

Research Article

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Modality in Spanish Sign Language (LSE) revisited: a functional account

<https://doi.org/10.1515/ol-2018-0020>

Received May 10, 2018; accepted August 20, 2018

Abstract: This paper provides an analysis of modality in Spanish Sign Language (*Lengua de Signos Española: LSE*) from a functional perspective. Following FDG assumptions, scope will be the basic criterion in delineating modal subtypes. Four representational layers are taken into account: Propositional Content, Episode, State-of-Affairs, and Configurational Property. This study highlights that LSE offers an extensive sample of manual items (with a variable degree of grammaticalization) that enable the efficient expression of a wide range of modal contents: epistemic, deontic, volitive, and facultative. LSE is thus fully congruent with oral languages (OLs) in this domain.

Keywords: Spanish Sign Language (LSE), Functional Discourse Grammar (FDG), modality, scope, grammaticalization, iconicity, representational layers.

1 Introduction

The aim of this paper is to analyse the expression of modality in Spanish Sign Language (*Lengua de Signos Española: LSE*) from a functional perspective, within the FDG framework (Hengeveld & Mackenzie 2008). In order to do so, different types of modality will be considered with a view to determining the linguistic forms used for their expression in LSE.

This paper is the result of a lengthy process that I must make explicit here. Ángel Herrero-Blanco (1951-2017) and I started research about modality in LSE within the FG framework together. We offered our preliminary results in a pre-published form as Herrero & Salazar (2010). After that, we had no other option but to discontinue our common research.¹ Only after Ángel's ultimately death I decided to resume the work by myself.

At this moment, a mere updating of our earlier pre-published paper would be insufficient. The theoretical framework has profoundly changed, from former FG to current FDG, and modality is a topic in which major advances have been made over the last years. Based on new insights, some of the LSE data need a different analysis as well. This paper as a whole is therefore essentially new, even though it partially recovers previous findings presented in Herrero & Salazar (2010), for instance, in relation to epistemic and

¹ When we were preparing a new, more refined version, Ángel became seriously ill and was forced to interrupt his academic activity. During his long struggle with cancer we both never lost hope of resuming a project that excited us so much. Unfortunately, this is not possible anymore. Although I am aware that the role played by Ángel is irreplaceable, I think this task should be completed.

Article note: The paper belongs to the special issue on Systems of tense, aspect, modality, evidentiality and polarity in Functional Discourse Grammar, ed. by Kees Hengeveld and Hella Olbertz.

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deontic scales. The main differences between both texts may be summarized as follows:

- a) In standard FG theory, the layered structure applied to one single level of analysis in a bottom-up fashion, from predicate to clause (cf. Dik 1989: 45-53). Modality intervened at three different layers: predicate, predication, and proposition. Herrero & Salazar (2010) analysed LSE modals in accordance with such assumptions. FDG, on its part, is a multi-level model which offers a far more complex architecture and defends a top-down organization of grammatical competence. As a semantic category, modality intervenes at the Representational Level. Among other theoretical and terminological changes, FDG incorporates a new layer at this Level: the Episode. This paper must reflect the current scientific perspective.
- b) I limit this study to *modality proper* (Narrog 2005: 680), so there is no reference to evidentiality, which Herrero & Salazar (2010: 35f) included as part of the so-called *epistemological modality* (Dik 1989: 252ff). It is more accurate to consider evidentiality as an independent semantic category which is analysed separately.
- c) For similar reasons, I omit some signs previously taken into account: WISH and LUCK. Our earlier approach considered them as adverbs expressing boulomaic modality (Herrero & Salazar 2010: 34f). After paying renewed attention to this issue, I think both are actually markers of an optative illocution. Likewise, the sign RECOMMEND has an evident performative value. Illocution and modality share some notional domains and may be involved in common processes of linguistic change (cf. Narrog 2012: 132ff). Indeed, connections between basic speech acts and modal contents were pointed out by Van der Auwera (1985: 50-55) and Narrog (2005: 699f), and Pietrandrea (2005: 19-25) clearly summarizes the formal and functional aspects in which modality and illocution converge, as both express the Speaker's attitude.² As a result, some theoretical frameworks prefer to integrate modality and illocution.³ However, the latter author also concludes that there are important differences, so they may be ultimately conceived as two different categories; while modality expresses the Speaker's attitude towards what s/he says, illocution is always directed towards the Addressee (Pietrandrea 2005: 21). Thus, FDG analyses illocutionary markers at the Interpersonal Level, as pragmatic rather than semantic units, while modal markers are analysed at the Representational Level, as semantic markers.

Section 2 offers some preliminary considerations about modality and its study in sign language linguistics. The subsequent sections will present the modal subcategories in LSE according to the different layers of the Representational Level in a top-down manner: Section 3 deals with subjective epistemic and desiderative modalities at the layer of the Propositional Content; Section 4 studies objective epistemic modality and evaluative deontic modality at the layer of the Episode; Section 5 is concerned with facultative event-oriented modality, prescriptive deontic modality and evaluative deontic modality, all of them at the layer of the State-of-Affairs (SoA); Section 6 then deals with facultative, deontic and volitive participant-oriented modality, at the layer of the Configurational Property; Section 7 discusses some implications of the preceding analyses: the parts-of-speech classification of LSE modal signs and the role played by iconicity. Finally, Section 8 offers my conclusions.

2 Modality and sign language linguistics: general remarks

2.1 Modality as a multidimensional category

Modality is a very complex grammatical category, which is the object of intense debate in present-day linguistic theory. First, there is no consensus on its definition and characterization (Nuyts 2005: 5; Narrog

² Obviously, in this paper I use *Speaker* in a technical, somewhat abstract, way, which is also applicable to sign language signers.

³ In many cases (Simone 1990: 278-281; Zaegerer 2002; among others), such a decision is founded upon the assumption of a unified semantic-pragmatic continuum. This is incompatible with the qualitative distinction between Interpersonal and Representational Levels in FDG.

2005: 678), which have been given from different perspectives, among which are logical, grammatical and discursive ones. However, from a strictly grammatical perspective, it must be admitted that modality is a heterogeneous category which resists a general common definition capturing all the factors involved (Hengeveld 1987: 56).

Following Olbertz (2017: 2), modality will be understood here as a category referring to “the marking of non-realized states of affairs or non-factual propositions as regards the possibility or necessity of their realization and factuality, respectively.” Other authors employ different definitions, which may be wider or narrower. This will normally depend on three factors which intervene in the characterization of this category: semantic value, scope regarding the different layers of the syntagmatic structure⁴ and, finally, formal expression (modal verbs, morphological mood, particles, etc.). FDG clearly prioritizes scope as the main factor in order to delineate our grammatical understanding of modality, whereas semantic value and formal expression have a somewhat subsidiary status. More specifically, four semantic scopal layers at the Representational Level are taken into consideration, which are, in a top-down fashion: Propositional Content, Episode, SoA, and Configurational Property⁵ (cf. e.g. Olbertz & Bastos 2013: 297; Hengeveld & Hattnher 2015: 481; Hattnher & Hengeveld 2016: 2-4).

As regards semantic values of modality, there is general agreement in modern grammatical theories that deontic and epistemic modalities constitute two of the core modal contents. In fact, these are the best established modal concepts (Lyons 1977: 793-831), and a large number of studies about modality pay attention to the deontic-epistemic dichotomy only (cf. Papafragou 2000; Mortelmans *et al.* 2009). Nevertheless, other semantic notions are worthy of being recognized as part of the modal category; in particular, volition and ability. Finally, there are some values which could be considered borderline categories, and whose presence within the general category of modality is the object of much controversy. In relation to this issue, a comparison between FG (Hengeveld 1988; Dik 1989; etc.) and FDG (its successor theory) allows to conclude that the former had a much broader perception of the modal domain, because it incorporated polarity and evidentiality, which are excluded from the category of modality in FDG.⁶

Table 1 offers a synthesis of current perception of modal category within the FDG framework. The horizontal axis presents the four layers of the Representational Level which determine the possible scopes for modality.⁷ The vertical axis lays out the different modal domains. The combination of both parameters maps the full set of modal subcategories. The identification and analysis of these subcategories in LSE is the goal of this paper.

Table 1: Modal subcategories in FDG

	Propositional Content	Episode	State-of-Affairs	Configurational Property
Epistemic	<i>Subjective epistemic modality</i>	<i>Objective epistemic modality</i>		
Volitive	<i>Desiderative modality</i>			<i>Volitive participant-oriented modality</i>
Deontic		<i>Evaluative deontic modality</i>	<i>Prescriptive deontic event-oriented modality</i>	<i>Deontic participant-oriented modality</i>
Facultative			<i>Facultative event-oriented modality</i>	<i>Facultative participant-oriented modality</i>

⁴ Semantic value corresponds to *domain of evaluation* and scope to *target of evaluation*, in Hengeveld's (2004: 1192f) terms.

⁵ This last scope was formerly called *situational concept*.

⁶ FDG perception of modal contents has partially changed during the last years. Inference was considered a subtype of subjective epistemic modality by Hengeveld & Mackenzie (2008: 154f); nevertheless, Hengeveld & Dall'Aglio Hattnher (2015) convincingly include such a content in the category of evidentiality.

⁷ Recent generative research on modality also gives a key role to scope. Bross & Hole's (2017) paper about modality in German Sign Language (*Deutsche Gebärdensprache*: DGS) is a good example of this. Nevertheless, whereas FDG defines scope in terms of semantic layering, generativist approaches do so according to a syntactic, positional design.

2.2 Modality in sign language research

Research into modality in sign languages (SLs) of deaf communities has been scarce.⁸ Herrero & Salazar (2010: 22f) present a rough sketch of this topic, and, more recently, Herrmann (2013: 107-113) offers a detailed state of the art. Herrero & Salazar (2010: 22f) observe that pioneering research on modality in SLs mainly focus on the dichotomy between deontic and epistemic values: Ferreira-Brito (1990) for Brazilian Cities Sign Language (BCSL), Wilcox & Wilcox (1995), Shaffer (2004), and Wilcox & Shaffer (2006) for American Sign Language (ASL).⁹ During the last few years new relevant studies have been published (Pfau *et al.* 2012; Herrmann 2013; Shaffer & Janzen 2016; among others), but no significant changes in the general orientation of the research are perceived.

Briefly, all these previous studies focus on modal auxiliaries, which seem to be the main formal procedure to express modal contents in SLs. Only recently Shaffer & Janzen (2016: 467f) include a discussion about a morphological *irrealis* mood in the expression of some hypothetical SoAs. Shaffer (2004) takes into account the relationship between function and information ordering, highlighting that epistemic markers always scope over deontic ones. Wilcox & Shaffer (2006) draw upon the classification of modal contents proposed by Van der Auwera & Plungian (1998). Thus they recognize three main modal domains: necessity, possibility (both of them divided into participant-external and participant-internal), and epistemic.

At least since Wilcox & Wilcox (1995) the search for a gestural basis of modal notions is a recurring topic. The rationale for such a research line is presented by Sherman Wilcox (2004; 2007), who maintains that there are two possible ways for the emergence of grammar in SLs from non-linguistic gesture to language system. The source of the first route is a free-standing, non-conventional gesture which becomes incorporated into a SL as a lexical unit. At a later stage, such a lexical unit acquires a grammatical status thanks to a process of grammaticalization. The second route begins with a 'bound' gesture (manner of movement of a manual gesture, facial expression, eye or mouth gesticulation, etc.) which becomes initially incorporated to the SL system as part of the intonation contour of the linguistic expression. As in the first route, a later grammaticalization process may convert this prosodic element into a grammatical morpheme (cf. Wilcox 2004: 48f; 2007: 107f).

In accordance with such an approach, several works seek to determine the diachronic origin of modal auxiliaries as clear samples of the first route (Wilcox & Wilcox 1995; Janzen & Shaffer 2002; Shaffer 2004; Wilcox & Shaffer 2006; Shaffer & Janzen 2016). Wilcox's second route has been less explored, partly because affixational morphology is uncommon in SLs (Pfau & Steinbach 2011: 688). Wilcox & Wilcox (1995: 146ff) suggest that head nod and brow furrow are used to mark some epistemic modal contents, but it would be controversial to interpret these non-manual components as modal morphemes, because they must co-occur with a manual sign.¹⁰

Research on modality in ASL generally postulates that epistemic modality arises from deontic modality, as a second degree of grammaticalization within Wilcox's route one. Taking into account diachronic data not only from ASL, but also from French Sign Language (*Langue des Signes Française*: LSF), Wilcox & Wilcox (1995) and Wilcox & Shaffer (2006) attest a regular grammaticalization pathway based on the distinction between *strong* and *weak* forms. Strong forms, which exhibit a single and forceful stroke, are associated to the expression of some deontic signs, as well as the gestures and lexical signs from which they are derived; weak forms (produced by a soft, reduplicated movement) are typically used for the expression of epistemic

⁸ Current literature about sign languages (SLs) frequently uses the term *modality* as a synonym for *mode*, i.e. the articulatory procedure of transmission (e.g. Meier 2002; Sandler & Lillo-Martin 2006; Vermeerbergen *et al.* 2007; Crasborn 2012; Costello 2016). This mainly concerns the difference between oral mode in languages of vocal-auditive output (oral languages: OLs) and signed or visual-gestural mode. This terminological discrepancy adds a difficulty (not very serious, but rather bothersome) for the grammatical research about modality in SLs. So I must insist that, although this paper is concerned with a language which has a visual-gestural channel of transmission, its purpose is not to analyse its articulatory mode, but rather modality as a grammatical category, in analogy with the way in which it is usually studied in OLs.

⁹ SLs are normally referred to in the literature by means of an abbreviation of their name.

¹⁰ Similar assessment deserves Herrmann's (2013: 166ff) analysis of some face gestures, like *squint* and *frown*, as epistemic modal particles.

markers (Wilcox & Shaffer 2006: 229f). This phenomenon allow them to propose a general pathway for the grammaticalization of modal units, from non-conventional gestures to epistemic auxiliaries, taking lexical and deontic morphemes as intermediate stages. Every step supposes an increasing degree of subjectification. Examples (1) illustrate such a pathway for the main ASL modal signs, CAN and MUST. Only the epistemic stage is characterized by a weak form:

(1) a) FORCE (gesture) > STRONG (lexical sign) > CAN (deontic) > CAN (epistemic)
 b) OWE (gesture) > NEED (lexical sign) > MUST (deontic) > MUST/SHOULD (epistemic)

The following examples, adapted from Wilcox & Shaffer (2006: 215, 226), show this duality between deontic (2a) and epistemic (2b) uses of modal auxiliaries in ASL. Note that not only the articulation (strong vs. weak form), but also the word order (non-final vs. final position) and non-manual components are different:¹¹

(2) a) BEFORE CLASS_{TOP} MUST LINE.UP
 'Before class we have to line up.'
 b) LIBRARY HAVE DEAF LIFE_{TOP} SHOULD_{F+HN}
 'The library should have *Deaf Life*.¹²'

Such a grammaticalization pattern not only connects deontic and epistemic domains; it may also involve other grammatical categories. Shaffer & Janzen (2016: 461-463) support the idea that an analogous process explains the development of future tense in ASL and the so-called *epistemic future*.¹³ The origin would be an old gesture meaning 'departure', very extended through the Mediterranean area, which was consolidated in LSF and ASL as the verb GO. This lexical sign progressed from full verb to future marker. In recent times this (grammaticalized) sign has acquired a new, epistemic value when occurring at the end of the utterance: it expresses Speaker's strong belief that some future event will take place.

2.3 Previous approaches to modality in LSE

As far as LSE is concerned, its first modern grammatical description (Rodríguez 1992: 150) includes just some brief and non-systematic references to modality under the heading of what the author calls *expressive meaning*. In actual practice, she does not refer to the modal category, strictly speaking, but only to the "expression of doubt and possibility."

The first specific study about modality in LSE is Iglesias (2006), who only focuses on the non-manual components of modal signs; she mainly looks for grammaticalization pathways of facial expressions according to Wilcox's (2004) second route.

Herrero (2009: 303-308), which is at the moment the best descriptive and pedagogical grammar for LSE, pays special attention to the expression of modality, presenting very useful and relevant data. The wording of this book is necessarily synthetic and non-technical, bearing in mind its target audience.

¹¹ As is customary in SL research, manual signs are represented in glosses by means of capital letters. SL research normally uses an overline to conventionally mark in glosses the articulation of a non-manual sign, simultaneous to manual signs. For typographical reasons, I prefer underlining. The non-manual signs included in this paper are the following: F+C (eyebrow furrowing and lip clenching); F+HN (eyebrow furrowing and head nodding); HN (head nodding); HS (head-shaking); JF (joking face); NEG (suppletive negation); R (eyebrow raising); R+C (eyebrow raising and lip clenching); TOP (Topic). As well, the sign '+' is conventionally used in SL glosses to indicate the repetition of the previous manual sign; every plus sign corresponds to a repetition (see appendix below for more details about notational conventions).

¹² *Deaf Life* is a magazine especially targeted at the deaf community of the United States.

¹³ The relationship between temporal and modal categories in Argentine Sign Language (*Lengua de Señas Argentina*: LSA), in terms of a hypothetical *temporal modality*, is highlighted by Massone (1994: 125-128), but the data she offers are not conclusive at all.

Finally, Herrero & Salazar (2010) attempts a first account of modality in LSE according to the standard version of FG. Their analysis starts from the assumption that there are three main modal types according to their scope: inherent (at the layer of the predicate), objective (predication), and epistemological (proposition). Inherent modality is divided into four different domains: ability, volition, obligation, and permission. Objective modality includes objective deontic and objective epistemic modalities. Following Dik (1989: 252ff), they consider that epistemological modality is composed by subjective epistemic modality, Speaker's volition, and evidentiality.

3 Proposition-oriented modality

3.1 Introduction

Modal signs with a propositional scope normally concern the Speaker's commitment to the truth value of a Propositional Content. The main semantic value involved in this scope is the so-called *subjective epistemic modality*, which presents a proposition as true, doubtful or hypothetical (cf. Hattnher & Hengeveld 2016: 4). It also includes Speaker's subjective volition, which has been recently called *desiderative modality* (Olbertz 2017) in FDG.

3.2 Subjective epistemic modality

Subjective epistemic modality enables the expression of an assessment in terms of different degrees of certainty or probability. The determining factor is the Speaker's own attitude, as regards his/her certainty or opinion. Indeed, subjective epistemic modality allows the Speaker to modulate his/her level of commitment with respect to the propositional content. Three degrees of commitment are found in LSE, as shown in Table 2:

Table 2: subjective epistemic modality in LSE

Certainty (strong commitment with regard to the truth of the proposition)	Probability, belief	Possibility, improbability (weak commitment with regard to the truth of the proposition)
I SURE	I THINK, OPINION MINE	I DOUBT, PERHAPS

Some of the markers in Table 2 are also used in the expression of objective epistemic modality: SURE and DOUBT. Nevertheless, their grammatical behaviour is clearly different in their subjective use as these signs are in this case preceded by the first person pronoun, which refers directly to the Speaker. This also holds for the sign THINK, and makes me conclude that, in these contexts, these signs are categorized as verbs. On the contrary, OPINION MINE ('my opinion') must be classified as a nominal constituent. OPINION MINE, I SURE and I THINK are placed in an unmarked way immediately before the modified Propositional Content. As we will see below, this distinguishes them from other modal markers with lower scope, which are systematically situated in a later position. Furthermore, these markers freely combine with other modal elements in the same utterance (cf. 3a-d). The only markers of subjective modality which tend to occupy a clause-final position, after a pause, are PERHAPS and I DOUBT (cf. 3d-e). The sign PERHAPS is systematically marked out by a special prosodic contour characterized by a slow speed of hand movement and a facial expression which includes raised eyebrows and lip clenching:

- (3) a) I SURE, HERE SMOKE FREE
'I am sure that smoking is allowed here.'
- b) I THINK, TOMORROW RAIN CAN
'I think it is possible/probable it will rain tomorrow.'
- c) OPINION MINE, YOU STUDY MORE MUST
'In my opinion, you must study more.'

- d) HERE SMOKE FREE, I DOUBT
'I do not think that smoking is allowed here.'
- e) NOW BROTHER MINE MADRID THERE, PERHAPS_{R+C}
'Perhaps my brother is now in Madrid.'

3.3 Desiderative modality

The modal contents placed at the layer of the propositional content do not limit themselves to subjective epistemic modality. Also found in this scope is the so-called desiderative modality, as a particular kind of volitional content. This specific modal subtype has been recently proposed within the FDG framework in order to solve some problematic aspects of earlier proposals, based on the controversial notion of *subjective deontic modality* (cf. Vázquez Laslop 1999, 2001; Verstraete 2001, 2004; Olbertz & Bastos 2013). In my opinion, to consider this modal subtype volitional rather than deontic is theoretically and descriptively more accurate. It has been observed in several European languages that desiderative modality is expressed by means of verbs normally employed as deontic markers: English *should*, Dutch *moeten*, Spanish *deber* and *tener*, etc. This is why it was formerly supposed that this content is obligative in nature. Nevertheless, as Olbertz (2017: 12) remarks: "desires of this type cannot be interpreted as obligations in any sense, because nobody is able to comply with them." The crucial point is that, in these cases, propositions have no direct correspondence with the real world. They describe an invented scenario which only exists in the Speaker's imagination concerning "uncontrollable and/or unrealizable SoAs" (Olbertz 2017: 16f).

The situation of LSE in this domain offers some specific properties, but shows an essential congruity with oral languages (OLs). The signs specialized for the expression of desiderative modality are NEED and MUST. NEED can also be used lexically, meaning (depending on the context) 'to be missing', 'to be absent', 'to be lacking' or 'to be needed'. MUST has modal values only. Just as happens with the above-mentioned modals of OLs, they are normally linked to the deontic domain, with an obligative content. However, they can also modify a Propositional Content in volitional terms if a non-manual sign co-occurs, as we may see in examples (4) and (5). This is constituted by a specific facial expression, with a wide smile, half-closed eyelids and a friendly appearance. I will call it *joking face* (Spanish *cara de broma*, which is the denomination given by my informants):

- (4) MOSQUITO++ FLY MUST NO_{JF}
'Mosquitoes should not fly.'
- (5) SUMMER SEASON YEAR ALL.DURATION HAVE NEED_{JF}
'It should be summertime all year round.'

The use of this joking face is not exclusive of desiderative propositions. It is also present in the expression of irony¹⁴ and other kinds of somewhat derisive utterances. Thus it is not a modal marker *per se*, but rather a procedure to indicate that the linguistic content clearly differs from our shared knowledge about the real world. In the example (4), the Speaker expresses that it would be necessary that the proposition "mosquitoes don't fly" was true, but at the same time (s)he is fully conscious that such a situation is not possible and nobody can change this actually. Example (5) refers to the length of summer in similar terms. The use of joking face in both examples allows the Addressee to interpret these propositions not as (pragmatically absurd) obligations, but rather as Speaker's unrealizable desires.

¹⁴ Irony in LSE deserves detailed research which is still pending. According to my informal observations, deaf Spaniards are reluctant to admit ironic discourse if it is not explicitly marked as such. Joking face is the main non-manual sign that makes a non-literal interpretation possible. It could be considered as an *explicit irony marker* in Barbe's (1993) terms. Haverkate (1985: 345; 1990: 78) considers that expressions including a metareferential component of this kind are not ironic in a strict sense.



VIDEO 1. JOKING FACE. Full video clips available as supplementary materials.

4 Episode-oriented modality

4.1 Introduction

The inclusion of a specific layer for Episodes at the Representational Level is a notable innovation of FDG compared to the previous FG model. An Episode is defined as a thematically coherent set of (one or more) SoAs, in the sense that they show unity or continuity of time, location, and participants (Hengeveld & Mackenzie 2008: 157). Since Hengeveld (2011), *objective epistemic modality* is considered an episode-oriented modality, taking into account the relation between this modal value and tense operators. Olbertz & Honselaar (2017) and Olbertz (2017) have convincingly argued that one kind of deontic modification is also possible at the layer of the Episode: the so-called evaluative deontic modality. At this layer, modal markers specify the (im)possibility of the occurrence of an Episode in accordance with what is known about the world.

4.2 Objective epistemic modality

The distinction between objective and subjective epistemic modalities was widely justified by Lyons (1977: 797-804) already. Objective modality comes half-way between the two poles usually taken into consideration by other theories: Participant-oriented (or Agent-oriented) and Speaker-oriented modalities (cf. Bybee *et al.* 1994; Bybee & Fleischman 1995). What characterizes objective modality is that truth conditions are communicatively assumed as something external to the Speaker, who, as such, has no direct responsibility for the judgements involved (Hengeveld & Mackenzie 2008: 174).

Objective epistemic modality distributes its semantic values along a scale, which sometimes (for instance, by Verhulst & Declerck 2011: 28) has been identified with the distance from factual to counterfactual. In LSE, it corresponds basically to the one given in Table 3:

Table 3: objective epistemic scale in LSE

Certain	Very Probable	Probable/Possible	Improbable	Very Improbable	Impossible
SURE	ALMOST SURE	CAN	DOUBT	ALMOST IMPOSSIBLE	IMPOSSIBLE, CAN.NEG

This scale shows a range beginning with what is certain (6a) and ending with what is impossible (6f). The signs that are situated at the two extremes (SURE and IMPOSSIBLE) have well defined values. In contrast, the intermediate signs are less strictly delimited. Indeed, the commonly used verb CAN, when adopting an epistemic value, covers an area that includes what is probable and what is possible (6c). Formally, all these modal signs tend to be placed at the end of utterances, but without any kind of prosodic pause.

I include here the sign CAN.NEG (the verb CAN with a suppletive negation) as an alternative option for expressing impossibility, because my deaf informants consider it acceptable in sentences like (6g). Nevertheless, direct observation of spontaneous interaction in LSE allows me to conclude that this sign is hardly ever used in the expression of episode-oriented modality. The adjectival sign IMPOSSIBLE (6f) is clearly preferred. By contrast, the situation is the opposite with lower scopes, at the layers of the SoA and the Configurational Property, where CAN.NEG appears as the default option to express impossibility, lack of permission or lack of ability. Optionally, CAN may be emphatically reinforced by means of head nodding, and CAN.NEG by means of head-shaking.¹⁵

The sign DOUBT shows that the Episode is assessed as improbable. When it expresses subjective epistemic modality, it must be considered as a verb because it is preceded by a personal pronoun: I DOUBT (cf. 3d). For the expression of objective epistemic modality, however, it appears by itself (DOUBT), which suggests that it acts as a noun on this occasion (6d).

**VIDEO 2. CAN**

¹⁵ Pfau & Quer (2007: 146f) consider that this side-to-side headshake constitutes an example of negative cliticization in SLs. Nevertheless, Sandler (2010; 2012) provides strong arguments in favor of a prosodic interpretation (cf. section 8 below).


VIDEO 3. CAN.NEG

In order to express values which are close to the two extremes, albeit without meaning exactly the same, the corresponding modal signs are modified by an adverb which could be translated as ALMOST. This in turn gives rise to ALMOST SURE for those predication which are assessed as very probable (6b) and ALMOST IMPOSSIBLE for very improbable predication (6e). It is relevant to state that ALMOST acts in other contexts as a noun, with the meaning of 'danger'.¹⁶

- (6) a) TOMORROW RAIN SURE
‘It is sure that it will rain tomorrow.’
- b) TOMORROW RAIN ALMOST SURE
‘It is very probable that it will rain tomorrow.’
- c) TOMORROW RAIN CAN_{HN}
‘It is possible/probable that it will rain tomorrow.’
- d) TOMORROW RAIN DOUBT
‘It is improbable that it will rain tomorrow.’
- e) TOMORROW RAIN ALMOST IMPOSSIBLE
‘It is very improbable that it will rain tomorrow.’
- f) TOMORROW RAIN IMPOSSIBLE
‘It is impossible that it will rain tomorrow.’
- g) TOMORROW RAIN CAN.NEG_{HS}
‘It is impossible that it will rain tomorrow.’

The sign SURE, just like in its OL counterpart (Spanish: *seguro*), also has a lexical use, meaning ‘safe’. This non-modal sense is characterized by the multiple repetition of this sign, as the example (7) illustrates:

- (7) CAR MINE SURE++ NO
‘My car is not safe.’

¹⁶ All evidence points to the idea that this nominal meaning is the original one, whereas the newer, adverbial value is a result of a later grammaticalization process.

This repetition has not been attested in the modal use of SURE. This circumstance strongly diverges from the data offered by Wilcox & Wilcox (1995), Shaffer (2004), and Wilcox and Shaffer (2006) for ASL, and Bross & Hole (2017: 17) for German Sign Language (*Deutsche Gebärdensprache*: DGS). In ASL, repetition is a characteristic feature of several signs with an epistemic value, in contrast to their deontic or non-modal uses (cf. Sternberg 1981: 120, 548; *sub vocibus* CAN and MUST; Humphries *et al.* 1994: 113f). This is why in ASL the distinction between strong and weak forms is normally linked to the deontic-epistemic dichotomy (cf. 2.2 in this paper). This is not applicable to LSE in any way. Discrepancies between LSE and ASL in this area clearly show that means for expressing modality in SLs are not universal, but language-specific (Herrmann 2007: 271).¹⁷ The fact that ASL and LSE diverge in their forms of expression does not imply that one cannot find certain semantic processes in LSE such as metaphorization, which have been widely recorded in other SLs. They definitely exist in LSE, although with their own particular development (cf. section 7.2 of this paper).

4.3 Evaluative deontic modality

Evaluative deontic modality expresses “a personal view on what is considered necessary” (Olbertz & Honselaar 2017: 278f). Like desiderative modality, it is a recent proposal which has emerged from a new analysis of some modal contents previously interpreted in terms of subjective deontic modality (cf. section 3.3 in this paper). Nevertheless, as opposed to desiderative modality, this kind of evaluative modality is deontic rather than volitional, but in some special way. It cannot be identified with standard or ‘objective’ (cf. Dik 1989: 205) deontic contents. Objective modality, currently called *prescriptive deontic event-oriented modality* within the FDG framework (cf. section 5.3 below), intervenes at the layer of the (non-tensed) SoA. Such a SoA is non-real at the moment of speaking, but may be expected to be realized in the future (Olbertz 2017: 11). Evaluative deontic modality necessarily acts in a higher layer, the Episode, because it modifies time-located events. In short, evaluative modality corresponds to a deontic modification of either a counterfactual expression referring to the past or an event which is also modalized in a lower layer.

My data about this specific type of modal content are not conclusive at all, because they have been obtained from an elicitation procedure, and they have not been attested in spontaneous discourse yet. Nevertheless, it is reasonable to propose that LSE is sensitive to the difference between deontic prescription and deontic evaluation, at least to some degree. It is worth noting that only the signs MUST and NEED play a significant role in the expression of deontic evaluation, defined in such terms. The remaining signs included in the deontic scale (cf. Table 4 below) are not used in this sense.

Deontic evaluation is more easily recognizable in LSE if it is applied to a past event in counterfactual expressions. LSE lacks morphological tense, but it has lexical signs that may situate a particular Episode in a temporal frame and that obligatorily occur in sentence-initial position.¹⁸ Sentence (8) begins with the sequence YEAR THIS (‘this year’), which specifies such a temporal frame. The following adverb, BEFORE, indicates that the Speaker is referring to the period which is located in the past with respect to the enunciation. The modal element NEED does not express a prescription here, but the opinion that things should have been different:

(8) YEAR THIS BEFORE I STUDY MORE NEED
'I should have studied more this year.'

The situation is more complex in the case of deontic evaluations of a previously modalized SoA. They

¹⁷ This is not the only discrepancy between modals of both languages. For instance, deontic modals in ASL may occur without a lexical verb (Fischer & Gough 1978) while the same is impossible in LSE (cf. Herrero & Salazar 2010: 26f). According to this parameter, ASL is typologically aligned with OLs like Danish, Dutch and German; LSE is aligned with English and Spanish.

¹⁸ This grammatical feature of LSE is not exceptional in typological terms. Many OLs (e.g. Mandarin Chinese) also lack morphological tense. Moreover, at least under certain conditions some SLs may express temporal information in a fully grammatical way. This is the case of Italian Sign Language (*Lingua Italiana dei Segni*: LIS), according to Zucchi (2009).

are difficult to perceive in LSE because there are distributional restrictions on the co-occurrence of two contiguous modal markers, without a pause, especially if both are verbs. Theoretically, sequences like CAN MUST, SKILL NEED, FANCY MUST, etc., at the end of a sentence, are grammatically valid (at least, according to the judgements of my informants), but native users tend to avoid them. There is an alternative syntagmatic option which is clearly preferred in order to express this kind of double modalization. Following Herrero & Salazar (2005: 290ff), I will call it *question-answer construction*. Such a construction is very frequent in LSE (Rodríguez 1992: 123f) and is also present, with a similar format, in other SLs.

The question-answer construction is a sequence which consists of an apparent wh- question, a brief prosodic pause, and a reply functioning as Focus. The question is prosodically characterized by a non-manual sign: eyebrow raise.¹⁹ In order to express a deontic evaluation of a modalized SoA, the first member of the construction includes the subject and the modal unit with a wider scope; the second member of the construction offers the remaining constituents of the predication, ending with the modal sign of a lower scope (9):

(9) BROTHER MINE MUST WHAT?_R, TELEVISION REPAIR SKILL
 'My brother should be able to repair the television.'

In ASL, Wilbur (1996) considers such a sequence as a procedure for Focus assignment, similar to the way in which wh-cleft (or pseudocleft) works in many OLS. Caponigro & Davidson (2011: 362–368), who opt for the term *question-answer clause*, explicitly refuse Wilbur's hypothesis and propose that it is a device to make a 'question under discussion' (cf. Roberts 2012) explicit and solve it. Anyhow, both approaches coincide in the fact that they analyze this structure as a single semantic and syntactic unit, that is to say, just one clause denoting one proposition. This claim is untenable within the FDG framework. From a functional perspective, the question-answer construction constitutes one Move (at the Interpersonal Level) and one Linguistic Expression (at the Morphosyntactic Level), but it conforms two separate Propositional Contents at the Representational Level and two separate Clauses at the Morphosyntactic Level. Furthermore, every segment of the sequence must be considered as a separate Discourse Act at the Interpersonal Level, because each preserves its own illocutionary force.²⁰

5 Event-oriented modality

5.1 Introduction

Event-oriented modality is located at the layer of the SoA, characterizing the conditions of its occurrence in terms of feasibility or desirability. Semantically, two main subtypes may be established at this layer: facultative²¹ and deontic.

¹⁹ The same occurs in ASL (Wilbur 1996: 209). This is rather surprising because, in real interrogative utterances of both languages, raised eyebrows are the prosodic markers for polar questions (yes/no), not for wh- questions. In ASL (not in LSE, as far as I know), question-answer sequences involving polar questions have been attested, but their analysis differs from one author to another. Wilbur (2006: 212) considers that they are true rhetorical questions, not directly related to the question-answer construction. On the other hand, Caponigro & Davidson (2011: 330) concede that this is a subtype of such a construction.

²⁰ Hoza *et al.* (1997: 22) offer an alternative formal analysis which, although not entirely satisfactory, is more compatible with FDG assumptions. These authors suggest that both segments of the sequence are separate semantic and syntactic structures which combine each other for a specific discourse purpose only.

²¹ *Facultative* is the preferred term in current FDG texts (cf. Hengeveld & Mackenzie 2008: 176; Hattnher & Hengeveld 2016: 3; Olbertz & Honselaar 2017: 276), adopted from Goossens (1985). I will make use of it in order to avoid the discussion about terminology. Nevertheless, it is necessary to take into account that standard FG theory used *inherent* (cf. Hengeveld 1987; Dik 1989; Olbertz 1998: 378; etc.) which is still present (cf. Olbertz & Bastos 2013: 278; Olbertz 2017: 18). Other theoretical approaches choose *dynamic* or *root*, which correspond to the same domain, at least in a broad sense.

5.2 Facultative event-oriented modality

Facultative event-oriented modality is defined in FDG as a characterization of a SoA in terms of the physical or circumstantial enabling conditions on their occurrence (Hengeveld & Mackenzie 2008: 176). The possibility or impossibility of such an occurrence depends on external conditions which are not under the control of the participants in the SoA. Palmer (1979: 71) included it as a subtype of dynamic modality, in terms of neutral or circumstantial possibility.

This kind of modal content is difficult to identify in LSE. Its expression is possible thanks to the verb CAN (CAN.NEG if it has negative polarity), which is a rather polyfunctional sign: it has been shown in the preceding section that it is an objective epistemic verb and, as we will see below, it is also used to denote participant-oriented facultative modality. This situation provokes ambiguities (especially between epistemic and event-oriented types) and, in general, some degree of uncertainty when interpreting the sentences, at least if the contextual information is not explicit enough.

In order to illustrate this, I will use the Spanish utterances given in (10). They correspond to an impersonal SoA, so no participants are involved in it and they cannot be interpreted in participant-oriented terms. Example (10a) must be analysed at the Representational Level as an Episode modified by means of a marker of objective epistemic modality; (10b), on the other hand, must be understood as a SoA modified by an event-oriented marker. The different relation with the adverb expressing absolute time (*mañana* ‘tomorrow’) clearly shows that both modal processes do not belong to the same scope, which is also evident from the fact that they may co-occur (10c); even (10d) is perfectly valid in grammatical terms:

(10) a) [Es posible que [mañana llueva]]
 ‘It is possible that it will rain tomorrow.’
 b) [Mañana [puede llover]]
 ‘It may rain tomorrow.’
 c) [Es imposible que [[pueda llover] mañana]]
 ‘It is impossible that it may rain tomorrow.’
 d) [Es posible que [pueda llover] mañana]
 ‘It is possible that it may rain tomorrow.’

Sentences (10a) and (10b) are both translated into LSE as shown in example (11a): the time adverb TOMORROW must be placed at the beginning, and the modal verb CAN at the end. The main problem is that it is normally difficult to establish the scope of these peripheral modifiers with sufficient certainty. Which one of them has a wider scope: the time adverb (11b) or the modal verb (11c)?

(11) a) TOMORROW RAIN CAN
 b) [TOMORROW [RAIN CAN]]
 ‘It may rain tomorrow.’
 c) [[TOMORROW RAIN] CAN]
 ‘It is possible that it will rain tomorrow.’

The optional use of head nodding is possible in (11b) as well as in (11c); it does not constitute any clue in order to identify the scope of the modal. Both possibilities are open and the differences between them are rather opaque for my deaf informants. In any case, such a circumstance does not contradict the FDG approach to tense and modality. FDG considers that the so-called TAM categories²² are complex phenomena which involve not only several semantic domains, but also different targets in terms of layering. More specifically, tense (or parallel temporality contents) is present in two different layers: the Episode and the SoA. Modality also acts in both layers, as well as in the Propositional content and the configurational property (cf. Hengeveld

²² Tense, aspect, and modality, traditionally recognized as the main grammatical categories. In FDG terms, it is better to use the acronym TAMEP, in order to include evidentiality and polarity, too.

2011: 581f). Such a situation gives rise to a complex interaction between both categories. Whereas absolute tense scopes over event-oriented and participant-oriented modalities, proposition-oriented and episode-oriented modalities scope over absolute tense. Ambiguity arises when it is not directly identifiable the exact layer in which a polyfunctional marker intervenes. This is the case of the modal verb CAN in (11a).²³

These ambiguous instances are scarce and of lesser importance. Usually, the Speaker is able to distinguish the exact use of the modal verb, in order to transmit his/her message properly. For instance, the expression of negative polarity does not offer such an ambiguity. As I mentioned above, the sign IMPOSSIBLE (12a) tends to be used in the case of objective epistemic modality, whereas facultative event-oriented modality selects CAN.NEG (12b):

(12) a) TOMORROW BROTHER MINE SKI IMPOSSIBLE. HE WORK MUST
 ‘It is impossible that my brother will ski tomorrow. He must work.’
 b) CITY SEVILLE THERE SKI CAN.NEG. SNOW HAVE.NEG
 ‘One cannot ski in Seville. There is no snow.’

The distinction between objective epistemic and facultative event-oriented modality is also visible in a marked structure: the above-mentioned question-answer construction. CAN (13a) and IMPOSSIBLE (13b), as objective epistemic markers, may occur as part of the first member of the construction:

(13) a) YESTERDAY WINE CAN WHAT?_R, CLOTHING STAIN
 ‘It is possible that wine stained clothes yesterday.’
 b) TOMORROW IMPOSSIBLE WHAT?_R, BROTHER MINE SKI
 ‘It is impossible that my brother will ski tomorrow.’

I have not attested such a construction when CAN acts as a facultative event-oriented modal. When I asked my deaf informants about alternative word order possibilities, they prefer (according to contextual circumstances) a ‘left dislocation’ of the Undergoer (14), without modifying the rest of the SoA:

(14) CLOTHING, WINE STAIN CAN
 ‘Wine may stain clothes.’

The relation between facultative event-oriented and objective epistemic modalities in SLs is still largely unexplored. More data are needed in order to offer a more fine-grained analysis. The examples above do show, however, that the distinction is relevant for the analysis of LSE.

5.3 Prescriptive deontic event-oriented modality

Deontic event-oriented modality, in prescriptive terms, distributes its fundamental values along a scale ranging between what is obligatory and what is prohibited. It is considered to be an objective scale because it is motivated by general rules of conduct, independent of both the Speaker and the participants in the SoA. For LSE, the deontic scale can be summarized as in Table 4.

Table 4: deontic scale in LSE

Completely obligatory	Obligatory	Permissible	Forbidden
LAW	MUST, NEED	FREE	FORBIDDEN

²³ About other possible scopal ambiguities in natural languages, cf. Bross & Hole (2017: 4-7).

The expression of objective deontic modality is carried out through lexical units. One can perceive that the semantic distribution of the different deontic values is not symmetrical, as two different degrees of obligation are found. On the one hand, we have a sign which I will call LAW, because deaf Spaniards mouth as Spanish *ley* ‘law’.²⁴ It serves to express an extremely strict and unquestionable obligation (Herrero 2009: 306). For this reason, its use is quite marked from a pragmatic point of view, and it is conditioned by the content of obligation (15a). In order to express obligation from a more general and less strict point of view the verbs MUST (15b) and NEED (15c) are used indiscriminately. It is worth noting that all these signs may be optionally emphatically reinforced by means of the non-manual sign that is also used for imperative illocution, eyebrow furrowing and lip clenching, simultaneously articulated to the manual emission of the modalized SoA:

(15) a) CLASSROOM QUIET_{F+C} LAW
 ‘It is absolutely obligatory to be quiet in the classroom.’

 b) CLASSROOM QUIET_{F+C} MUST
 ‘It is obligatory to be quiet in the classroom.’

 c) CLASSROOM QUIET NEED
 ‘It is necessary to be quiet in the classroom.’

The next step on the scale is represented by the sign FREE, which is rather polyfunctional: depending from the context, it may express a lexical, adjectival content (‘free’) or a deontic content of permission. In its objective deontic value it appears as an adjectival modifier operating over the SoA directly (16a). It is also employed for permissive illocution (Herrero 2009: 304) but is then used in a different way. In its illocutionary use it adopts the format of an illocutionary verb, preceded by the first person subject (I FREE ‘I authorise’). It is a plausible hypothesis to consider such polyfunctionality as a result of a gradual process of grammaticalization with an increasing scope: from lexical to illocutionary uses, with modality as an intermediate step. This would be in agreement with Narrog’s (2012: 90) proposal concerning semantic change as ‘category climbing’.

Objective deontic prohibition is expressed analogously through the sign FORBIDDEN (16b). Finally, I may add that there is compatibility between objective epistemic and deontic event-oriented modalities (16c). What happens in this case is that the deontic sign is placed closer to the lexical verb, while the epistemic sign is placed at the end, normally separated by a pause which is identified in glosses by means of a comma. This confirms the existence of a scopal gradient between the Episode and the SoA:

(16) a) HERE SMOKE FREE
 ‘Smoking is allowed here.’

 b) HERE SMOKE FORBIDDEN
 ‘Smoking is not allowed here.’

 c) HERE SMOKE FORBIDDEN, SURE
 ‘It is sure that smoking is not allowed here.’

6 Participant-oriented modality

6.1 Introduction

Participant-oriented modality intervenes at the layer of the Configurational Property, which in FDG, roughly speaking, corresponds to the former nuclear predication in FG: it defines a SoA type according to a predicate and the arguments provided by its predicate frame. Modal contents at this layer describe a relation between

²⁴ Here, LAW does not refer to a ‘legal text’ – which in LSE is expressed using another sign – but a norm that is compulsory to fulfil, regardless of its origin (legal, religious, social, etc.).

a participant in a SoA (prototypically, the Actor) and the potential realization of such a SoA (Hattner & Hengeveld 2016: 2). The FDG literature distinguishes three main semantic subtypes: facultative, deontic, and volitive.

6.2 Facultative participant-oriented modality

Facultative participant-oriented modality describes the ability of a participant to engage in a SoA. It is expressed in LSE by means of two basic signs. One of these was previously mentioned as an exponent of other modal values: CAN (Spanish: *poder*). The other is originally a noun which I will translate here as SKILL, although it could also be translated as ‘ability’. SKILL is only used for acquired abilities (17b), like Spanish *saber* ‘know’ in its modal use, and it offers a wide dialectal variation.²⁵ CAN, however, has a more general meaning, which makes it equally valid for a natural ability (18a) and for an acquired one (17a). SKILL cannot be used for natural ability, so (18b) is ungrammatical:

- (17) a) BROTHER MINE TELEVISION REPAIR CAN
- b) BROTHER MINE TELEVISION REPAIR SKILL
‘My brother can repair the television.’

- (18) a) BROTHER MINE WALK++ UNTIL 20 KILOMETER CAN
- b) *BROTHER MINE WALK++ UNTIL 20 KILOMETER SKILL
‘My brother can walk 20 Kms.’ (“My brother can be walking up to 20 Kms.”)

CAN functions as a modal verb, whereas SKILL does not, because it maintains its primary nominal category. Their different negation procedures are clear evidence of this (cf. example 28 below).

6.3 Deontic participant-oriented modality

Deontic participant-oriented modality indicates that a participant has the obligation or the permission to engage in the SoA.

Obligation may be expressed through two verbs which I have already mentioned: MUST and NEED. At the layer of the SoA they may express (more or less in the same way) prescriptive obligation according to a deontic scale. At the layer of the Configurational Property, they express participant-oriented obligation. In this case, they are not synonymous, strictly speaking, although the semantic difference between them is very subtle. According to Herrero & Salazar (2010: 25), MUST accompanies a predicate which is understood as an *obligation* which depends on a *norm* (19). On the other hand, NEED accompanies a predicate which is understood as a *requirement* that depends on a *purpose* (20). At the layer of the Configurational Property, the semantic nuance which differentiates both verbs can be neutralized due to the fact that, many times, the accomplishing of a purpose could also be felt to be an obligation. Nevertheless, there are reasons to make one think that, in the case of NEED, the existence of an obligation is accepted both by the Speaker and the Actor; in the case of MUST, on the contrary, the norm to be met is assumed communicatively by the Speaker, but there is no implication whether the Actor also assumes it or not.

- (19) YOU STUDY MORE MUST
‘You must study more.’

²⁵ Herrero & Salazar (2010: 39, note 6) mention the standard sign, articulated at the height of the head, and a second sign, articulated on the left hand (cf. Iglesias 2006: 182), which is mainly attested in Galicia, northwest Spain. Herrero (2009: 306) brings up a third sign, articulated under the closed mouth.

(20) BROTHER MINE CAR NEW BUY NEED
 ‘My brother must buy a new car.’

Participant-oriented permission is expressed through two signs which have appeared earlier in this paper: CAN (21) and FREE (22). Both are the modal signs of LSE with the highest degree of polyfunctionality. As regards participant-oriented permission, both signs are synonyms and freely interchangeable. Syntactically, they appear after the predicate:

(21) BROTHER MINE TELEVISION SWITCH-ON CAN
 ‘My brother may switch on the television.’

(22) HERE YOU SMOKE FREE
 ‘You may smoke here.’

6.4 Volitive participant-oriented modality

In order to express participant-oriented volition LSE has essentially two verbs, which I will translate here as WANT and FANCY (‘feel like’; Spanish *querer* and *apetecer* respectively), with a clear lexical distinction. The former has a more general and extended use (23), whereas the latter is usually limited to desires and preferences related to personal well-being (food, drink, social activities, etc.). According to my data, FANCY is the only modal verb in LSE that may occur without a lexical verb. Due to this, both (24a) and (24b) are perfectly valid:

(23) MADRID, TOGETHER BROTHER MINE, I LIVE WANT
 ‘I want to live with my brother in Madrid.’

(24) a) S/HE THEATER GO FANCY
 b) S/HE THEATER FANCY
 ‘s/he fancies going to the theatre.’

7 Discussion

7.1 Parts-of-speech and grammaticalization in LSE modals

After going through the four layers at which modality is relevant, it is important to note that modality is always expressed in LSE by means of independent signs: necessarily free, non-bound morphemes. This fact contrasts with the situation with respect to other areas of LSE grammar; for instance aspect (cf. Herrero 2009: 296-302), where some bound formatives act as formal markers.

I suggest that LSE modal signs are analysable in terms of the traditional lexical categories verb, noun, adjective, and adverb (this last one in the case of PERHAPS). Obviously, their modal use requires the adoption of a rather abstract meaning, i.e. some degree of grammaticalization, which varies from one sign to another. For instance, many OLs typically express modal contents by means of auxiliaries (Pfau *et al.* 2012: 196), which are grammaticalized members of the verbal category. In LSE, this type of grammaticalization is transparent in some cases; for instance, DOUBT, where the semantic and distributional differences between its lexical use and its modal one are well established. Unfortunately, the situation is not always as clear, and doubts may arise in relation to the categorization of other modal units. Nevertheless, some formal features may help to reach a decision. In particular, negation is a good indicator in many cases. As Pfau & Quer (2007: 143f) highlight, negation closely interacts with modality.

Cross-linguistically, suppletive negatives are linked to grammaticalized verbs (cf. Zeshan 2005), therefore a modal sign characterized by suppletive negation could plausibly be categorized as a modal auxiliary verb. LSE has three modal signs in agreement with such conditions (cf. Herrero & Salazar 2010: 26): CAN (25), FANCY (26), and NEED (27):²⁶

(25) TOMORROW BROTHER MINE COME CAN.NEG

‘My brother cannot come tomorrow.’²⁷

(26) I TELEVISION WATCH FANCY.NEG

‘I don’t fancy watching television.’

(27) TOMORROW YOU HERE COME NEED.NEG

‘You needn’t come here tomorrow.’



VIDEO 4. FANCY

26 Zeshan (2005), according to the data available at that moment, believed that there was only one verb with a suppletive negation in LSE: HAVE (possessive-existential). The number of this kind of verbs is four actually. Anyhow, LSE offers relatively few examples of suppletive negation when compared to other SLs of European origin.

27 Necessarily with a deontic interpretation; i.e.: ‘my brother doesn’t have permission to come tomorrow.’



VIDEO 5. FANCY.NEG



VIDEO 6. NEED


VIDEO 7. NEED.NEG

As regards SKILL, as a lexical item ('skill', 'ability') this is undoubtedly a noun. Its negation procedure may help to notice that in its modal use it preserves its nominal category, because it needs the presence of the existential verb HAVE, which also has suppletive negation (28):

(28) BROTHER MINE DANCE NO, SKILL HAVE.NEG
 'My brother can't dance.' ("My brother doesn't dance, there is no skill.")

The characterization of other modal signs, like WANT and MUST, is not directly verifiable from negative sentences, due to the fact that they show a regular negation procedure: the placement of the sign NO following them. However, their verbal nature is easily inferable from other contexts (cf. examples 16, 19 and 23). The case of FREE is a bit more complicated. As a lexeme it is an adjective, but it is not easy to decide whether it has acquired a new, verbal status during its process of grammaticalization. Apparently, its behaviour as a participant-oriented deontic marker is analogous to WANT and MUST, so it could be interpreted as another modal verb (29). Nevertheless, it must be taken into account that, in its lexical use, FREE can be the main predicate of a non-verbal predication (30), whose negation also follows a regular pattern:

(29) BROTHER MINE COME FREE NO
 'My brother is not allowed to come.'

(30) BROTHER MINE FREE NO
 'My brother is not free.'

By themselves these data are not conclusive. Taking into account the situation of wider layers, I suggest that FREE is still an adjective when acting as a participant-oriented modal. It has been shown that it only displays a clear verbal conduct at the Interpersonal Level. There FREE acts as a performative verb preceded by a first person personal pronoun: I FREE 'I authorise'. Such an illocutionary use can be considered the highest degree of grammaticalization for the sign FREE. In its deontic event-oriented use, it modifies the

SoA directly, without the intervention of any personal subject. A coherent explanation is to consider it as an adjectival modifier whose head is the SoA as a whole. If FREE preserves its adjectival category at the layer of the SoA, it is logical to assume the same situation for the layer of the Configurational Property, a lower scopal layer which entails a lesser degree of grammaticalization.

A similar analysis could be established for other signs, like SURE and DOUBT. In particular, the latter must be classified as an objective epistemic noun at the Episode layer (DOUBT) and as a subjective epistemic verb at the proposition layer (I DOUBT). Therefore, conversion of modal nouns or modal adjectives into modal verbs is attested in LSE, but it always implies a higher modal scope and an advanced grammaticalization process. Such a conclusion is fully in line with FDG's cross-linguistic predictions about grammaticalization (cf. Hengeveld 2017), as well as Narrog's (2005; 2012) approach in terms of gradually increasing subjectivity.

7.2 Iconicity and semantic change in LSE modals

Previous studies on modality in signed languages (Ferreira-Brito 1990 for BCSL; Wilcox & Wilcox 1995, and Shaffer 2004 for ASL) highlighted the existence of directionality in linguistic change of modal markers from deontic to epistemic. According to this, certain formal procedures which have an iconic or metaphorical origin, such as repetition and a less energetic movement, transform deontic markers into epistemic ones, underlining the iconic-metaphorical relationship between both types. This is in agreement with Sweetser's (1982: 484; 1990: 21) hypothesis as regards the basic character of deontic modality and its projection on epistemic modality, as well as the parallel proposals by Traugott (1989), Bybee *et al.* (1994) and Traugott & Dasher (2002) about grammaticalization pathways.

More recently, Narrog (2005; 2012) challenges the overarching position according to which epistemic modality has developed out of deontic modality. This author considers that such a generalization emerges from the diachronic evidence of a small number of well-known Indo-European languages, but a wider crosslinguistic perspective "suggests that change from deontic to epistemic is only one tendency which is part of a much broader directionality in the change of modal meanings" (Narrog 2005: 677). According to this, it is more probable that epistemic modality was originated from dynamic (*facultative* in FDG terminology) modality than from deontic modality in many languages.

I think that the LSE data support Narrog's view. The above-mentioned ASL procedures for a projection from deontic to epistemic modality have not been attested in LSE. In fact, deontic and epistemic domains have no common signs in LSE, apart from CAN, which also has a facultative value. It is necessary to conclude that modal polyfunctionality is conditioned in LSE by scope rather than semantic value. This means that several signs tend to participate in more than one scope, but preserving the same domain. For instance, DOUBT and SURE act both at the layers of the Proposition and the Episode, but always with an epistemic meaning: 'certainty' for SURE and 'improbability' for DOUBT. In a similar way, the sign FREE completes a grammaticalization process from lexeme to illocution, but its modal and illocutionary uses always refer to the general notion of 'permission'. As I mentioned above, the only clear exception of such an assertion is CAN, which is the unmarked way to express several kinds of possibility: epistemic, deontic, and facultative. This cross-cutting polyfunctionality motivates some cases of ambiguity (cf. example 11a). Nevertheless, it doesn't qualitatively differ from its counterparts in OLs; think of the conspicuous behaviour of English *can*, Spanish *poder*, German *können*, etc. In relative terms, the situation of CAN is exceptional in LSE, whose modal markers are characterised by a low level of polyfunctionality. It is explained by Herrero & Salazar (2010: 37) as a strategy to safeguard the communicative efficiency of modal signs.

Furthermore, LSE does possess other iconic or metaphorical procedures which, apparently, have not been found in other SLs. I will briefly mention the metaphorical motivation of some epistemic signs. DOUBT, for instance, has an evident metaphorical origin. Its lexical meaning designates a typical dessert which in English is usually called *creme caramel* (Spanish: *flan*). It is plausible to assume that this sign has acquired a modal value as a result of a visual metaphor. This dessert has a gelatinous texture which produces a quiver on the dish. From a cognitive point of view, it is easy for this sign to be converted into one representing insecurity and instability; indeed, doubt. In addition, both THINK and OPINION are articulated at the

height of the head, indicating that they refer to mental processes. Finally, the sign PERHAPS is articulated in a similar way to the adversative sign BUT. Only slight differences in non-manual components (speed of movement and facial expression) are perceived, which makes one think that both signs are etymologically connected. I suggest that the modal content of PERHAPS is not primarily related to the very mental process (opinion, belief), but to the *contrast* existing in the fact that the Speaker utters a proposition and, at the same time, refuses a strong commitment to its truth value.

Finally, I may add that the articulatory location of other modal signs (CAN and WANT) on the chest is probably iconically motivated, too. Such a location, close to the heart, is quite common for many signs related with emotions or dispositions. Thus, even though metaphorical and iconic processes are relevant for understanding modality in interlinguistic terms, they carry out their influence in a language-specific way.

8 Conclusions

The main conclusion of our research is that there is an essential grammatical congruity between LSE and OLs in the field of modality. Important features of LSE coincide with tendencies which are widely observed in OLs and, as a consequence, appear to be in complete accordance with our cross-linguistic knowledge about modality. Thus the characterization of grammatical modality in LSE is not conditioned by the fact that it is a visually transmitted language.

Modality in LSE is analysable according to the same parameters applicable to OLs: scope, semantic value, and formal procedures. It is worth noting that scopal distinctions as applied in FDG have been fully confirmed in LSE; modal contents are distributed through four representational layers: Propositional Content, Episode, SoA, and Configurational Property. The interaction between scope and semantic value also supports FDG predictions. Epistemic contents intervene at the higher layers, whereas deontic and facultative contents have a lower scope. As a result of this, deontic and epistemic modals can appear in the same utterance, provided that the deontic sign is placed closer to the lexical verb. This phenomenon confirms the assumption in FDG that objective epistemic modality has a wider scope (Episode) than deontic event-oriented modality (SoA). The formal consequence in this case is that the deontic sign is placed nearer to the lexical predicate on which it is acting. The epistemic constituent, on the other hand, is not only placed further away from this predicate, but is also isolated by a prosodic pause.

Another important question is the role carried out by the non-manual components of modal signs. Indeed, Iglesias (2006) emphasizes their importance for LSE. Many other researchers do so for different SLs: Herrmann (2013: 342-345) for DGS, Sign Language of the Netherlands (*Nederlandse Gebarentaal*: NGT), and Irish Sign Language (ISL); Bross & Hole (2017: 24) for DGS; etc. Nevertheless, I think that the grammatical relevance of non-manual factors needs much more exploration. Firstly, sometimes these studies interpret modality in a very broad sense, covering any aspect of Speaker's attitude, including the illocutionary force of a Discourse Act. Thus they take into account phenomena which are pragmatic in nature. Herrmann (2007) is a particularly striking example in this respect,²⁸ but it is far from being the only one. A careful review of the domains under observation would certainly redefine the perception about the role played by non-manual components. Secondly, It should be taken into account that Wilcox's (2004; 2007) second route is not always completed, and the fulfillment of the first evolutionary process (from bound gesture to intonation) does not mean that the following stage (from intonation to grammatical morpheme) must necessarily occur. Sandler (2010; 2012) compellingly argues in favor of a prosody-based analysis of non-manual components in ASL, clearly preferable to a syntax-based analysis. In FDG terms, this means that they take part in the phonological encoding, not in the morphosyntactic one. More specifically, Wilcox & Shaffer (2006: 233) observed for ASL that, in utterances expressing degree of obligation or ability, non-manual components "exhibit almost continuous variation and thus appear more prosodic." In epistemic

²⁸ For instance, she pays attention to the modification of the so-called *Person Agreement Marker* in DGS (Herrmann 2007: 256-259). It would differentiate linguistic expressions which can be translated into English as follows: "you know him" vs. "you know him, don't you?" It is easy to see that this topic has nothing to do with modality proper.

modality the use of some facial features, like brow furrowing and a head nod, also seems to be simply a concomitant factor; the manual sign (with a weak and reduplicated articulation) is the only compulsory element for the expression of an epistemic content.

In LSE, modal contents are identified by the manual components of signs, and they are never expressed exclusively in a non-manual fashion. It is true that some signs include non-manual elements such as head movement for an emphatic reinforcement, but these appear as complementary, prosodic elements of hand articulation. In fact, they normally intervene as optional, non-compulsory constituents of modal expressions.²⁹ Only PERHAPS includes a constant and well-defined facial expression, but it could be considered as an additional component in order to disambiguate this sign, whose manual articulation is very similar to that of BUT (cf. section 7.2 in this paper). For its part, there is also a fully significant non-manual element in the expression of desiderative modality: the so-called *joking face*. It certainly makes it possible to identify the proper value of MUST and NEED as desiderative when they act at the layer of the Propositional Content, but, as I have argued (cf. section 3.2 of this paper), such a joking face has no modal meaning in itself. In any case, even if it is accepted the hypothesis that non-manual elements denote in such cases an increasing process of grammaticalization and subjectification, it would be applicable to these specific contents only, and could not be extended to the modal category as a whole.

With regard to mouthing, just one modal sign includes it in a compulsory, or at least widespread, way: the deontic marker LAW, whose manual sign requires the simultaneous oral articulation of the Spanish word *ley* 'law', with no distinctive function; thus it must be considered a *redundant mouthing* (cf. Pfau & Quer 2010: 383ff). Obviously, such an additional component derives from a linguistic contact with the surrounding OL, but I am not in a position to answer why this sign needs it or what is the etymological link between mouthing and hand articulation. Anyhow, it is clear that mouthing is far away to be a general ingredient in the expression of modality in LSE. Herrero (2009: 79f) suggests that, unlike mouth gesture, mouthing is a lexical property of some individual signs rather than a grammatical procedure. Although some factors may favor it,³⁰ its presence in a specific sign ultimately depends on idiosyncratic reasons.

In sum, although a few non-manual components relating to facial expression and mouthing are compulsory, they just play a supplementary and, to a certain extent, exceptional role, restricted to some specific modal contents. In most cases, non-manual components are optional and simply act as part of the prosodic contour, with a pragmatic rather than semantic motivation. Either way, they never replace manual signs.

Some LSE modal signs act not only as modal markers, but also as lexemes (probably their original value): DOUBT, FREE, SURE. Other modal signs have no direct lexical counterpart, at least in current synchrony: CAN, MUST, PERHAPS. Nevertheless, they preserve their independence as free morphemes. As a consequence of this, I suggest that modal markers in LSE should be classified as (partially grammaticalized) lexical units, belonging to different parts of speech: verbs, nouns, adjectives, and adverbs. Strict morphological operators (e. g. verbal mood, clitics, affixes, etc.) for modality are completely lacking in LSE.

Acknowledgments: This paper is part of the research project HUM-673, funded by the Autonomous Government of Andalusia (Spain). I thank Hella Olbertz, Marize Dall'Aglio-Hattnher, Hongmei Fang, and two anonymous readers for their valuable comments, as well as María Maroto and Ernesto Sánchez (deaf informants). I also express my heartfelt gratitude to Kees Hengeveld, for his help and continuous support. Last but not least, I want to especially mention Ángel Herrero-Blanco (1951-2017). As I explain in the introductory section, the origin of the current research was our common work on this topic within the FG framework. This paper is dedicated to his memory. Of course, the responsibility of the remaining errors is only mine.

²⁹ It is worth noting that the online video dictionary *Sématos.eu* (s.d.) never includes non-manual components in the representation of LSE modal signs.

³⁰ At least the following (cf. Herrero 2009: 79f; Pfau & Quer 2010: 384; Framit 2013): to be (at least partially) a loanword from surrounding OL through fingerspelling, to help to differentiate meanings of the same manual sign, and to be normally uttered in isolation. I admit that none of these criteria are directly applicable to the modal sign LAW.

Abbreviations and typographical marks

a) Glosses:

As is customary in sign language research, glosses are represented in capital letters.

Underlining: simultaneous articulation of the underlined manual sign and a non-manual sign

+: repetition of the previous manual sign; every cross corresponds to a repetition

F+C: eyebrow furrowing and lip clenching

F+HN: eyebrow furrowing and head nodding

HN: head nodding

HS: head-shaking

JF: joking face

NEG: suppletive negation

R: eyebrow raising

R+C: eyebrow raising and lip clenching

TOP: non-manual marker for the function *Topic* in American Sign Language

b) Other abbreviations:

ASL: American Sign Language

BCSL: Brazilian Cities Sign Language

DGS: German Sign Language: *Deutsche Gebärdensprache*

FDG: Functional Discourse Grammar

FG: Dik's Functional Grammar

ISL: Irish Sign Language

LIS: Italian Sign Language: *Lingua Italiana dei Segni*

LSA: Argentine Sign Language: *Lengua de Señas Argentina*

LSE: Spanish Sign Language: *Lengua de Signos Española*

LSF: French Sign Language: *Langue des Signes Française*

NGT: Sign Language of the Netherlands: *Nederlandse Gebarentaal*

OL(s): Oral Language(s)

SL(s): Sign Language(s)

SoA(s): State(s)-of-Affairs

TAM: tense-aspect-modality (set of categories)

TAMEP: tense-aspect-modality-evidentiality-polarity (set of categories)

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Supplemental Material: The online version of this article (DOI: 10.1515/olpi-2018-0020) offers supplementary material.