devices will be crucial for designing a syntactic proposal that can predict their appearance.

There have previously been proposed two different syntactic analyses in SLs for explaining polar interrogatives. The first analysis —proposed by Wilbur & Patsche (1999), Šarac & Wilbur (2006) and Šarac et al. (2007) for ASL, HZJ and ÖGS polar interrogatives—, the most traditional one, claims that there is a feature Q located in C\(^0\) that needs to be checked; for this purpose, the material being questioned needs to be moved to SpecCP. Regarding nonmanual marking scope, they claim that the material being questioned carries the NMMs associated with feature Q (i.e. polar interrogative nonmanual marking). Moreover, they locate the optional Q-sign as a TP adjunct. The second analysis, reported by Neidle et al. (1996, 2000) for ASL —and applied in negative structures by Pfau & Quer (2002, 2007)—, locate both the [+y/n] Q feature and the optional Q-sign in C\(^0\). In order for the feature to be realized (through nonmanual marking), it needs to be attached to some manual material. This manual material can be the Q-sign, located in C\(^0\); when it does not appear; NMMs will be required to be spread over the entire C-command domain of C\(^0\). Given these analyses, a syntactic proposal for explaining polar interrogatives in LSC based on Neidle et al. (1996,

\(^{1}\text{From now on they will be called polar interrogatives.}\)

I would like to add that there are many reasons for studying a topic within these characteristics. First of all, there is a very little research done in this field. As the SL literature is still far from what we can find in oral languages (OLs), this study will be an important contribution. Moreover, it will contribute to understand the LSC grammar (by making research in polar interrogatives’ syntactic properties) and maybe will help to understand the behavior of other SLs, thus will help us to identify them as natural languages. The descriptive part of the study may also contribute to the debate about the typological variation that could be found across SLs. In addition, it could lead to determine a theory that explains the patterns of variation in SLs. Finally, this research would allow us to make a comparison between OLs and SLs and to determine what is common across them and what is typical of each modality.

1.1. Structure of the study

After presenting the topic in the introduction, the present study is structured as follows. In chapter 2, an overview of what have been said before about polar interrogatives in OLs and SLs is provided. Also the previously presented syntactic analyses are explained. Chapter 3 explains the methodology used. Moreover, the descriptive part of the study can be found in chapter 4, where I also include my proposal of syntactic analysis. Conclusions and future research ideas are included in last chapter.

1.2. Catalan Sign Language (LSC)

The present study will provide data from LSC, the language used by deaf and deaf-blind signers in the Spanish province of Catalonia. According to Ethnologue (2015), LSC has a
population of 18,000 signers. LSC is a recognized official language since 2010, when the law *Llei de llengua de signes catalana* was approved. *Institut d'Estudis Catalans* is the normative authority of this language and it is also the institution which promotes its research.

2. State of the art

While content questions have been widely studied in many SLs and it is not difficult to find researches focusing on that topic, there is not a lot of work done regarding polar interrogatives. Still, it is necessary to provide an overview of the investigations that have covered this topic in SLs before starting a formal description of polar interrogatives in LSC. I have considered necessary, however, to start the picture by making a review of polar interrogative’s typology in OLs for the purpose of also understanding SLs mechanisms for marking these structures. Therefore, it is indispensable to start this chapter talking about sentence types. Once all these issues have been touched upon, I will briefly present two different syntactic analyses (proposed for SLs) which have been claimed to be able to describe these structures. An analysis presented for Catalan will also be introduced, since it is relevant for our syntactic proposal presented later (§ 4.2.). The purpose of these next pages is, therefore, to show what we know nowadays about polar interrogatives.

2.1. Sentence types in SLs

As in any OL, SLs can combine their lexical signs in order to construct phrases that, at the same time, can be combined to form clauses (or sentences). SLs clauses cannot place their components at random either: each language has its specific syntactic properties. As in OLs, word order rules are determined by the lexical category of the signs and the functional elements that glue them: “The way a language chooses to organize lexical categories in phrases or sentences is called *word order*” (Valli et al. 2011: 112). In a transitive sentence, we will be able to find a subject and a predicate that will contain the verb and the
object. The order of these three components (Subject, Verb and Object) varies across languages. For example, the most basic order in ASL is SVO (Valli et al. 2011), but it is SOV for LSC (Quer et al. 2005) or LSE (Herrero 2009). Whatever the preferred word order is, it is systematically altered by syntactic operations of different nature. Some of these operations have to do with information structure or the encoding of different speech acts. Therefore, it is possible to classify our sentences into different sentence types according to their most typical conversational use (Sadock & Zwicky 1985). According to Sadock (1988), the vast majority of languages seem to distinguish at the very least between three sentence types, being these the following ones: declarative sentences (to report facts), interrogative sentences (to ask questions, at least yes/no questions) and imperatives (to make requests). It could be possible to find more sentence types in languages, such as exclamatives (Zanuttini & Portner 2003, in Cecchetto 2012: 293). Sadock (1988: 185) explains that each sentence type may have their intrinsic marker such as “intonation, word order, verbal mood, and particles with no other use”. Sadock (1988) points out that each language will use either of these devices to mark its sentence types and that it will define its own system. Therefore, the “most normal sentences belong to one of the types and no sentence belongs to two” (Sadock 1988: 185). According to Cecchetto (2012: 293), “since sign languages can be used to make an assertion, to ask a question, to give an order, it is no surprise that they develop grammaticalized forms associated to these conversational issues”. So, it is important to understand that as natural languages, SLs also have different sentence types and a system to mark and thus recognize them. In LSC, e.g., it is also possible to distinguish between declarative sentences (affirmative and negative sentences), interrogatives sentences (wh– questions, yes/no questions and question–answer clauses) and imperative sentences; and each of them has its own marker devices (Quer et al. 2005). The following section contains more detailed information of polar interrogatives in SLs, focusing on different devices SLs may use to mark this specific sentence type.
2.2. Polar interrogative clauses in OLs

Most OLs use specific devices in order to mark polar interrogatives. Dryer (2011) presented a database which contains the strategies applied for languages for signaling this type of structure, so their speakers can identify it. The table below shows these strategies:

<table>
<thead>
<tr>
<th>Value</th>
<th>Representation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question Particle</td>
<td>585</td>
</tr>
<tr>
<td>Interrogative verb morphology</td>
<td>164</td>
</tr>
<tr>
<td>Question particle and interrogative verb morphology</td>
<td>15</td>
</tr>
<tr>
<td>Interrogative word order</td>
<td>13</td>
</tr>
<tr>
<td>Absence of declarative morphemes</td>
<td>4</td>
</tr>
<tr>
<td>Interrogative intonation only</td>
<td>173</td>
</tr>
<tr>
<td>No interrogative-declarative distinction</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>955</strong></td>
</tr>
</tbody>
</table>

Table 1. Polar questions devices for oral languages; adapted from Dryer (2013)

According to Velupillai (2012), 18.1% of languages (based on Dryer's database) mark their polar interrogatives solely by intonation. This result contrasts with the one reported by Haspelmath et. al (2001: 1012), who claims that the use of a special intonation pattern is by far “the most widespread strategy”, according to the empirical study conducted by Ulan (1978). Be that as it may, intonation is, together with question particles, the most employed device to mark polar interrogatives in OLs. The contour that usually is identified with a polar interrogative is a rising one (Haspelmath et. al 2001). 95% of languages that use this strategy employ this contour towards the end of the clause (according to Ulan 1978, in Haspelmath et. al 2001)², this idea is supported by Greenberg (1966, in Haspelmath et. al 2001: 1012) who claims that “intonational marking of interrogatives is typically found in clause-final position”, see example (1). Haspelmath et. al (2001) reports that Greenberg (1966) considers this property as a language universal.

² See § 2.3.1. for an example of Hindi which uses rising intonation for marking polar interrogatives. Another language that uses this strategy is Italian (Maiden & Robustelli 2000; in Dryer 2013, also reported in Haspelmath et. al 2001), see the example in this section.
(1) Italian\(^3\)

a. Laura viene con noi
   “Laura is coming with us.”

b. Laura viene con noi
   “Is Laura coming with us?”

Another recurrent strategy in OLs, the by far most common one in Dryer’s database, is the use of a question particle. According to Velupillai (2012: 354) it can “either be a free particle or a clitic added to the declarative sentence”. She reports that a 61.2% of languages of Dryer’s database make use of this device. She also claims that clause-final position is the most common pattern for languages with question particles. This idea is supported by Haspelmath et. al (2001: 1014) who also claims that “dominant positions for interrogative particles to occur in are the beginning or end of a clause with the clause-final position being slightly preferred”. Japanese and Maybrat place its question particle at the very end; for his part, Yiddish is a clause-initial question particle language:

(2) Japanese: clause-final Q\(^4\)

\[
\text{yamada-san wa ginkoo de hataraitte-imasu ka?} \\
\text{yamada-Mr. TOP bank at working Q} \\
\text{“Does Mr. Yamada work at the bank?”}
\]

(3) Maybrat: clause-final Q\(^5\)

\[
\text{ana m-amo Kumurkek a} \\
\text{3PL 3-go Kumurkek Q} \\
\text{“Are they going to Kumurkek?”}
\]

(4) Yiddish: clause-initial Q\(^6\)

\[
\text{Ci hot Mojse gekojft a hunt?} \\
\text{Q has Moses bought a dog} \\
\text{“Did Moses buy a dog?”}
\]

---

\(^3\) This example is from Velupillai (2012: 353).

\(^4\) This example can be found in Haspelmath et. al (2001: 1013), but it originally belongs to Hinds (1984: 158).

\(^5\) This example is from Dryer (2013: 1), but it originally belongs to Dol (1999: 200).

\(^6\) This example is from Haspelmath et. al (2001: 1014), but it belongs to Sadock & Zwicky (1985: 181).
Velupillai (2012) distinguishes question particles from interrogative tags in her work. These last ones are then defined as a type of question particle but which “contribute a certain bias by raising expectations toward either a positive or a negative answer” (König & Siemund 2007: 296; in Velupillai 2012: 355). See the difference between an interrogative tag and a question particle in the following example from Bengali:

(5) **Bengali**

a. beral pakhita dhorechilo, **noy ki?**  
cat bird.SG caught **not-is Q**  
“The cat caught the bird, didn’t it?”

b. **ki** beral pakhita dhorecilo?  
Q cat bird.SG caught  
“Did the cat catch the bird?”

Note that the interrogative tag is preceded by a comma: it thus represents a prosodic break between the actual clause and the tag. So, it is like two different intonational phrases. Velupillai (2012) considers a tag question a shorter version of A-NOT-A construction which is commonly found in Chinese languages:

(6) **Mandarin**

![Mandarin example](https://example.com/mandarin_example.png)  
“Does s/he eat apples?”

Moreover, for Velupillai (2012), interrogative tags have their origin in A-NOT-A constructions, and then, in turn, question particles have their origin in interrogative tags. Haspelmath et. al (2001), for their part, provide a list of languages that use question particles; e.g. French - *est-ce que*, Polish - *czy*, Finnish - *kö*, Mandarin - *ma*, Slavic - *li*, etc.; so it has been shown that it is one of the most common devices to mark polar interrogatives.

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7 This example if from Haspelmath et. al (2001: 1015), but it originally belongs to Saha (1984: 131).
8 This example is from Velupillai (2012: 355).
According to Dryer (2013), another strategy for marking this sentence type is the use of a special verb morphology. That means that languages, like Hunzib (from Russia) or Tunica (from Mississippi), own a particular affix that signals that the utterance where they appear is in fact a polar interrogative. However, as Dryer (2013) reports, some languages (1.6% of the languages in his database, to be exact) make use of this strategy altogether with a question particle. Examples of these languages are Pirahã or Kashmiri:

(7) **Kashmiri**\(^{10}\)

(k’a: tsi gatsh-kh-a: paga:h gari)

Q 2SG go-2GPS-Q tomorrow home

“Will you go home tomorrow?”

Changing the word order is a less common polar interrogative marking device but still used for some languages. According to Velupillai (2012), they correspond to a 1.4% of languages in Dryer’s database. Swedish or German employ this device:

(8) **German**\(^{11}\)

a. Der Lehrer **trink-t** das Wasser.

the teacher **drink-3SG** the water

“The teacher is drinking the water.”

b. **Trink-t** der Lehrer das Wasser?

**drink-3SG** the teacher the water

“Is the teacher drinking the water?”

Most rare strategy is marking polar interrogatives through the absence of a morpheme used in declarative sentences (0.4% of languages in Dryer’s database). Finally, there was found a language (Chalcatoco Mixtec) which does not employ any formal marking for differentiating declaratives from polar interrogatives.

(9) **Chalcatoco Mixtec**\(^{12}\)

xakú=ro

laugh=2

“You are laughing / Are you laughing?”

---

9 This information is provided by Velupillai (2012: 356).
10 This example belongs to Velupillai (2012: 356).
11 This example belongs to Dryer (2013: 3).
12 This example belongs to Dryer (2013: 6).
2.3. Polar interrogative clauses in SLs

There are a few studies regarding polar interrogatives clauses in SLs. The most important one was carried out by Zeshan (2004): she provided information about polar interrogatives from almost thirty-five SLs from all over the world. Still, many other researchers who also provide us with important linguistic information about our topic in other SLs can be listed. I have been able to consult studies on the following languages: ASL (Wilbur & Patschke 1999; Neidle et al. 2000; Fischer 2006; Valli et al. 2011), AUSLAN (Johnston & Schembri 2007), BSL (Sutton-Spence & Woll 1999), FinSL (Savolainen 2006), HKSL (Tang 2006), HZJ (Šarac & Wilbur 2006), IPSL (Zeshan 2004), in ISL (Meir 2004), LIBRAS (de Quadros 2006), LSC (Quer et al. 2005), LSE (Herrero 2009), NS (Morgan 2006), NZSL (McKee 2006), ÖGS (Šarac et al. 2007), TÍD (Zeshan 2006) and VGT (Van Herreweghe & Vermeerbergen 2006). In the following pages I examine the manual and nonmanual devices used for marking polar questions crosslinguistically. It is worth mentioning that I will not talk about other interrogative constructions such as rhetorical or indirect questions, as these constructions are not the topic of our study. Accurate information about wh-interrogatives will be given just when it is necessary for the purpose of this research.

2.3.1. Nonmanual Marking

Nonmanual marking in sign language linguistics can be defined as the use of any part of the body (facial expression, head and body movements, eye gaze, etc. but the hands) for marking grammatical functions. Cecchetto (2012), in his “Sentence types” chapter, provides a basic summary of the intrinsic properties of polar interrogatives clauses in SLs; in the following I highlight the most important points. Overall, Cecchetto (2012), in accordance with Zeshan (2004), claims that in all known SLs it is the nonmanual marking what makes a polar interrogative to be a polar interrogative; thus, the nonmanual marking is the marking device that would allow signers to differentiate this structure from a
declarative sentence. As Zeshan (2006: 39)\textsuperscript{13} points out, nonmanual marking “has been shown to play an important role in the structure of SL, in particular in identifying various clause types”. According to Zeshan (2006), nonmanual marking is a suprasegmental feature that can extend over one or more signs in an utterance; then, it is crucial to understand that nonmanual marking is for SLs the equivalent of what intonation is for OLs. This is illustrated in the following Zeshan (2004: 19) examples, from Hindi and IPSL:

(10) Hindi

\begin{verbatim}
c. bacca bemar hai
child ill be.3SG.PRES
“The child is ill.”
d. bacca bemar hai
child ill be.3SG.PRES
“Is the child ill?”
\end{verbatim}

(11) IPSL

\begin{verbatim}
a. BOOK INDEX INTERESTING top
“As for the book, it is interesting.”
b. BOOK INDEX INTERESTING INDEX pol-q
“Is the book interesting?”
\end{verbatim}

Here the similarities between intonation in Hindi (OL) and nonmanual marking in IPSL (SL) can be compared. While a \textit{rising intonation} in Hindi language is the typical marker for polar questions (symbolized by the bars), the \textit{pol-q} nonmanual marking is what differentiates a declarative from a polar question in SLs (see the difference clearly in the sign \textit{INTERESTING}: while in the first example it is not nonmanually marked, it becomes the topic of the question in the second example when it is under the \textit{pol-q} nonmanual scope). According to Zeshan (2004: 19), “nonmanual signals marking polar questions tend to be very similar across signed languages”; as Zeshan (2004, in Cecchetto 2012: 293) points out, the specific nonmanual marking of the structure under study will involve a combination of several features, which can be either of the following ones (Cecchetto 2012: 294):

\textsuperscript{13} Zeshan (2006) adds the following references related to this specific topic: Baker & Padden (1978) for ASL, Coerts (1992) for NGT and Zeshan (2000) for IPSL.
- Eyebrow raise
- Eyes wide open
- Eye contact with the addressee
- Head forward position
- Forward body posture

Ceccheto (2012) considers it important to stress the “eyebrow raise” feature in nonmanual marking since he says this is the feature that will help us to discriminate polar from content questions, considering that “eyebrow lowering” is the principal feature of nonmanual marking on this last structure. Nonetheless, I will come back to this issue later on in our analysis of LSC. In terms of scope\textsuperscript{14}, Ceccheto (2012: 294) claims that nonmanual marking “typically extends over the whole clause” except for the signs marked by another nonmanual marking, e.g. signs which are part of a topicalization. Ceccheto (2012) does not report linguistic devices other than nonmanual marking to mark polar interrogatives in SLs, except for question particles. I will briefly talk about question particles a little later on. It is remarkable, however, that question particles can never replace nonmanual marking; thus, both marking devices can occur at the same time within a polar interrogative. Once I have outlined the most important points of Ceccheto (2012), I will provide more information from Zeshan (2004), as she talks about some other devices that, together with nonmanual marking, can mark polar interrogatives in SLs.

### 2.3.2. Other syntactic devices

Apart from nonmanual marking, Zeshan (2004) reports the following two syntactic devices found in some SLs: change in word order and doubling constituents. Nonetheless, it seems

\textsuperscript{14} A definition of the specialized meaning of nonmanual marking scope in SLs would be the one provided in Zeshan (2004): “An important parameter […] is the notion of scope […]. A nonmanual marker has scope over all manual signs with which it co-occurs. Conversely, all manual signs that co-occur with a nonmanual marker are said to fall under its scope.”
that the elements which are involved in these marking devices are pronouns. Let us see it with a couple of examples:

(12) TSL

- SMOKE INDEX₂
  “Do you smoke?”

- INDEX₂ DEAF INDEX₂
  “Are you deaf?”

(13) LSF

- TONIGHT FREE INDEX₂
  “Are you free tonight?”

- INDEX₂ STAY HOME INDEX₂
  “Are you staying home?”

As one can see in the examples above, both in (12a) and in (13a) the pronoun appears at the end of the clause, while it is be expected to be found preverbally in a declarative, since that is its nonmarked or most neutral position as a subject (TSL is an SVO language, while LSF is an SOV language). Furthermore, it is also possible to double the pronoun in polar questions and make it appear both at the beginning and at the end of the clause (see examples (12b) and (13b)). Zeshan (2004) points out that neither of these syntactic devices provides the clause with any special semantic meaning other than what we see in declaratives. As for the pronoun shifting, it seems that “there is no preference for this word order” in declaratives, unlike in polar questions (Zeshan 2004: 21). Regarding the pronoun doubling, it is also possible to reproduce this structure in declaratives, but it “tends to convey emphasis”, while it does not in polar questions (Zeshan 2004: 21). Zeshan (2004) adds a further interesting finding, namely that HKSL also allows doubling the main verb when the signer is asking about the predicate. See the following example (Zeshan 2004: 22):

(14) HKSL

- INDEX₂ PLAY PLAY
  “Are you playing/going to play?”

- INDEX₂ GO GO PLAY
  “Will you go to play?”

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15 Thai Sing Language examples are from Zeshan (2004: 21-22); LSF examples appear in Zeshan (2004), but they are originally from Moody et al. (1983).
As we can see, it is possible to double the main verb in HKSL in these clause types, provided that the question is focusing on the predicate. It is important to mention that neither of these devices could appear without the nonmanual marking\textsuperscript{16}.

2.3.3. Question particles

Another question marker device that I have mentioned before are question particles. In SLs, as in OLs, these particles are used to mark and specify that a particular utterance is a question; this means that their occurrence can convert a declarative into an interrogative. As opposed to OLs, which need to use question particles compulsorily if they have them whenever a question is uttered, SL question particles are not obligatory. According to Zeshan (2004: 32), “it is common for the question particle to occur only in certain contexts that are often pragmatically constrained”. For a particle to be called question particle, it must appear in the same prosodic unit as the question clause \textit{per se}; otherwise, if an intonational break before the question particle can be identified, the construction will appear to be then a tag question (Zeshan 2004: 32):

\begin{equation}
\begin{align*}
\text{Auslan} \\
\text{pol-q} \\
\text{CLASS CANCEL TODAY, RIGHT} \\
\text{“The class has been canceled today, right?”}
\end{align*}
\end{equation}

As Zeshan (2004) points out, question particles in SLs tend to appear at the beginning or at the end of the clause, being this last position the preferred one in most of the sign languages studied. It is also possible for the question particle to appear in both positions within a single clause. Note that the lexical signs grammaticalized as question particles have lost their original meaning. It is important to mention that in some SLs question particles can also adopt the form of A-not-A-constructions found in some Sinitic languages

\textsuperscript{16} Notice that Zeshan (2004) labels the nonmanual marker as $q$ instead of \textit{pol-q} (example (5)). This is because the combination of nonmanuals that appears here could also appear in wh-interrogative clauses.
Nonetheless, while in some SLs the use of this construction is constrained to those questions which “may imply a presupposition as to the answer”, in other SLs there seems to be no difference between questions containing an A-not-A-construction and questions without it (Zeshan 2004: 35). See this subtle difference in the following examples:

(16) HKSL

GLADYS COME-BACK HAVE-NOT-HAVE
“Gladys has come back, hasn’t she?”

(17) TSL

INDEX3 GO HAVE-NOT-HAVE
“Are you free tonight?”

Note that both nonmanuals and their scope are different in (16) and (17). Moreover, example (16) is searching for a confirmation about the proposition uttered, thus it carries a presupposition, while example (17) is just asking for information. Zeshan (2004: 35) adds that in HKSL the use of question particle is “obligatory in confirmation questions”.

As a way of showing what kind of information we have about question particles in SLs, a map is posted below as a representative sample.

![Figure 1. Question particles in SLs (Zeshan 2013).](image)

Here we have 38 SLs represented; only a 34.21% of them have a question particle. SLs use question particles solely in polar interrogatives; however, there are some SLs (e.g. Finnish Sign Language) which also makes use of this device in wh-interrogatives. Nevertheless, no
SLs have been found which allow question particles to appear just in wh-interrogatives. Zeshan (2013) also reports that SLs which allow question particles for polar and wh-interrogatives do not have different question particles for each kind of structure. However, what she claims is that there exist some SLs with more than one question particle (for now, we are just aware of 4 SLs, which represents a 10.52% of the total). To finish off this section, I would like to add that it is important not to mix concepts and be aware of some facts regarding question particles: these are not the same as pragmatic markers or pragmatic question introducers. Pragmatic markers are those ones that add a more specific meaning to the utterance (e.g. express the attitude of the speaker), they also are “prosodically detached from the rest of the utterance” (Zeshan 2013: 1). Question introducers, for their part, have a lexical meaning rather than a grammatical one (as question particles have). These distinctions are crucial for the analysis, yet it seems that LSC has a question particle.

Nonetheless, since all of this conveys the impression that nonmanual marking is the most basic linguistic device for marking polar interrogatives, and nonmanual marking in SLs is the counterpart of intonation in OLs, it can be considered that both language modalities (gestural-visual languages and audio-oral languages) do not behave very differently in terms of constructing this sentence type, as some of the strategies used for signaling it are shared between languages of both modalities. However, as Cecchetto (2012) pointed out, it is well-known that OLs can resort to many more linguistic devices, besides intonation, for marking polar interrogatives (e.g. changing the word order, adding special morphology on the verb or using a question particle). By contrast, SLs seem to strictly depend on nonmanual marking to distinguish this structure from the others. For this reason, Cecchetto (2012) suggests that this could be a field of macrotypological variation between both language modalities, with respect to the number of strategies they use to mark polar
interrogatives. Notwithstanding, there is yet a lot of research to be done in this specific field, and maybe, SLs have more marking devices that, for now, are unknown.

2.4. Proposed syntactical analyses for polar interrogatives in SLs

For the time being, there are basically two syntactic analyses (within the X’ theory) that can explain polar interrogatives constructions in SLs. Both proposals try to include in their explanations the nonmanual marking distribution and the possibility of an optional manual sign (question particle); since, as it has been shown, these are the most wide-spread devices for marking polar interrogatives in SLs. Let us review the proposals one by one.

The first analysis to be reviewed is the one proposed by Wilbur & Patsche (1999), Šarac & Wilbur (2006) and Šarac et al. (2007) for ASL, HZJ and ÖGS polar interrogatives. Their proposal is based on the traditional analysis of polar interrogatives, where there is a feature in Cº (named Q) that in order to be checked, needs the material containing a feature F_Q (i.e. material being questioned) to be moved to SpecCP (fulfilling, in this way, the requirements of Spec-head agreement). As they claim that standardly polar interrogative NMMs “spread over the whole polar question, the entire question is under the scope of the question operator” and, thus, all lexical material in TP must move to SpecCP (Šarac & Wilbur 2006: 156). This can be observed in Figure 1.

Figure 2. Basic form and final form of polar interrogatives for ASL (Wilbur & Patsche 1999: 20).

But, what happens when a question particle appears? Šarac & Wilbur (2006) and Šarac et. al (2007) explain how the structure works when sentence-initial JE-LI (IS-IT) Q-sign appears
in HZJ polar interrogatives. As they claim that the intensity of NMMs increases towards the end of the clause and JE-LI does not bear the most intense nonmanual marking, they suggest that NMMs are not directly linked to the position of JE-LI and moreover, it should be analyzed as a left adjunct to TP. It also moves with TP to SpecCP so it can appear in first position and also be under the scope of nonmanual marking (See the Figure 2). When it appears sentence-finally, the authors postulate that it should be considered an interrogative tag, since, although it seems that NMMs become more intense on final JE-LI, there is a small prosodic break before it.

Let me turn now to the second analysis, proposed by Neidle et al. (1996, 2000) for ASL. As opposed to the previous analysis, they argue that c-command relations are the underlying syntactic phenomenon that can explain the spread of NMMs. Moreover, they claim that this syntactic relation is more evident in SLs, since these languages provide direct visual data. Neidle et al. (1996: 3) also postulate that NMMs are associated with abstract features, which are located in the heads of functional projections, and that their spreading is optional over their C-command domain.

Thereupon, they claim that both yes-no question feature [+ y/n] and an optional question particle are located in C°, position that c-commands the entire clause (Tense Phrase or TP in the figure presented below). What they postulate is that when there exists a manual sign
that can co-occur with NMMs (i.e. question particle), those have the option of spreading over the entire clause or co-occurring solely over the question particle sign. However, when there is no manual sign for NMMs to co-occur with, NMMs are required to spread over the C-command domain of Cº and be realized with manual material.

Figure 4. C-command domain of Cº, nonmanual marking scope in ASL (Neidle et. al 1996: 7).

Figure 3 clearly represents which part of the clause falls under nonmanual marking scope when a manual sign (i.e. question particle) does not appear in Cº. As this proposal was for ASL, QMwg stands for its question particle. Note that it appears in parentheses, meaning that it can be performed optionally. When it does not appear, NMMs necessarily spreads over its C-command domain; when it appears, the raised eyebrows associated with [+y/n] feature can optionally spread over the C-command domain. Then, this analysis could give us any of the following structures as a result (for ASL)\textsuperscript{17}:

(18) \[\text{\textsc{y/n}}\]
\[\text{JOHN BUY HOUSE QMwg}\]
\[\text{“Is John buying a house?”}\]

(19) \[\text{\textsc{y/n}}\]
\[\text{JOHN BUY HOUSE QMwg}\]
\[\text{“Is John buying a house?”}\]

(20) \[\text{\textsc{y/n}}\]
\[\text{JOHN BUY HOUSE}\]
\[\text{“Is John buying a house?”}\]

\textsuperscript{17} These examples appear in Neidle et. al (1996: 8).
Moreover, according to Neidle et. al (1996), these are the structures expected to be grammatical for polar interrogatives in ASL. It is worth mentioning that this analysis is quite similar to the one reported by Neidle et.al (2000) and Pfau & Quer (2002, 2007) for negation. Neidle et. al (2000) suggest that in negative clause structures in ASL, both [+neg] feature (realized by NMMs; i.e. headshake) and the manual sign NOT are positioned in the head of NegP\(^{18}\). Then, NMMs can be performed solely over the sign or can spread over the c-command domain of Neg\(^{6}\). However, when there is no manual sign (i.e. NOT), and therefore NMMs associated with [+neg] feature has no manual material to be attached to; NMMs are forced to spread over its C-command domain. This is represented here:

![Diagram](image)

Figure 5. C-command domain of Neg\(^{6}\); realization of NMMs associated with [+neg] feature

(Adapted from Pfau and Quer 2002: 77).

What Pfau & Quer (2002, 2007) bring to the analysis is that they consider that in some SLs, [+neg] feature is in fact “a featural affix comparable to tonal affixes” in OLs; meaning that “[+neg] imposes a prosodic alteration on the manual sign it attaches to” (Pfau & Quer (2007: 9). For example, in LSC a clause can be negated by solely marking the verb with the NMMs associated with [+neg]; that would not result in a grammatical structure for ASL

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\(^{18}\) According to Haegeman & Zanuttini (1991) and Haegeman (1995) (both in Pfau & Quer 2002: 77), the NEG-criterion requires Neg\(^{6}\) hosting a [+neg] feature to be in a Spec-head agreement with a negative operator.
and, hence, Neidle et.al (2000) analysis does not predict that. However, what Pfau & Quer (2002, 2007) suggest is the following: when there is a manual sign present in Neg° (i.e. NO), [+neg]aff will be affixed to it; but, when there is no manual material for the [+neg]aff to be attached with (because its appearance its optional), V-to-Neg raising movement is triggered in order for the affix to be performed with manual material. This phenomenon is imposed by the Stray Affix Filter (Baker 1988; in Pfau & Quer 2002: 78 and 2007: 9), “which bans free bound morphemes in syntax”. Therefore, [+neg]aff can be attached to the verb and, hence, negative nonmanual marking only over the verb is grammatical in LSC. Moreover, this analysis for LSC also fulfils NEG-criterion requirements, as [+neg] feature is located in Neg° and it is in Spec-head agreement with a negative operator that may be empty or overt (i.e. NO-RES). This is show in the Figure 3:

![Diagram](image)

**Figure 6.** LSC negative clause structure (from Pfau and Quer 2007: 9).

Note where NO sign and [+neg]aff are located and where the overt negative operator NO-RES is: they are in Spec-head agreement. See that when NO sign is not performed, V-to-Neg rising is required for the affix to be attached to some manual material. As Pfau & Quer (2002: 78) sum up, ASL and LSC differ in terms of the character of their [+neg] feature: it is syntactical for ASL but morphological in LSC.
At this point I would like to comment very briefly on an analysis for Catalan proposed by Prieto & Rigau (2007), as their neutral polar interrogatives allow for the presence of an optional particle *que*. They base their analysis on Rizzi’s (1997, 2001) complementizer zone proposal:

(21) [Force (Topic) (Focus) (Modifier) (Topic) Finiteness [IP]]

This rich structural zone system is delimited by two heads and their projections. The first one is Force, which carries the illocutionary force (sentential modality) of the proposition (i.e. declarative, interrogative, exclamative, etc.). The second head is that of Finiteness, which expresses “the finite or non-finite character of the sentence” (Rizzi 2013: 42). As it can be observed, the space delimited by Force and Finiteness can host positions “dedicated to expressing properties of scope and discourse semantics” (Rizzi 2013: 42), which can remain inactivated. Rizzi (2013) adds that, often, only one of both head positions is lexicalized. Let us see the examples presented in Prieto & Rigau (2007: 22), which they explain using Rizzi’s (1997, 2001) proposal for the complementizer zone:

Neutral Catalan polar interrogatives

(22) Plou?
   rains
   “Is it raining?”

(23) Que plou?
    that rains
   “Is it raining?”

The examples above correspond to neutral Catalan polar interrogatives. Prieto & Rigau (2007) analyzed them as in (24) and (25) respectively (in Rizzi’s (2013) left periphery proposal):

(24) [ForceP Operator’ [Force + neutral interrogative [FinP e [IP … t’ plou ]]]]

(25) [ForceP Operator’ [Force + neutral interrogative [FinP que [IP … t’ plou ]]]]

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19 These examples are from Prieto & Rigau (2007: 22).
Analysis (24) is for (22) and analysis (25) is for (23). In both examples, ForceP shows neutral interrogative features, and both sentences are headed by an interrogative operator which only carries prosodic information (no lexical material is realized). The head of FinP is only realized phonologically in (23) by the conjunction que. However, still adding this particle to the sentence, both structures remain neutral polar interrogatives.

These have been the analyses proposed so far for SLs polar interrogatives. Prieto & Rigau (2007) proposal have been add in order to support my specific syntactic proposal for LSC polar interrogatives. As Rizzi’s (2013) proposal, I will argue that a more complex complementizer zone is also needed in order to explain some structures with different nonmanual marking scope.

3. Methodology

This chapter deals with the backstage of this research. It explains where the linguistic corpus used comes from, who the participants providing the examples were and how these examples were annotated for making them visible in the work.

3.1. Linguistic Corpus

The research presented here is mainly based on elicited data. Most of the information about polar interrogatives clauses was collected through grammaticality judgments tasks, where the participants were asked to assess the acceptability of the constructions proposed. Moreover, three other different techniques were used in order to get examples from semi-spontaneous and spontaneous communication interactions between the participants:

1) *Who is who game*: participants played the popular game with photographs of people close to them and with photographs of famous people.
2) *Context game.* Some preceding contexts of a polar interrogative were proposed. Participants were asked to perform a polar interrogative according to the situation.

3) *Theatre game.* Participants were given a context and a character role and were asked to perform the situation.

The first activity was useful to understand the main inherent characteristics of polar interrogatives in LSC (basic word order, neutral nonmanual marking form, most neutral nonmanual marking scope, etc.). Furthermore, the last two activities certainly provided interesting information about the variation of nonmanual marking scope and nonmanual marking within the structure under study. All kinds of data were contrasted and showed to the signers for verification. Participants were two LSC native signers, tagged as TG and EB for preserving their identity. Both were raised in native LSC families, went to schools for the deaf in Catalonia and all their entire life have been actively involved in the deaf community. They both work in the academic field (university level) and are familiar with sign languages research.

During the last sessions, they both confirmed that every single construction presented in this work, truly represent LSC. Nevertheless, it is worth mentioning that participants were not sure about the status of all the structures; for some of them, they assessed different levels of acceptability during the sessions. Then, and as far as I am concerned, this preliminary picture of polar interrogatives in LSC should not be taken as definitive. Moreover, it should be understood as a challenge to further investigate within this topic.

3.2. Annotation

All examples presented in this research were videotaped. Important information about polar interrogatives was identified and only the most relevant data were transcribed using the Annotation Glossing System, since it allows us to describe the meaning of each of the
signs of a SL structure through words of an OL. Thus, word order, among other characteristics, is reflected. It is important to mention that glosses are an approximate transcription, since the meaning of the sign could be a little bit different from the one of the word. Nonmanual marking is also reflected by a line over one or more of the signs of a structure: the length of the line represents its scope.

4. Polar interrogative clauses in LSC

This chapter focuses on polar interrogative clauses in LSC. First of all, a formal description of polar interrogative matrix clauses in LSC is provided, paying particular attention to NMMs and the possible question particle YES-NO sign. Subsequently, a syntactic analysis that can account for any of the grammatical structures of LSC polar interrogatives as well as predict those ones assessed as ungrammatical, is proposed.

4.1. Morphosyntactic description of polar interrogatives

As mentioned before (§ 2.3.), sign languages can make use of several mechanisms in order to mark their polar interrogatives (lexical items, word order, nonmanual marking, etc.). LSC polar interrogatives, concretely, most of the time are only identified by the nonmanual markers that accompany them. It seems that word order remains the same as in declarative sentences, thus LSC does not feature any noticeable syntactic mechanism for marking this kind of structure. However, LSC seems to have an optional question particle (YES-NO sign) which is usually used clause-finally. The following section deals with LSC’s own mechanisms for marking polar interrogatives with the aim of presenting a morphosyntactic description of these structures.
4.1.1. Nonmanual Marking

Nonmanual marking is the most significant marking device of question structures in LSC; this should come as no surprise, inasmuch as it is the archetypical feature in almost every, if not all, SLs studied so far —in accordance with Zeshan (2004). Nonmanual marking, as mentioned before, is for SLs the equivalent of intonation for OLs; and, similarly to what happens with it, NMMs are not an exact science: many pragmatic factors can interfere in their realization. Although this issue needs to be further investigated, here I offer my contribution to this yet open field. I will also provide our findings in terms of nonmanual making scope and its possible pragmatic meanings, yet I am aware that future research is also need in this area.

4.1.3.1. Form of nonmanual marking

For LSC, NMMs obligatorily accompany polar interrogatives; it is therefore the key marking device which distinguishes these structures from declarative ones. Nonmanual marking for polar interrogatives usually involves —although it can experience some variation due to pragmatic factors— raised eyebrows, widened open eyes with direct gaze to the addressee, forward and downward head position (sometimes a slight sideway position is added) with slightly raised chin (it can also remain on its horizontal neutral position), small upward shoulders movement and forward body position. Witness them in Figures XX, which include an image of neutral nonmanual marking (before starting the utterance) and an image of polar interrogative nonmanual marking (during an example):
As we can observe, the most prominent NMM features are eyebrow raise and eye widening with eye gaze on the addressee; it is also not difficult to identify the head and body forward position in the examples. Moreover, it is worthy of mention that the NMMs intensity seems to be more conspicuous toward the end of the clause. This subtle difference can be noticed comparing the second images of both examples presented above (Figure 7). In Figure 7 example (a), the NMMs image is taken from the beginning of the sentence; while in Figure 7 example (b), the image is captured during the clause ending. What we can clearly see here is that body and head forward position appear to be more prominent in Figure 7 example (b), where the informant is performing the end of the clause.

Figure 7. Difference between neutral NMM and polar interrogative NMM.
This gradable nonmanual marking intensity seems more obvious in the figure above. Figure 8 example (b), is in fact an error of the informant, who unintentionally interchanged the name of the country for the name of the city and vice versa. Nevertheless, this semantically odd sentence (in this world there is not a country named Paris which has a capital city named France) is indeed a syntactically grammatical utterance. Thus, this unexpected error gives us the chance to compare the NMMs co-occurring with the sign PARIS when it appears at the beginning or at the end of practically the same polar interrogative construction (number of signs, same answer expectation, same nonmanual marking scope, etc.). Then, comparing the images, one can assume that raised eyebrows and wide open eyes occur throughout the whole sentence; and also the eye contact is held. However, body and head move forward during the utterance realization; so one can claim that the culmination of body and head forward position is found at the very end of the clause—as

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20 The sentence would have been understood semantically grammatical if the FRANCE sign would have been marked as a topic. Topic NNM is very similar to the one of polar interrogatives; however, we should have been able to find a little pause and a slightly different head and body movement before the actual question. As NMM works is discontinuous in this utterance, we cannot understand this utterance with the meaning: “As for France, is Paris its capital city?” Then we cannot assume it to be semantically natural.

21 We will talk about nonmanual marking scope in § 4.1.3.2.
we can clearly detect in Figure 8 example (b)—, even sideways head position is more prominent.

Nevertheless, nonmanual marking can in fact experience some changes, either slight or significant ones, due to pragmatic factors. The first thing that may vary is the intensification of nonmanual marking realization. The more intense the NMMs realization is, the stronger the question is uttered. Conversely, weak NMMs realization could be experienced in informal situations or in contexts where the utterance is allowed to be understood uniquely as a polar interrogative. When that happens, the most reduced components in NMMs are the most prominent ones, namely eyebrow raise and eye widening. However, other typical polar interrogative NMMs components (as eye contact or forward head and body movement) seem to remain and are still perceptible in these reduced nonmanual marking structures. Then, identifying a polar interrogative does not become an unattainable task. Another change that polar interrogative nonmanual marking can experience is indeed a change of several of its typical components. Therefore, the structure is marked by a combination of nonmanual marking components that indeed are directly related with other language structures, such as wh-interrogatives. I have not provided this example randomly, since one of the most repeated NMMs combinations in our data for polar interrogatives has been the typical wh-interrogative nonmanual marking. Hence, the structure is marked with furrowed and lowered eyebrows—as opposed to raised ones,— but also with a more prominent forward head and body movement (in most of these cases, chin was also raised). The most outstanding difference between both interrogative NMMs combinations is the position of eyebrows. Let us look at a polar interrogative example which has been performed twice with different NMMs combinations:

22 This observation has nothing to do here with what we have just explained about NMMs intensification towards the end of the clause. It has to do with general nonmanual marking realization over the whole clause.
Is Paris the capital city of France?

Figure 9. Same polar interrogative, different NMM combination.

Raised eyebrows have been presented as the most typical component in polar interrogative nonmanual marking, since it convey the impression that it was more commonly used than lowered eyebrows and appeared in contexts assumed to be pragmatically neutral. Let me explain why I have labeled them in such a way. Wh-interrogative nonmanual marking appears over polar interrogatives in specific contexts which are undoubtedly pragmatically marked. Specifically, signers used wh-interrogative nonmanual marking when they express

\[29\]

\[23\] There is only one situation where it seems that wh-interrogative nonmanual marking do not appear for pragmatic reasons in polar interrogatives. That is when a topicalised element appears before the current interrogative: topicalization has its specific NMs and one of its most prominent features is eyebrow raise (as in polar interrogatives). Then, it seems that signers systematically use wh-interrogative nonmanual marking to
doubt about the fact they are questioning. They also defined the situation in which they will use this NMMs combination as a moment they feel they know the answer of the actual question, but some facts around them make them think that their most logical first answer expectation is not the one they are going to receive. So their answer expectation is in fact different to what their logical mind representation of the world dictates. Our informants also used the sign STRANGE referring to the previous answer of the fact being questioned. In order to explain it in other words, let us complete the context of Figure 9 example (a). This example would make sense only in a situation…:

1. In our real world, where the signer has doubts about the fact of Paris being the capital city of France; because he does not know that information and he tries to confirm his prediction, or maybe because he knew it once, but for the time being he does not remember.

2. In a hypothetical world, where there is a country named France which has a capital city named Lyon —and the signer knows all this information—, but he doubts about it because there are some facts that contradict his own knowledge. For example, he “oversees” a conversation in which its participants allegedly claim that Paris has been proclaimed the new country’s capital city; and he also remembers having seen the French flag on the TV news images (these are the facts that contradict his actual world knowledge). So, when he meets an acquaintance, he immediately asks the question of Figure 9 example (a). His world knowledge would expect a no in response; what is more, this question may result strange and even surrealistic—as for him Lyon has always been the capital city of France. However, the facts make him suspect of his actual mind representation of the world, and

avoid ambiguity (although there is a prosodic break between the constructions) and to clearly distinguish the topic elements from the interrogative clause (See § 4.1.3.2. for more details).

24 In the meaning of overhear.
indeed he expects a yes in response. His acquaintance response can confirm his suspicions or can cancel them: a yes would mean that France capital city has changed and he should incorporate this new information into his mental world representation; a no would mean that he has asked something very weird—as capital cities do not often change—and, then, his interlocutor could and may ask the reason why he raised that question.

See also the pragmatic difference between NMM combinations in polar interrogatives through this example obtained from the “context & question game”. It was quite simple: a context was presented and the signers were asked to perform a question they may raise in that specific situation. Let us look at the example:

Context A. Your friend is always working. He also works in the summer. He hasn't gone on holidays for more than fifteen years. Ask him if he is going to go on holidays this summer.

Outcome: wh
1X2 HOLIDAY GO
“Are you going on holiday?”

Context B. Your friend loves travelling. He is always looking forward to the summer. He has visited more than forty countries in the past fifteen years. Ask him if he is going to go on holidays this summer.

Outcome: y/n
1X2 HOLIDAY GO
“Are you going on holidays?”

**Figure 10.** Pragmatic meaning of different NMM combination (game example).

The reaction of the signer in context A. (Figure 10) is to show his skepticism by using the wh-interrogative nonmanual marking. This way, he shows that he really doubts his friend is going to go on holiday. Wh-interrogative NMM combination for polar interrogatives is then pragmatically marked (compare it with context B. outcome (Figure 10)). Moreover, let us dwell on context A. a little bit more; since another NMMs combination was also
obtained for the same structure. This NMMs combination was almost the same as the typical polar interrogative NMMs (explained before); but in this case, the chin, rather than staying at the same horizontal level or being raised, was tucked downwards. When that happened, signer informed that he pretend to add SURPRISE to the interrogative:

![Image](image.png)

GO
y/n + cd
IX2 HOLIDAY GO
“Are you going on holiday?”

**Figure 11.** Context A. (Figure 4) different NMM combination outcome.

As we have seen, changing the combination of nonmanual marking features can result in a difference in pragmatic meaning. Being raised eyebrows and forward body and head position the most typical and neutral nonmanual marking features of polar interrogatives, another nonmanual marking feature such as tucked chin or lowered eyebrows can actually be added to the NMMs combination in order to change the interrogative final interpretation. Moreover, these nonmanual marking changes could be directly linked to different subtypes of polar interrogatives (such as anti-expectational or confirmatory questions\(^{25}\)). Notwithstanding, this field is yet open to future investigations, since I have not gone further and there is not enough evidence to prove that. All in all, any structure marked with one of the previous presented NMMs combinations, will be obviously grammatical and understood as polar interrogatives.

\(^{25}\) See Prieto & Rigau (2007) for a more detailed explanation of different subtypes of polar interrogatives.
4.1.3.2. Nonmanual marking scope

Nonmanual marking scope is an important notion that, first and foremost, must be defined. In the words of Zeshan (2006: 39), nonmanual marking scope is “the extent of a string of manual signs co-occurring with the non-manual marker”. Thus, when it is said that a manual sign falls under nonmanual marking scope it means that it actually co-occurs with the NNMs. Having said this, nonmanual marking scope in LSC polar interrogatives is usually the whole clause. That means that nonmanual marking has their onset at the very beginning of the clause and extends until the end. However, polar interrogative nonmanual marking does not take scope over topicallyzed constituents, if any. Look the example:

(26) top y/n
   IX1 BOOK IX2 READ ALREADY
   “As for my book, have you already read it?”

Note that NMMs involved in topicalization are quite similar from those of polar interrogatives (being the raised eyebrows the most outstanding feature). So, in these cases where a topicalization coexists with a polar interrogative, the NMM of this last one preferably changes to wh-interrogative NMM. So it is more frequent to find structures such as the following one:

(27) top wh-
   IX1 BOOK IX2 READ ALREADY
   “As for my book, have you already read it?”

Turning into the scope issue, it seems that NMM scope in LSC can also affect the scope of interrogation. In other words, varying the scope of NMM can disambiguate which of the elements of the clause is being questioned\(^{26}\) (examples from Figure 12).

\(^{26}\) This has also been reported for HKSL (Tang, 2006) and for FinSL (Savolainen, 2006).
Context A. Your daughter has an excursion today and this morning you have prepared her picnic lunch. To accompany the meal, you have added some bread. When she arrives at the afternoon, you want to know if she ate the bread. Ask her about it.

Outcome: y/n
IX2 BREAD EAT
“Did you eat the bread?”

Context B. You arrive home after work. You see your daughter at the kitchen eating something (she has already finished what she was eating, but she still has her mouth filled). Ask her if she has eaten the bread.

Outcome: y/n
IX2 BREAD EAT
“Did you eat the bread?”

Context C. You are in the kitchen and you see some bread on the table. Then, your daughter enters the kitchen and you both talk. You leave 5 minutes because the telephone rings. When you come back to the kitchen, there is no more bread. You do not know what your daughter has done with it. Ask her if she has eaten the bread.

Outcome: y/n
IX2 BREAD EAT
“Did you eat the bread?”

Figure 12. Scope of interrogation disambiguated through NMM scope (game example).

Different interrogation scopes can be observed in Figure 12. However, it cannot be denied that this is just a first impression. For the time being, no sufficient data is available to claim that, since most of the time LSC signers make use of topicalization for varying the interrogation scope. Still, the results contained here are accurate to the best of our knowledge and thereby this could represent a new line of research in LSC (correlation between NMM scope and the scope of interrogation) that has never been established before.
4.1.2. YES-NO Q-sign

In addition to NMM, LSC features a Q-sign for polar interrogatives that can arguably be a question particle, such as those that have been reported in many other sign languages in previous studies (Neidle et al., 2000; Fischer, 2006; Valli et al., 2011 for ASL; Savolainen, 2006 for FinSL; Tang, 2006 for HKSL; Šarac & Wilbur, 2006 for HZJ; Herrero, 2009 for LSE; Morgan, 2006 for NS; Šarac et al., 2007 for ÖGS and Zeshan, 2006 for TÍD). Zeshan (2004) also points out that question particles are found in the sign languages of Denmark, South Korea, Taiwan and possibly in the sign languages of Tanzania and Kenya.

I have glossed this sign in this work as YES-NO. Below I offer a description of this Q-sign and I explain our arguments in order to make clear why I claim this sign to be a question particle within the grammatical category classification.

4.1.2.1. Morphosyntactic description

YES-NO is a one-handed sign which is made with index configuration in two consecutive, quite rapid, wrist (or just finger) movements. The first movement is from the top downwards (which is performed as the sign ALSO/TOO, and could be said to correspond to the part of the sign understood as yes) and the second one, from the left to the right (which is performed as the sign NEITHER, and also could be said to correspond to the part of the sign interpreted as no); both movements are done in the frontal plane. Despite the fact that this sign could be probably perceived as actually two, since only one movement per sign is expected by default—one path between two articulation points (Quer, 2004)—, both informants described YES-NO sign not as the result of a sequence of two signs but rather as one bimorphemic (concept proposed by Tang, 2006) unique sign. Just as what found Tang (2006) for A+–A Q-signs in HKSL, the phonological deletion process (due to the complexity of the syllable) also makes YES-NO being compressed
temporally. This is what gives us the impression that YES-NO is not a very large sign and it only occupies a very little space when performed. See Figure 13 below:

![Figure 13](image)

**Figure 13.** Sequences of both informants performing the YES-NO sign.

As I have already said, YES-NO Q-sign only appears in polar interrogatives —our informants reported it is never used in wh–interrogatives, otherwise they become ungrammatical sentences, see example (29a)—. However, it does not need to be uttered in every construction, see example (28b). YES-NO is an optional sign for marking explicitly a polar interrogative clause, when it is not used, the clause will remain with the same declarative clause word order and it will just be marked with NMM, which are compulsory.

(28) Polar interrogative with and without the YES-NO Q-sign

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>y/n</td>
<td></td>
<td>y/n</td>
<td></td>
</tr>
<tr>
<td>a. IX₂ SLEEP YES-NO</td>
<td>“Have you slept?”</td>
<td>b. IX₂ SLEEP</td>
<td>“Have you slept?”</td>
</tr>
</tbody>
</table>

27 Note that the non-dominant hand also appears in the frontal plane, this is due to the precedent sign (which was PARTY) performed with both hands in that same signing space. The simultaneity of the language allows us to maintain part of the sign until the end of the clause and this is why we can still see it. However, it has nothing to do with YES-NO question particle.

28 One of the reasons of its optionality is that the YES-NO sign also triggers certain pragmatic meanings, explained later.
See the difference in grammaticality between polar and wh-interrogatives when the YES-NO sign is added at the end of both interrogative clauses. This should come as no a surprise: the sign itself is a reference to polarity, since it is composed (interpreted) by the quintessential adverbs for negation and affirmation —which will be the expected answers in polar interrogatives—.

It is important to mention that when the YES-NO sign occurs, it is always marked with prototypical polar interrogative NMM: body and head are pushed forward, shoulders make a slight movement upwards or not, the chin is usually raised, there is eye contact with the addressee and eyes are wide open while the eyebrows are also raised. Note that the second part of the sign —or what could be identified as its second part (second movement)—, which matches with the NO, is accompanied with an “O” mouthing. Catalan and Spanish —OLs with which LSC shares the same geographical area— words for no are pronounced [no], being [o] the unique vocal sound of these words; it is the same mouthing we can observe in the sign. Notice the NMM and [o] mouthing at the end of the sign in Figure 1 above. Note that the first informant makes more use of body lean forward, while the second informant raises the chin more prominently. As already mentioned, polar interrogatives are obligatorily marked by NMM; but when the YES-NO sign occurs, it is capable of carrying the obligatory NMM by itself. That would mean that adding the YES-NO Q-sign at the very end of a clause (with its corresponding polar interrogative NMM), would in fact turn that sentence into a polar interrogative: and this is true. See the following example:
It seems this is a declarative sentence until right after the sign DRINK. Then, when the Q-sign appears and polar interrogative NMM co-occurs over it, it actually becomes an interrogative clause. However, the NMM that accompany the Q-sign usually appear over the rest or part of the preceding signs too. Notwithstanding, it is not possible to find a question without NMM over the Q-sign, see example (31b). This leads us to obviously confirm that YES-NO is not a substitute for NMM:

(30) \[ \text{y/n} \]
\[ \text{IX}_2 \text{ WATER DRINK YES-NO} \]
“Did you drink water?”

Let us address next the distribution of YES-NO Q-sign. This particle is typically found at the end of the clause, although in some specific cases it can also occur at the left edge of the sentence. When it is found at the very beginning, the NMMs that accompany the particle are quite different from those I said were found for polar interogatives: the difference lies in how they are performed; they are even more prominent. Note that in example (32b) NMM takes scope over the whole sentence. This final structure seems completely coherent after presenting what have been observed. Since the YES-NO sign appears at the very beginning —and it should be always marked with NMM— and, as seen in the previous section, NMM excluding the last position in the clause is not possible for LSC polar interogatives, then, they should spread over the whole sentence, marking all the components of the current interrogative. See the distinction of NMM over YES-NO sign in the following examples:
Marking YES-NO solely will result in an ungrammatical sentence; as it can be observed in the following example:

\[(32) \quad y/n\]

\[\ast \quad \text{YES-NO IX;} \text{ WATER DRINK}\]

\[\text{“Did you drink water?”}\]

It is important to know that repeating the YES-NO Q-sign twice —sentence-initially and sentence-finally— in the same clause is not possible. So, when it occurs either in clause-final (the most preferred one) or in clause-initial position, it appears within the same prosodic unit as the rest of the clause. In other words, there is no intonational change that can be perceived; hence it seems that everything happens on the same intonational phrase. It is then a strong argument for claiming that actually it is not an interrogative tag; since they are usually preceded by a change in intonation.

The YES-NO sign could also appear in embedded polar interrogatives clauses, although it is quite uncommon. However, with embedded clauses, the picture is a little bit different. I have not looked deeply into subordinate clauses, but some important information needs to be exposed to argue for the analysis I present in one of the following sections. As I have
said, the YES-NO sign can also optionally appear in embedded polar interrogatives, but its distribution is slightly different from matrix questions. Preferably, it will appear at the end of the current polar interrogative, as in the following example:

\[(33) \quad \boxed{\text{e-y/n}} \]
\[
\text{IX}_2 \text{ KNOW } \text{IX}_3 \text{ CANDY EAT YES-NO}
\]
\[\text{You know whether he has eaten the candy.} \]

However, there is no optionality of including the sign sentence-initially in these structures. In fact it can appear in linearly initial position in some cases, but it actually changes the meaning of the sentence. It seems that the reason is that YES-NO is interpreted as taking scope over the main clause. That means that if the Q-sign is included right before the embedding clause, YES-NO will be interpreted as part of the main clause, turning the sentence into a matrix polar interrogative. See it clearer through this figure:

\[
\text{IX}_2 \text{ KNOW IX}_3 \text{ SWEET EAT YES-NO} \quad \quad \quad \quad \quad \quad \quad \quad \text{IX}_2 \text{ KNOW YES-NO IX}_3 \text{ SWEET EAT}
\]

**Figure 15. Verb preference of YES-NO sign.**

As observed, the YES-NO sign takes scope over the clause to its left. When it linearly appears right before the embedded clause, it is actually adjacent to the main verb. Then, the result is a matrix polar interrogative:

\[(34) \quad \boxed{\text{y/n}} \]
\[
\text{IX}_2 \text{ KNOW YES-NO IX}_3 \text{ SWEET EAT}
\]
\[\text{“Do you know whether he has eaten the sweet?”} \]

---

29 For the moment, we mark NMM as e-y/n (embedded yes-no question). Later on, we will explain exactly which combination of NMM occurs in these structures.

30 We use the word *preference* as this is what our informants reported, however there is no evidence of no context where YES-NO would form part of the embedded clause. So, we cannot take for granted that it is not possible in some very specific contexts.
4.1.2.2. **Meaning**

Nevertheless, YES-NO is not an unmarked question particle at all. Our informants tried to define it and made use of the following signs: ATTENTION, URGENT, FASTER and EMPHASIS. Then, it is obviously observed that YES-NO sign function is not just marking explicitly polar interrogatives as it does not have by any means a neutral meaning. This would explain why its use is optional and why signers use the particle more often when they raise the same question for the second time: YES-NO question particle is pragmatically marked as it is strongly demanding an answer while putting the interlocutor under pressure for getting his/her response as rapidly as possible. It has been observed that the faster we want our question to be responded, the more prominent and rough our NMM would be. This would be equally playing with ones intonational voice force in OL: when we are anxiously seeking an answer our voice’s tone would be stronger, louder and also rougher.

4.1.3. **Other syntactical mechanisms**

At first sight, LSC does not own any other particular syntactic device to mark polar interrogatives. However, as Zeshan (2004) reported for other SLs, pronouns in LSC can also be doubled (i.e. occurring in its normal position and also in clause-final position) or can be moved to the very end of the clause (resulting in a change of neutral word order). See these cases in examples (36) and (37):

(35) Doubled pronoun

\[
\text{y-n} \quad \text{IX2 DEAF IX2}
\]

“Are you deaf?”

(36) Moved pronoun

\[
\text{DEAF IX2} \quad \text{y-n}
\]

“Are you deaf?”

Nevertheless, neither of these syntactical mechanisms is obligatory in LSC polar interrogatives and it seems they just convey emphasis to the proposition uttered. TG and EB also reported that.
4.2. Syntactic analysis of polar interrogatives

In the following section, an analysis is proposed in order to explain the syntactic behavior of polar interrogatives in LSC. To this end, NMM distribution and YES-NO Q-sign location will be taken into account. Like ASL (Neidle et. al 1996, 2000), I will argue that for LSC the head $C^0$ of CP and its specifier SpecCP must be located on the right in the syntactic tree. Moreover, NMM is realized within prosody (phonological marking), although its distribution (scope) is determined by the syntax.

First of all, it is necessary to resume the main ideas of the analyses proposed so far for polar interrogatives. As it has been explained, the first analysis, which falls within a more traditional perspective, is the one provided by Wilbur & Patsche (1999), Šarac & Wilbur (2006) and Šarac et al. (2007). What they claim is that the material being questioned (i.e. the TP) is moved to SpecCP in order to check the Q feature located in $C^0$ by Spec-head agreement. Moreover, as the entire question is under the scope of the question operator, NMM appear over the whole clause. Regarding the question particle Q-sign, they postulate that it is a left adjunct of TP that moves altogether with TP to SpecCP for checking the Q

Figure 16. LSC syntax structure.

31 This is also supported by Celia Alba (2010).
feature. On the other hand, the second analysis, proposed by Neidle et al. (1996, 2000) — and also applied in negative structures by Pfau & Quer (2002, 2007)—, opens up a quite new perspective. For them, both the Q-sign and +y/n Q feature (realized by NMM) must be located in C°. What they claim is that for the +y/n Q feature to be realized, it must be attached to some manual material. When it is not the case (i.e. it no Q-sign appears), c-command relations are the syntactic property responsible for NMM spreading, since they will be required to be extended over the c-command domain of C°.

Given these analyses, my proposal would be that LSC polar interrogatives can be analyzed along the lines of Neidle et al.’s (1996, 2000) analysis for ASL polar interrogatives. Moreover, I postulate that, as Pfau & Quer (2002, 2007) proposed for [+neg] feature in their work, the [+y/n Q] feature located in C° is also a featural affix that must co-occur with some manual material. In addition, we will see how Pilar & Rigau (2007) analysis for Catalan polar interrogatives (within Rizzi’s 1997, 2000 left periphery proposal) provides support for this proposal. To this purpose, hereupon I present the most fundamental LSC data for arguing in favor of my proposal.

As we have seen in Figure 7 example (b) repeated here in (38), LSC polar interrogatives are identified by NMM, which are usually extended over the whole clause:

(37) y/n
IX₂ BREAD EAT
“Did you eat bread?”

However, when the YES-NO Q-sign appears, the NMM behaves a little bit different: it can appear just over the Q-sign or it can also be extended over the whole clause. The following examples represent the two possibilities:

32 Pfau & Quer (2002, 2007) argue [+neg] feature to be an affix which could be the equivalent to tonal affixes for OLs.
This behavior could be explained just by saying that \( C^° \) is occupied by the \([+y/n \text{ Q}] \) feature and the Q-sign. The latter’s appearance is completely optional, since it is not the main polar interrogative marker. By contrast, the NMM remain obligatory in all polar interrogatives. Moreover, I argue that \([+y/n \text{ Q}] \) feature is an affix, just what Pfau & Quer (2002, 2007) claim in their work for the \([+\neg] \) feature, and that is then required to be articulated with some manual material. When the YES-NO sign appears, NMM is attached to it and structures like (39a) can be uttered. As Neidle et al. (1996, 2000) postulate, although there exists some manual material for the NMM to be articulated with, those also have the option of spreading over the entire clause (i.e. C-command domain of \( C^° \)), resulting in structures such as the one represented in (39b). Notwithstanding, when no Q-sign appears in \( C^° \), NMM do not have any manual material to be attached to and, thus, the whole clause falls under NMM scope, since they are required to spread over the C-command domain of \( C^° \). That will explain examples as the one we find in (38)). Look at the following figures:

**Figure 17.** Syntactic tree for polar interrogatives without YES-NO Q-sign; NMM required spreading over C-command domain of \( C^° \).

**Figure 18.** Syntactic tree for polar interrogatives with YES-NO Q-sign; NMM optional spreading over C-command domain of \( C^° \).
Figure (17) shows why NMM have their onset at the beginning of the clause and extends until the end when no Q-sign appears on the clause: the \([+y/n \text{ Q}]_{\text{aff}}\) feature needs to be performed with manual signs, thus it extends over the C-command domain of C\(^o\) (example (38). Figure (18), on the other hand, shows what happens when the YES-NO sign appears: the realization of the\([+y/n \text{ Q}]\) feature can be coarticulated with the Q-sign and optionally spread over the C-command domain of C\(^o\).

In previously examples, repeated here in (40), I showed that NMM do not take scope over any topicalized constituents:

\[
\begin{array}{c}
\text{top} \\
\text{IX1 BOOK IX2 READ ALREADY} \\
\text{“As for my book, have you already read it?”}
\end{array}
\]

My proposal will take into account this behavior too: as Rizzi’s (2001) proposal for the complementizer zone, I will also claim that TopicP is found in a higher level (in regard to where we find the \([+y/n \text{ Q}]\) feature) and hence it will not fall under polar interrogative NMM scope (it is not on the c-command domain of C\(^o\)). Remember Rizzi’s (2001) proposal reproduced in (41):

\[
\begin{array}{c}
\text{[ Force (Topic) (Focus) (Modifier) (Topic) Finiteness [ IP ]]} \\
\text{[ Force + neutral polar interrogative } (+y/n \text{ Q}]_{\text{aff}} \text{ ForceP } \epsilon ]}
\end{array}
\]

In his proposal, used by Prieto & Rigau (2007) for Catalan polar interrogatives, the \([+y/n \text{ Q}]_{\text{aff}}\) feature, the operator containing suprasegmental (i.e. prosodic) information which expresses the sentential modality of the proposition, will appear in ForceP. Moreover, topicalized constituents are base-generated in an extra higher position (i.e. inside TopicP). See the extended representation of the complementizer area for example (40) down below:

\[
\begin{array}{c}
\text{[ TopP … IX1 BOOK ] … [[[ IP … IX2 READ ALREADY ] Finiteness } \epsilon ] \\
\text{Force + neutral polar interrogative } (+y/n \text{ Q}]_{\text{aff}} \text{ ForceP } \epsilon ]}
\end{array}
\]
Figure 19. Syntactic tree representation: polar interrogative with a topic.

As one can observe, the \([+y/n \text{ Q}]_{aff}\) feature realized by NMM does not have TopicP in its C-command domain, so it will never fall under the scope of the polar interrogative NMM. TopicP and the rest of the clause are produced in two separated intonational phrases, although the most outstanding marking of the topic and the polar interrogative happen to be the same in LSC: eyebrow raise. However, this could explain why structures such (43) are more frequent than structures such as (40): a change in NMM will identify both parts of the sentence easily. Moreover, I hypothesize that maybe the use of wh-interrogative NMMs is for distinguishing both structures. The change is produced in polar interrogative NMM as another combination of NMM directly associated with interrogatives already exists in the language:

(43) \[
\text{top} \quad \text{wh-} \\
\text{IX1 BOOK IX2 READ ALREADY}
\]

“As for my book, have you already read it?”

Moreover, the NMM of \([+y/n \text{ Q}]_{aff}\) feature would not necessarily spread over the C-command domain of Forceº if this position also carries a lexical indicator of the illocutionary force of the sentence. This suggests that YES-NO Q-sign in LSC would also occupy that position in the complementizer area. Then, neutral polar interrogatives such as
the ones presented in (38), (39a) and (39b) can be represented as in the following simplified structures:

(44) Polar interrogative without YES-NO Q-sign; NMM takes scope over C-command domain of ForceP as it needs some manual material to be attached to:

\[
[[[[ IP \ldots \text{BREAD EAT}] \text{FinP} \ e] \text{Force} + \text{neutral polar interrogative } (+y/n \text{Q}_{\text{aff}}) \text{ForceP} (\ e)]]
\]

![Diagram](image1.png)

**Figure 20.** Syntactic tree representation: example (38).

(45) Polar interrogative with YES-NO Q-sign; NMM do not need to take scope over C-command domain of ForceP as it can co-occur with manual material:

\[
[[[[ IP \ldots \text{WATER DRINK}] \text{FinP} \ e] \text{Force} \ + \text{neutral polar interrogative } (+y/n \text{Q}_{\text{aff}}) \text{ForceP} (\ e)]]
\]

![Diagram](image2.png)

**Figure 21.** Syntactic tree representation: example (39a).

(46) Polar interrogative with YES-NO Q-sign; NMM spread optionally over C-command domain of ForceP although it has manual material to co-occur with:
As previously explained, Catalan polar interrogatives involving the *que* particle still are considered neutral polar interrogatives, just like what one can report for LSC polar interrogatives with or without YES-NO Q-sign. In addition, what lead me not to base my proposal on Wilbur & Patsche (1999), Šarac & Wilbur (2006) and Šarac et al. (2007) is that they claimed that the Q-sign must occur as an adjunct of TP, being directly delinked with respect to NMM. However, in LSC, the most intense NMM are found towards the end of the clause, appearing more prominently over the YES-NO Q-sign when it is performed sentence-finally. Remember the examples of Figure 8, now reproduced in Figure 23, where the signer made an error that let us compare the NMM intensity over the same sign (PARIS) when it appears sentence-initially or sentence-finally.

Rizzi’s (2013) proposal and Prieto & Rigau’s (2007) analysis for Catalan polar interrogatives were crucial for claiming that the YES-NO Q-sign as a lexical identifier of sentential modality (i.e. meaning of the sentence), must occupy a position in the complementizer domain and not inside the TP (i.e. IP for some authors) as Wilbur & Patsche (1999), Šarac & Wilbur (2006) and Šarac et al. (2007) postulated.
By way of a summary, what my proposal claims for LSC polar interrogatives is that its interrogative operator, which involves suprasegmental information and it is realized through NMM, is in fact a featural affix that needs to be attached to some manual material—comparable to tonal affixes in OLs. This manual material could be the YES-NO Q-sign which is also located in the complementizer zone (specifically in Fin° just as que particle in Catalan). The optional presence of the Q-sign is what demonstrate that the \([+y/n \text{Q}]_\text{aff}\) feature is the main marker (i.e. indicator) of polar interrogatives in LSC. When the YES-NO Q-sign is not performed, \([+y/n \text{Q}]_\text{aff}\) feature will require the NMM to spread over the C-command domain of Force° (CP in the unextended version) in order for them to be performed altogether with manual material. Moreover, I have demonstrated that topics will never be under polar interrogative NMM scope, since they occupy a higher position in the hierarchical structure. Since topics and polar interrogatives in LSC are identified with almost the same NMM, it is not uncommon to find structures where the signers use the NMM specifically indicated for wh-interrogatives to mark the current polar interrogative. By this way, ambiguity is avoided between both structures, although a prosodic break is always found between them.
5. Conclusions and future research

In this present work, I have described polar interrogatives in LSC morphosyntactically. It has been shown that the main device for identifying these structures is nonmanual marking. The combination of NMMs involves eyebrow raising as the most prominent NMM. Nonmanual marking scope is not the same in all structures; I have provided examples showing its different spreading options. Moreover, it has been shown that LSC can optionally include a Q-sign in polar interrogatives. As we have seen, this Q-sign adds a pragmatic meaning to the clause, in the form of strongly demanding an answer. Both devices (i.e. NMMs and the YES-NO Q-sign) were crucial for the proposed syntactic analysis. This proposal was based on Neidle et al.’s (1996, 2000) previous work for ASL — further researched by Pfau & Quer (2002, 2007) for negative constructions in ASL, LSC and DGS—. Prieto & Rigau’s (2007) contribution to Catalan polar interrogative analysis — based on Rizzi’s (2001) proposal for an extended complementizer zone— also supported the analysis presented in this work. Wilbur & Patsche (1999), Šarac & Wilbur (2006) and Šarac et al. (2007) analysis for polar interrogatives in ASL, HZJ and ÖGS was dismissed, as their main claim for Q-signs location was understood as not the most viable.

Notwithstanding, I am aware that the present work is just a preliminary picture of how polar interrogatives function in LSC. Hence, there is still a lot of research to be done, specifically in terms of nonmanual marking. I am confident that a more extended description of NMMs scope will lead us to find a more accurate syntactic analysis. Moreover, it will be necessary to conduct further research on NMMs distribution and the pragmatic meaning they add to sentences in order to establish a possible correlation between these two concepts. Nevertheless, for the time being, this work has provided more information about LSC and, to the best of my knowledge, it has contributed to a better understanding of the linguistics of SLs.
6. References


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