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Sílvia Gabarró-López

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Sílvia Gabarró-López

Stockholm University

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Sílvia Gabarró-López

Stockholm University

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This paper presents a study of a discourse relational device, namely SAME, in French Belgian Sign Language and Catalan Sign Language. Three aspects of SAME are examined including its distribution across genres, its functional description and its position in discourse. Two comparable samples were extracted from the reference corpora of these two sign languages. An annotation protocol and a segmentation model designed for the study of discourse relational devices in the spoken modality were used with the necessary adaptations to the signed modality. The results show a different distribution of SAME across genres in each sign language and several possible positions. Although SAME is polyfunctional in the two datasets, the most frequent function in the French Belgian Sign Language dataset (i.e., addition) is not found in the Catalan Sign Language dataset. This finding indicates that equivalent discourse relational devices in the signed modality also have language-specific functions as their counterparts in the spoken modality do.

Keywords: SAME, French Belgian Sign Language (LSFB [*langue des signes de Belgique francophone*]), Catalan Sign Language (LSC [*llengua de signes catalana*]), genre, function, position

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1. Introduction

- 1 It has been proposed that the first hominids from whom humans originated used signed systems to communicate before their phonatory apparatus developed and allowed them to communicate using speech (Stokoe, 2001). When these hominids became capable of talking, the use of signed communication was replaced by spoken communication because the latter could take place while other activities requiring the hands and the gaze were developed. Although this claim suggests that signed communication is older than spoken communication, spoken languages (SpLs) have been considered the only communication systems used by humans for a long time and have been studied as such from different perspectives.

2 Among the different features that have been investigated in SpLs, discourse relational devices (DRDs)¹ are a fairly young topic. The starting point is considered to be Schiffrin's (1987) seminal monograph. From then, "the study of discourse markers has turned into a growth industry in linguistics, with dozens of articles, both theoretical and descriptive, appearing yearly" (Fraser, 1998: 301). DRDs have been examined with varying degrees of granularity (one vs. many) at different linguistic levels including morphology, syntax, discourse and prosody. Different taxonomies and types of data (written, spoken and multimodal) have also been used from both a monolingual and a multilingual perspective.

3 Research on sign languages (SLs) is still in its infancy and most SLs remain under-studied at present. For a long time, SLs were not considered fully-fledged languages. It was thought that they were a random combination of gestures or a copy of the language spoken by the surrounding hearing community. In 1960, William Stokoe published a paper on the structure of American Sign Language in which he proved that, in contrast to gestures, signs can be broken down into parameters (location, handshape and movement) just as words can be broken down into phonemes. Along the same lines, several studies followed showing that not only do SLs have a phonological structure, but they also have a morpho-syntactic structure as SpLs do.

4 After this milestone in the field, several papers were written on phonology and morpho-syntax, which remain the two most fully explored linguistic levels of SLs. Discourse has attracted the attention of SL scholars more and more, particularly after the advent of the first SL corpora in the 2000s. The availability of large datasets containing different types of signers (from different ages, genders, educational backgrounds and linguistic profiles) and genres (descriptions, narratives, free conversations, etc.) has favored the development of studies that go beyond the phoneme, the noun phrase or even the sentence. However, DRDs remain one of the most underexplored topics, with less than a dozen papers published to date (see Section 2).

5 This study aims to contribute to this field by investigating the distribution per genre, the functions and the position in discourse of a particular DRD, namely SAME²,

1. This piece of research was developed within the framework of the project "TextLink: Structuring Discourse in Multilingual Europe" (2014-2018), COST Action IS1312, chaired by Prof. Liesbeth Degand. The overarching term used in this project to refer to discourse markers, connectives, discourse particles, pragmatics markers, etc. is "discourse relational devices". Accordingly, this is the term that I will use in this paper, even if most of the literature cited here uses "discourse markers" (DMs).

2. The convention establishes that sign language glosses must be written in capitals. When annotating corpus data, signs are labeled with ID-glosses, which are words (nouns, verbs, adjectives, etc.) that are consistently assigned to a sign, regardless of its meaning in the context (Johnston, 2010). Although SAME is glossed as AUSSI (which could be translated as "also") in the LSFB Corpus and as IGUAL (which could be translated as "same") in the LSC Corpus, I use the gloss in English for convenience and coherence with the language of this paper to refer to this sign. Similarly, all the SL glosses which were originally in Spanish in Section 2 and those which were in Catalan and in French in Section 4 have been translated into English.

Figure 1 – SAME

in French Belgian Sign Language (*langue des signes de Belgique francophone* – LSFB) and Catalan Sign Language (*llengua de signes catalana* – LSC). SAME is a sign whose core meaning is resemblance or similarity in these two SLs, but stands out as a good DRD candidate because it is very polyfunctional in natural discourse. Yet, to the best of my knowledge, its DRD functions have not been studied in any SL before. SAME is articulated with the index fingers of both hands extended and coming into contact with one another with an inward movement, as in Figure 1.

- 6 The structure of this paper is as follows: Section 2 summarizes existing research on DRDs in SLs, Section 3 focuses on the methodology (description of the SLs under scrutiny, datasets, annotation of functions, segmentation of dialogues and annotation of positions), Section 4 contains the results (distribution of SAME across genres, its functional description and position in discourse in the two SLs) and Section 5 is devoted to the summary and the conclusions.

2. Previous research on discourse relational device in sign languages

- 7 Despite the short tradition of SL linguistic research, SL scholars took less time than their SpL colleagues to begin writing about DRDs. Existing studies mostly focus on American Sign Language (Roy, 1989; McKee, 1992; Metzger & Bahan, 2001; Hoza, 2011) and follow the Anglophone literature pioneered by Schiffrin (1986 and 1987). However, there have been some initiatives in Venezuelan Sign Language (Pérez, 2006) and in Spanish Sign Language (Villameriel, 2008 and 2010) that follow the Spanish tradition led by Martín Zorraquino and Portolés Lázaro (1999) and Portolés Lázaro (2007). In what follows, I briefly summarize these papers, grouping them by language.

- 8 Roy (1989) was the first SL scholar to look at DRDs in an SL. She analyzed the signs NOW and NOW-THAT in a five-minute lecture given by a deaf American Sign Language signer. NOW is used to “[shift] into a new subtopic and [call] attention to what is coming up next in the text” (Roy, 1989: 236). This DRD appears in the utterance-initial position. NOW-THAT is used to separate the lecture into three parts (introduction, development and closing) and appears in the utterance-initial position. McKee (1992) studied footing shifts, i.e., the changes in speakers’ “voice”, either for quotation or for digression, in American Sign Language lectures given by seven different signers. Quotations can be introduced by the sign STOP or QUOTE, whereas digressions are marked by the sign LEGS-MOVE. Metzger and Bahan (2001) studied different aspects of discourse in American Sign Language, among which they mentioned the existence of the DRD FINE in a 35-second narrative. They reported that it was used by one signer to separate different events in a sequence. Finally, Hoza (2011) studied HEY and WELL, which are highly polyfunctional. HEY is used to open a conversation, to get the attention of the interlocutor, to express surprise or warning, to show a connection between the speaker and the addressee and to introduce and shift topics; whereas WELL is used as a pause filler, as an indicator of a shift in discourse, as a device to maintain coherence and as a turn-taking regulator.
- 9 In Venezuelan Sign Language, Pérez (2006) studied DRDs in a corpus of four narrative monologues that were produced by four deaf adults. She classified DRDs into four groups: opening markers (BEGIN and FIRST), markers of continuation (OK, ALREADY, FINISH and AFTERWARDS), markers of reformulation (SORRY) and closing markers (END). Despite this variety of forms, END is the only DRD used by all signers. Interestingly, Pérez pointed out two features of these DRDs that may be related to the particular genre studied. First, the use of markers of continuation may be optional because the content of narrative segments is related in a successive and causal way, which is why it is not necessary to make the coherence relation explicit and it can be left to pragmatic inference. Second, the use of the opening and closing markers mentioned above may be restricted to narratives, as these DRDs are not likely to be found in daily conversations. Hence, this type of DRDs could be a distinctive element of this genre.
- 10 Villameriel examined DRDs in Spanish Sign Language using a corpus of narratives produced by eight deaf adults. In the 2008 paper, he found 25 DRDs that he classified as information structuring markers (they comment or order discourse segments), connectors (they can add information, continue previous discourse or express alternatives), reformulation markers (they are used to paraphrase or to sum up) and argumentative markers (they are used to support or specify arguments). In the 2010 paper, he focused on two DRDs, namely CHANGE and WANT-SAY. The first is a connector that expresses an alternative, whereas the second is a reformulation marker. The use of the signing space and non-manual markers is different when CHANGE and WANT-SAY function as DRDs than when these two forms are used as verbs.

11 So far, existing studies have some limitations such as the small amount of data and the fact that findings are sometimes restricted to one signer (e.g., Roy, 1989; Metzger & Bahan, 2001). Moreover, the description of findings is less fine-grained than in SpLs in terms of genre (most papers either focus on narratives or on lectures) and of position in discourse (e.g., only Roy [1989] talks about the position, but she does not define utterances and their segmentation). In addition, the use of different theoretical models in each paper does not allow cross-linguistic comparisons to be made. Yet, contrastive research on DRDs in the signed modality would inform us on whether DRD equivalents have language-specific functions as their counterparts in the spoken modality do. This finding would contribute to casting light on cross-modal differences and similarities between DRDs.

12 This paper takes the first steps towards bridging some of these gaps in the literature by focusing on a DRD that exists in different SLs with the same form, i.e., SAME³. I will provide a description of this DRD using a comparable sample extracted from the reference corpora of LSFb and LSC. Three reasons motivate the choice of this DRD. First, it has not been scrutinized before in other SLs as far as I know. Second, it allows us to have a formal *tertium comparationis*, which is necessary for this type of research (at present, there are no resources documenting the DRD repertoires in any SL from which formal and semantic DRD equivalents can be selected). Third, the study of SAME will eventually allow us to add other SLs to this comparative study, whose outcome will contribute to linguistic typology.

13 The goals of this piece of research are fourfold. The first one is to study the distribution of SAME across four genres to see whether there are differences in the frequency of use among them. The second goal is to describe the functions of this DRD in LSFb and LSC using a protocol designed for the annotation of DRDs in spoken data (i.e., non-written data, which captures the specificities of language in interactions). The third goal is to investigate the position of this DRD in discourse, which will provide us with a more detailed portrait of how SAME is used in interactions. Finally, the fourth goal is to take the first steps towards examining the differences and similarities of SAME as a DRD between the two SLs under scrutiny.

3. Methodology

14 In this section, I start by describing LSFb and LSC (3.1) and the two datasets used to analyze SAME (3.2). Afterwards, I explain the method followed in order to annotate the functions, to segment the data and to annotate the position (3.3).

3. Other SLs in which this form has been reported include Australian Sign Language (<http://www.auslan.org.au/dictionary/words/sameness-1.html>), British Sign Language (<http://bsl.signbank.ucl.ac.uk/dictionary/words/same-1.html>) and Hong Kong Sign Language (<http://csls.org/asiansignbank/>), among others. These three websites were accessed on 18th October 2019.

3.1. The languages under study

15 LSFb is the natural language of deaf and deafblind⁴ people of Wallonia (the southern region of Belgium) and Brussels, whereas LSC is used by deaf and deafblind people of Catalonia (a North-Eastern Spanish region). Despite being recognized by the parliaments of the regions in which they are used (2003 for LSFb and 2010 for LSC), both SLs are under-studied, minority and minoritized languages (i.e., have been marginalized and at some stage persecuted or banned). Their use is still neglected in different areas of society and restricted to the Deaf Community. The two SLs have no written tradition; that is, their transmission has taken place from one generation to the next, from parents to their children in deaf families⁵, from older pupils to younger ones in the schools for the deaf, and from peers in deaf clubs.

16 As for any West European SL, there is no evidence so far about whether LSFb and LSC are related. Although their lexicons look considerably different, some similarities have been found when comparing their grammars in the use of agreement auxiliaries (Meurant, 2008a; Quadros & Quer, 2008), the construction of negative sentences (Quer & Boldú, 2006; Sonnemans, 2014), conditional sentences (Sonnemans, 2014; Quer, 2016) and role shift structures (Quer & Frigola, 2006; Meurant, 2008b). However, LSFb and LSC have only been formally compared once (Gabarró-López, *in press[a]*), so further research is necessary to examine whether these two SLs look similar beyond the level of the sentence.

3.2. The datasets

17 A comparable sample was extracted from the LSFb Corpus (Meurant, 2015) and the LSC Corpus (Institut d'Estudis Catalans, forthcoming) for this paper. These two corpora are the reference corpora for the two SLs under study; that is, they were collected to provide a comprehensive picture of these languages including the existing varieties in terms of gender, region, age, educational and linguistic background. Generally speaking, SL corpora include dialogues of different pairs of deaf signers which are guided by a deaf moderator. The moderator has a list of questions/tasks and s/he asks the signers to talk about them. Sometimes, s/he gives visual stimuli to the signers, such as pictures or videos, so that they can talk about them. In doing so, the objective is to elicit a wide range of genres in interaction, such as argumentation, description, narration, etc.

4. Deafblind people communicate using SL in different ways depending on their blindness. For instance, if they have little or no residual vision, they will use SL in the tactile form; that is, they will place their hands on the other person's hands to know what s/he is saying. However, if the person has some residual vision (e.g., tunnel vision because of Usher syndrome), s/he may not need to use tactile SL, but signs will have to be articulated at the level of his/her face in his/her visual field.

5. This has been the case for few signers. For years, it has been estimated that 90-95% of deaf people are born in hearing families. More recent research has shown that this figure only applies to the United States and it may be still lower in other deaf communities (Costello et al., 2008 and 2012).

- 18 The LSFB Corpus is made up of 150 hours of video data. It contains dialogues of 100 signers who came in pairs to the studio based at the University of Namur. These 50 pairs of signers conversed about 19 different questions/tasks (except for older signers, for whom the number of tasks is less) proposed by the moderator. In the LSFB Corpus, signers are classified into three linguistic profiles: native signers, i.e., children of deaf parents who were exposed to LSFB from birth (30%); near-native signers, i.e., they were exposed to LSFB in their first years of school (26%); and late signers, i.e., they were exposed to LSFB when they were 7 years old or older (49%). The two signers of each pair belonged to the same age group (18-25, 26-45, 46-65 and 66 and above) and came from the same region. Although not all the pairs consist of a man and a woman, there is gender balance, as 57% of participants are women and 43% are men.
- 19 The LSC Corpus project aims to collect 63 hours of video data. For this purpose, 42 informants from 6 different places in Catalonia will be recorded at the deaf club they usually attend (the studio setting is moved to each location). So far, there are 28 informants recorded that represent the western and the coastal varieties of LSC. All of them were born into deaf families and/or they attended a boarding school for the deaf. Each pair of signers had a conversation about 8 different topics that were given by the moderator. The pairs always include a man and a woman from the same province and of the same age group, namely 18-29, 30-49 and 50-80.
- 20 My sample contains 12 signers, 6 from each SL (3 men and 3 women)⁶. Different ages are represented in the dataset analyzed in this paper as there is one pair of young signers (18-29), a pair of middle-aged signers (30-49) and a pair of older signers (50-85) for each SL. According to the classification of signers in the two corpora, these 12 participants are native or near-native signers, which means that they acquired LSFB or LSC before the age of 7, they consider it their first language and they use it on a daily basis as the language of communication in their close family⁷. Because of the different size and the specificities of each SL corpus, only four tasks are fully comparable in terms of genre and duration (see Table 1). Therefore, the same four dialogues for each pair of signers were selected from each corpus.

6. At the time this research project started, only 6 signers had been recorded for the LSC Corpus. Hence, the LSFB sample was selected on this basis.

7. The terms "native signer" or "near-native signer" have been defined in different ways in the literature (see Costello et al., 2008, for an overview). These terms are used in the LSFB and LSC corpora as a means of classifying signers depending on the age of acquisition of the SL and on the auditory status of their families. There is no objective assessment of SL data that allows us to differentiate in an objective way the differences between native, near-native and late signers (the latter profile is not found in the LSC Corpus).

Genre	Number of ID-glosses	Time	Language
Argumentative	2,417	20'52"	LSFB
	1,922	15'28"	LSC
Explanatory	450	03'17"	LSFB
	220	02'17"	LSC
Narrative	2,313	22'00"	LSFB
	2,268	21'57"	LSC
Storytelling	1,293	15'15"	LSFB
	1,384	14'34"	LSC

Table 1 – Summary of the sample

21 In the argumentative dialogue, signers were asked to argue in favour of or against a hot topic within the Deaf Community. In the explanatory dialogue, signers had to give their name and their name-sign⁸ and explain the origin of the latter. In the narrative dialogue, signers had to recount a past memory, so productions were expected to somehow mix explanation and storytelling. Finally, the genre labeled as storytelling is the most different from the others, as signers were given a video or picture story and they had to narrate it to the person in front of them. In the LSFB Corpus, the signers either watched a video (a mute cartoon of *Tom & Jerry* or the animated short film *Paperman*) or looked at a picture story (*The Horse and the Cow* or *Frog, Where Are You?*) and told it to their addressees. In the LSC Corpus, the signers were also given the picture story *Frog, Where Are You?* (Mayer, 1969) and had to recount it to the person in front of them. None of the stimuli contained any signed or written language in order to avoid influencing the productions of participants.

22 In total, the dialogues last for almost 2 hours (01:02:04 of LSFB data and 00:54:16 of LSC data) and have a similar number of ID-glosses (Johnston, 2010), i.e., 6,473 for LSFB and 5,794 for LSC. Although the size of the dataset might seem small, it is fairly large in comparison to previous studies of DRDs in SLs (e.g., Roy [1989] and Metzger and Bahan [2001] analyzed 5 minutes and 35 seconds of data respectively). In this paper, the number of informants for each SL is close to larger research projects on DRDs in SLs (e.g., McKee [1992] analyzed 7 signers for her doctoral thesis and Villameriel [2008] analyzed 8 signers for his master thesis). Furthermore, these papers do not follow a three-step annotation process for the description of the tokens; another three-step process for the segmentation of

8. The name-sign is a personal sign which is given to every individual within the Deaf Community to name them. This sign can be based on a physical characteristic of the person, something s/he likes, the first letter of his/her name, etc.

productions into clauses, basic discourse units (Degand & Simon, 2005, 2009a and b) and turns⁹; and a final three-step process for the annotation of the position at these three levels of discourse (see Sub-section 3.3 below).

3.3. Data annotation

23 The data analyzed in this paper were first annotated by trained deaf annotators using ELAN¹⁰, which is the most widespread software for the annotation of signed data. This annotation was a two-step process in which a particular video was first annotated by an annotator and later revised by a different annotator in order to correct mistakes and ensure a coherent annotation. These annotators performed a basic annotation. In other words, they annotated the manual activity of signers, which includes the signs and what the annotators considered gestures conveying linguistic information (e.g., wiggling fingers in LSFB, which are used as pause fillers, or palms of the hands facing upwards to express uncertainty in LSC). Other gestures, such as scratching one's chin or changing the position of the hands in the lap, were not annotated. The LSC Corpus has non-manual information annotated for some files at present (which was not available by the time this study took place), whereas the LSFB Corpus does not have this information.

24 The specific annotation for this study included different stages. To begin with, I went through all the tokens which had been annotated as SAME and performed the three-level annotation of each token functioning as a DRD. The three-level annotation of each token was determined by context and non-manual elements (the movement of the body, head, the gaze direction and facial expressions were only annotated for the tokens of SAME functioning as DRDs). For ambiguous cases in which it was difficult to decide the function of a token, deaf annotators of each SL helped in disambiguating. The functional description of tokens was followed by the segmentation of dialogues and the annotation of the position. These three stages are described in the following sub-sections (3.3.1 and 3.3.2).

3.3.1. Description of the tokens

25 The annotation of the functions of SAME follows a protocol designed for the annotation of DRDs in spoken data (Crible, 2014). Therefore, the focus is DRDs used in interactions, which are the type of data analyzed here. DRDs are defined as a grammatically heterogeneous and multifunctional category of devices that signal discourse relations, structure the sequencing of discourse segments, express the speaker's metacomment on his/her phrasing or contribute to interpersonal collaboration. Their three core features are that they are syntactically optional, non-truth-conditional and that they constrain the inferential mechanisms of interpretation processes (Crible, 2014: 3-4).

9. The segmentation of signed data is an extremely time-consuming task. It is estimated that this three-level segmentation into clauses, basic discourse units and turns takes 2,400 hours of work for 1 hour of video data.

10. See: <https://tla.mpi.nl/tools/tla-tools/elan/>.

Type of DRD	← Relational / both / non-relational →			
Domains	Ideational	Rhetorical	Sequential	Interpersonal
Functions	Cause Consequence Temporal Contrast Concession Condition Exception Alternative	Motivation Conclusion Opposition Relevance Reformulation Approximation Comment Specification Emphasis	Opening Closing Resuming Topic-shifting Quoting Enumeration Addition Punctuation Planning ¹¹	Monitoring Face-saving Agreeing Disagreeing Elliptical

Table 2 – Type of discourse relational device, domains and functions

26 The protocol establishes three different levels for the description of DRDs: type of DRD, domain and function (see Table 2). The type of DRD is related to whether the token has a connecting function or not. On occasion, DRDs can have two functions (see Example [1]), and in these cases they receive the label “both”. The domain is a large category that groups functions which share some features. There are four different domains: the ideational domain contains functions that relate real world events, the rhetorical domain contains functions that express the speaker’s metacomment or signal pragmatic relations, the sequential domain contains functions that structure discourse segments, and the interpersonal domain contains functions that manage the exchange between signers. Finally, there are 31 functions which make the discourse relation of the DRD explicit (the functions which can be fulfilled by SAME will be defined when they appear in Section 4).

27 Furthermore, DRDs can be assigned two domains and two functions in order to avoid “having to choose, sometimes arbitrarily, between two equally marked values” (Crible, 2014: 10). Example [1], extracted from the International Corpus of English (ICE-GB, Nelson et al., 2002), contains the DRD “so”, which is used to express a conclusive value (function of conclusion, which belongs to the rhetorical domain) and to mark the end of the turn (function of closing, which belongs to the sequential domain). While the first function is relational, the second is non-relational.

- [1] Spk1: Uhm it’s chopping down birch trees but they’re quite thick **so**.
 Spk2: Why do you need to chop them down?

11. The function of planning did not appear in Crible (2014), but in Bolly and Crible (2015), which is a protocol designed for the annotation of multimodal markers (speech + gesture) based on Crible (2014). I thought that this function was necessary instead of mixing punctuation and planning in a single tag (i.e., punctuation) as in Crible (2014).

3.3.2. Segmentation of dialogues and position

28 As mentioned earlier, the segmentation of dialogues includes three different steps: delimitation of clauses, delimitation of basic discourse units (BDUs) and delimitation of turns. Turns are delimited every time there is a change of signer or every time a signer starts signing, even if s/he overlaps with the other. For the other two levels of segmentation, I follow the BDU Model which was designed for the segmentation of French spoken data (Degand & Simon, 2005, 2009a and b) and for the annotation of the position of DRDs. This methodology has been adapted to the signed modality (Gabarró-López & Meurant, 2016) and I used it here as, to the best of my knowledge, it is the only segmentation account that goes beyond the clause in SLs. In short, this three-level segmentation provides us with a detailed picture of the position of DRDs covering syntax and discourse.

29 In the BDU Model, clauses are delineated in terms of Dependency Syntax (Blanche-Benveniste [ed.], 1991); that is, a clause is made up of a nucleus (a verb, but also a noun or an adjective) and its dependants. Outside the clause dependency, there are adjuncts, i.e., non-dependent elements such as DRDs. In Example [2]¹², the nucleus of the clause is the verb “call”. “You” and “David Lombard” are inside its valency pattern, whereas “for instance” is out of the dependency structure of the clause.

[2] [you call David Lombard] <for instance>

30 Once clauses are delimited, there is an independent segmentation into prosodic units. Prosodic units are delineated according to three acoustic cues, namely silent pauses longer than 250 ms, syllable lengthening (three times longer than the syllables in context) and sharp rises of F0 (intra-syllabic F0 superior to ten semi-tones). BDUs are delimited where the boundaries of syntactic and prosodic units coincide. Therefore, there are different types of BDUs including one-to-one correspondences of a syntactic and a prosodic unit, several clauses into one prosodic unit, several prosodic units into one clause, or many prosodic and syntactic units in the same BDU (Degand & Simon, 2009a and b).

31 In the adaptation of the model to the signed modality (Gabarró-López & Meurant, 2016), clauses are also delimited following the principles of Dependency Syntax. Three visual cues are proposed to replace the three acoustic cues: pauses in which there is no signing at all, sign holds or lengthened signs, and eye blinks layered with another non-manual marker (e.g., a head nod, a movement of the torso, etc.). This prosodic segmentation is also independent from the syntactic segmentation. The convergence points of syntactic and prosodic units mark the boundaries of BDUs.

12. This example is copied from Degand and Simon (2005: 68). Square brackets delimit clauses and angle brackets delimit adjuncts.

32 Once dialogues have been segmented into clauses, BDUs and turns, the position of SAME can be annotated at these three levels. DRDs can be found at the beginning of the clause or at the end of the clause, which means that they are syntactically integrated either before or after the main verb, as “although” in Example [3] and “because” in Example [4]¹³.

[3] [the new one is <actually> now out Canary Wharf way] <and> [**although** I haven’t done it it’s been on my list of things to do]

[4] [they call in our services **because** they need some professional help]

33 When DRDs are in the middle of the clause, they are embedded in the clause, as “actually” in Example [3]. DRDs can also be in the left periphery of the clause, that is, before the beginning of the clause as “but” in Example [5] and “so” in Example [6]. Lastly, if a DRD is in the right periphery of the clause, it is placed after the end of the clause, as “for instance” in Example [2].

34 From the perspective of BDUs, DRDs can have 9 different positions. When DRDs are in the syntactico-prosodic left periphery, they are syntactically and prosodically detached and they form a whole BDU, as “well” in Example [5].

[5] /// <well> /// <but> [not us] ///

35 DRDs in the syntactic left periphery of the BDU are at the left of the clause, syntactically detached, but prosodically integrated into the BDU. That is, they do not form a BDU on their own, but they are integrated into a BDU which has other clauses or elements. For instance, this is the case for “but” in Example [5] or “so” in Example [6]. Both are found in a BDU which also contains a clause.

[6] /// <so> [there are two reasons] ///

36 When DRDs are in the prosodic left periphery of the BDU, they are syntactically integrated but prosodically detached. That is, the DRD is found in a BDU that contains other linguistic material, but there is a prosodic break between the item and this other material. This is illustrated with the phrase in bold in Example [7]¹⁴.

13. Examples [3] and [4] are taken from Crible (2014: 27). The following examples are shortened and simplified translations copied from Degand et al. (2014). All examples are extracted from spoken corpora and translations try to be as faithful as possible, which is why sometimes there may be a word or two missing as in Example [8]. Two slashes mark a prosodic break and three slashes mark the boundaries of BDUs.

14. The phrase “the invention of the European semester” is not a DRD, but I did not find any other real example with a DRD in this position in the literature. If “although I haven’t done it it’s been on my list of things to do” in Example [3] constituted a BDU and there was a prosodic break after “although”, “although” would be in the prosodic left periphery of the BDU as this DRD is syntactically integrated in the clause.

[7] /// [**the invention of the European semester** // which submits to the prior approval of the commission // the national budgets // brings us back to the situation of the veto right // previous to the great revolution of seventeen eighty-nine] ///

37 DRDs can be in the initial position of the BDU, which means that they are found at the beginning of the BDU and they are syntactically and prosodically integrated, as the phrase in bold in Example [8].

[8] /// [**at the first demonstration on the first day of the strike** it was the movement ran out of steam] ///

38 DRDs can also be in the middle of the BDU, which means that they can be embedded in the clause as in Example [9] or they can appear between two clauses that are in the same BDU.

[9] /// [I thank <**by the way**> <dear Hervé> <dear Alain> in particular the ministers of defence who are among us tonight] ///

39 According to the BDU Model, DRDs can also be in the syntactico-prosodic right periphery (i.e., at the right of the clause, both syntactically and prosodically detached), in the syntactic right periphery (i.e., at the right of the clause, syntactically detached but prosodically integrated), in the prosodic right periphery (i.e., at the right of the clause, syntactically integrated but prosodically detached) and in the final position (i.e., the DRD is at the end of the BDU and is both prosodically and syntactically integrated). However, no examples are given here to illustrate these values because, to the best of my knowledge, the studies on the peripheries following the BDU Model have focused on the left periphery so far.

40 Finally, we follow Crible (2014) in identifying four possible positions for DRDs in a turn:

1. turn initial: the marker is the first element of the signer's turn and there are no signs before;
2. turn medial: the marker is in any position of the signer's turn excluding initial, final and whole turn;
3. turn final: the marker is the last element of the signer's turn, either by choice or by interruption;
4. whole turn: the marker constitutes the entire signer's turn.

4. Results

41 In the sample examined for this paper, there is a total of 66 tokens of SAME which function as a DRD. Forty-four were found in the LSFB dialogues and 22 in the LSC dialogues. This section contains the results of the analysis of these tokens. Sub-section 4.1 gives an account of the distribution of this DRD across the four genres

studied, namely argumentation, explanation, narration and storytelling. Sub-section 4.2 provides a functional description of SAME as a DRD including the three levels established by Crible (2014): type of DRD, domain and function. Finally, Sub-section 4.3 is devoted to the position of this DRD in the clause, the BDU and the turn.

4.1. Distribution across genres

42 The genre that attracted the highest number of tokens of the sign SAME in both SLs is argumentation, which is followed by the narrative genre (see Table 3). The percentage of SAME in the narrative genre in LSC is not far from the percentage in the argumentative genre in the same SL (43% and 57% respectively), whereas the percentage of SAME in the narrative genre in LSFB is half the percentage of tokens of this sign in the argumentative genre in the same SL (27% and 59% respectively). In the other two tasks, i.e., explanation and storytelling, there are few tokens of the sign that function as a DRD in LSFB and none in LSC.

43 Two reasons may justify the lower figures in explanation and storytelling. On the one hand, the explanatory genre had less than half the number of signs as compared to the other genres in the two SLs (450 ID-glosses in LSFB and 220 ID-glosses in LSC). Hence, there are fewer possibilities for the token to be used in the explanatory dialogues than in the other three genres of the dataset. This is a limitation of the present study, so the analysis of a larger sample of explanatory dialogues is necessary to cast light on whether the shorter duration of this genre had an impact on the frequency of use of this DRD or if the explanatory genre does not really attract the use of this DRD.

44 On the other hand, the total number of signs in storytelling is similar to the total number of signs in the argumentative and narrative genres. Therefore, the size of the sample of storytelling does not seem to be the reason for the lack of tokens of this DRD. The reason could be that the DRDs used in storytelling are different from DRDs produced in other genres as Pérez (2006) hypothesized for Venezuelan Sign Language. Further research from an onomasiological perspective (i.e., taking all DRDs in a larger dataset including the four genres) is necessary to support or refute this claim.

Genre	LSFB		LSC	
	Number of tokens of SAME	Percentage of tokens of SAME	Number of tokens of SAME	Percentage of tokens of SAME
Argumentative	26	59%	13	57%
Explanatory	3	7%	0	0%
Narrative	12	27%	9	43%
Storytelling	3	7%	0	0%

Table 3 – Distribution of SAME across genres in LSFB and LSC

4.2. Functional description of SAME

45 The functional description of SAME as a DRD starts by examining whether it is used to connect clauses/discourse segments or not. In the LSFB dataset, SAME is mostly relational (75% of the tokens), although it can be non-relational or be both relational and non-relational at the same time (see Table 4). Conversely, SAME is much more balanced in a scale of relationality in the LSC sample. The proportion of relational and non-relational tokens is almost fifty-fifty, and there are no tokens that combine a relational and a non-relational function.

46 The functions that SAME fulfils in LSFB belong to all four domains, and two domains can even be combined in the same token (i.e., the sequential and the rhetorical domains). In LSC, SAME fulfils functions of the ideational, rhetorical and sequential domains, but it does not have interpersonal functions (i.e., managing exchange between signers) or two domains in the same token (see Table 5). The rhetorical domain (i.e., expressing pragmatic coherence relations or metadiscursive relations) is the most frequent in the two SLs. In LSC, the ideational domain (i.e., expressing discourse relations between real events) is the most frequent after the rhetorical domain, while the sequential domain (i.e., structuring discourse segments) is the second most frequent domain in LSFB. SAME can also have ideational functions in LSFB, but they are not frequent.

Type of DRD	LSFB		LSC	
	Number of tokens of SAME	Percentage of tokens of SAME	Number of tokens of SAME	Percentage of tokens of SAME
Relational	33	75%	12	55%
Non-relational	7	16%	10	45%
Both	4	9%	0	0%

Table 4 – Relational and non-relational uses of SAME in LSFB and LSC

Domain	LSFB		LSC	
	Number of tokens of SAME	Percentage of tokens of SAME	Number of tokens of SAME	Percentage of tokens of SAME
Ideational	4	9%	5	23%
Rhetorical	19	43%	16	73%
Sequential	6	37%	1	4%
Interpersonal	1	2%	0	0%
Two domains	4	9%	0	0%

Table 5 – Domains of SAME as a discourse relational device in LSFB and LSC

47

Table 6 contains the functions that SAME fulfilled in the sample. Six functions were found in the two SLs under study: cause, i.e., expressing that two clauses are causally related; comment, i.e., introducing a parenthesis in discourse; consequence, i.e., expressing that one clause is the result of the previous clause; hedging, i.e., signaling approximation; reformulation, i.e., expressing the same concept with a difference in phrasing or marking that a content is more appropriate than another; and specification, i.e., introducing an example. The functions of hedging, reformulation and specification are among the most frequent in the two SL samples. Moreover, hedging is the most frequent function in LSC (8 tokens, i.e., 36.3% of the total in this language). These three functions are exemplified below¹⁵.

Domain	Function	LSFB		LSC	
		Number of tokens of SAME	Percentage of tokens of SAME	Number of tokens of SAME	Percentage of tokens of SAME
Ideational	Cause	1	2.2%	3	13.6%
	Concession	2	4.5%	0	0%
	Condition	0	0%	1	4.5%
	Consequence	1	2.2%	1	4.5%
Rhetorical	Comment	1	2.2%	1	4.5%
	Hedging	6	13.6%	8	36.3%
	Reformulation	7	15.9%	4	18.1%
	Specification	5	11.3%	3	13.6%
Sequential	Addition	12	27.2%	0	0%
	Opening	1	2.2%	0	0%
	Planning	0	0%	1	4.5%
	Topic-shifting	3	6.8%	0	0%
Interpersonal	Face-saving	1	2.2%	0	0%
Two domains	Two functions	4	9.7%	0	0%

Table 6 – Functions of SAME as a discourse relational device in LSFB and LSC

15. In the following examples, “+” is used to mark that the sign has been repeated by the signer. Glosses which are separated by a hyphen such as “A-LITTLE” mean that the ID-gloss assigned to a sign is made up of two words, “PT:PRO1” stands for first person singular personal pronoun and “PT:DET” indicates that a pointing sign is used as a determiner.

48 Example [10] contains a token of SAME expressing hedging in LSC. The signer is saying that he used to communicate with his hearing cousin using some sort of home signing, but it was not proper LSC. This approximation is signaled by SAME.

- [10] [MEET++ SIGNING A-LITTLE] <SAME> [TRY-UNDERSTAND SPECIAL BOTH]
 ‘When we saw each other, we used to sign... sort of try to understand each other using family signs.’
 (LSC Corpus, session 2, task 4, signer KW, 00:44-00:48)

49 In Example [11], SAME expresses specification in LSC. The signer is talking about the situation of LSC at present. She says that the Deaf Community is trying to get SL recognized in the political sphere so that deaf people gain rights. First, she says that the movement is starting now and afterwards she articulates SAME in order to give more details about it.

- [11] [SIGNING PT:DET NOW START MOVEMENT] <SAME> [POLITICS INSIST FOR OBJECTIVE APPROVE SIGNING APPROVE]
 ‘The sign language movement is starting now. As a matter of fact, deaf people are fighting to get sign language recognized at the political level.’
 (LSC Corpus, session 2, task 8, signer DU, 05:09-05:14)

50 In Example [12], SAME introduces a reformulation in LSFB. The signer is recounting a past memory of the boarding school for the deaf he used to attend. He says that they played football, Flemish pupils against Walloon pupils. He first produces the sign for COMPETITION, but afterwards he uses SAME to mark it as more appropriate to describe one team against the other than to imply some type of competition.

- [12] [LIKE COMPETITION] <SAME> [CONFRONTATION-TEAM ALWAYS]
 ‘We liked competition, I mean, we liked to play Flemish against Walloons.’
 (LSFB Corpus, session 21, task 3, signer S044, 03:48-03:51)

51 There are five functions that only appeared in LSFB: addition, i.e., SAME provides more information about a previous segment of discourse; concession, i.e., SAME introduces a clause that denies clearly identified expectations in the previous context; face-saving, i.e., SAME expresses deference and politeness and prevents face-threats; opening, i.e., SAME is used to start the turn or to bid for the floor; and topic-shifting, i.e., SAME marks a change of topic.

52 Addition is the most frequent function in LSFB (12 tokens, which represent 27.2% of the total) and, according to the dataset, it is language specific, as it was not found in LSC. In LSC, there is another sign glossed as ALSO in the LSC Corpus that seems to be used for this purpose. Furthermore, there are other signs which signal addition in LSC and LSFB, but SAME is the most frequent in LSFB (Crible & Gabarró-López, accepted). In Example [13], the signer explains that her childhood was hard because her mum could not sign. She uses SAME to add that her mum only thought about drinking.

- [13] [MOTHER INCAPABLE SIGNING] <SAME> [THINK+ DRINK+]
 ‘My mum was incapable of signing and she only thought about drinking.’
 (LSFB Corpus, session 21, task 4, signer S045, 04:28-04:31)

53 The lack of the other four functions (i.e., concession, face-saving, opening and topic-shifting) in LSC may be motivated by one of two different factors: the influence of French or the content of the dialogue. SAME is frequently articulated with the mouthings “aussi” [also], “comme” [as] or “même” [same] in French. When SAME is used to express concession in LSFB, it is produced with the mouthing “même” or “quand même”. The latter, which could be roughly translated as “anyway” in English, can be used as a DRD to underline oppositions in spoken French. Since “quand même” is similar to “même”, it could be hypothesized that this use of SAME in LSFB is related to the contact with French. In the LSC data analyzed here, SAME is produced with the mouthings “como” [as] and “igual” [same] in Spanish¹⁶, but these words do not appear in constructions expressing contrast in Catalan or Spanish. On the other hand, the content of dialogues may have resulted in signers not using SAME in LSC for the other three functions (face-saving, opening and topic-shifting) as, to the best of my knowledge, there are no dedicated signs in LSC to express these meanings.

54 There are two functions that were only identified in LSC: condition (i.e., SAME expresses that one segment of discourse is the condition and the other the consequence) and planning (i.e., SAME is used to hold the turn and to plan what the signer wants to say next). However, it cannot be said that these two functions are language specific as there is only one token of each function in the sample and the function of planning was also found in another study about the DRD functions of SAME in LSFB (Gabarró-López, in press[b]). Finally, combinations of two functions were found only in LSFB. One token expressed “resuming (i.e., SAME links the upcoming segment to the previous topic when there is a digression or a hesitation) + emphasis (i.e., SAME stresses a neighboring pragmatic function)” and three tokens signaled “addition + emphasis”. While the first combination of two functions is likely to be found in LSC if more data are analyzed, the latter is not, as addition is not a function of the DRD under study in LSC.

4.3. Position

55 In the two datasets analyzed in this paper, SAME appeared in different positions of the clause (Blanche-Benveniste [ed.], 1991), the BDU (Degand & Simon, 2005, 2009a and b) and the turn. At the level of the clause, the most frequent position in both SL datasets was the left periphery (86% in LSFB and 59% in LSC, see Table 7).

16. In Catalonia, there is a situation of bilingualism with Catalan and Spanish. However, most deaf people (particularly those who were born before the 1980s) use mouthings in Spanish as Catalan was prohibited in schools until the end of the dictatorship. At present, some people of the middle-aged and younger generation of the Deaf Community use mouthings in Catalan, but this is not the case of the four participants of the sample analyzed here belonging to these two age groups.

Position in the clause	LSFB		LSC	
	Number of tokens of SAME	Percentage of tokens of SAME	Number of tokens of SAME	Percentage of tokens of SAME
Left periphery	38	86%	13	59%
Initial position	0	0%	2	9%
Medial position	3	7%	4	18%
Final position	1	2%	3	14%
Right periphery	2	5%	0	0%

Table 7 – Position of SAME in the clause in LSFB and LSC

56 Most of the functions of SAME are restricted to the left periphery in the sample (e.g., the two most frequent functions in LSFB, namely addition and reformulation, and some functions in LSC such as specification and cause). Interestingly, the function of hedging (which was the most frequent in LSC) is very flexible in terms of position in the two SLs: it could appear in any position of Table 7 excluding the right periphery in LSC and LSFB, and the initial position in LSFB. The two examples below illustrate these different positions of SAME when it signals approximation.

57 Example [14] (which is Example [10] repeated for the reader's convenience) contains a BDU extracted from the LSC sample in which SAME appears in the left periphery of the second clause. On the other hand, Example [15] contains a BDU extracted from the LSFB sample in which SAME appears in the middle of the clause. In the latter example, the signer is explaining that when she was a kid, she felt split between the hearing and the deaf world. She gives an example of the activities that belonged to the deaf world; that is, going with her mum to museums because she was a LSFB signing guide.

[14] /// [MEET++ SIGNING A-LITTLE] <SAME> [TRY-UNDERSTAND SPECIAL BOTH] ///

‘When we saw each other, we used to sign... sort of try to understand each other using family signs.’

(LSC Corpus, session 2, task 4, signer KW, 00:44-00:48)

[15] /// [PT:PRO1 GROW CHILD GROW CHILD REMEMBER STRONG <SAME> TWO WORLD+ STRONG WHY BECAUSE PT:PRO1 WORLD DEAF YES IT-IS GO MOTHER] ///

‘When I was a child, I remember being sort of split between two worlds because the world of the deaf was... Yes, for instance, when I went to museums with my mum.’

(LSFB Corpus, session 27, task 3, signer S055, 02:02-02:12)

58 Despite this variability in terms of position in the clause, the tokens of SAME that express hedging always appeared in the middle of the BDU. This is the most frequent position of SAME in the BDU in the two SL samples (43% in LSFB and 45% in LSC, see Table 8). Furthermore, the other two positions most frequently encountered in the data analyzed are the syntactico-prosodic left periphery and the syntactic left periphery.

59 Concerning the position in the turn, SAME never appeared in the turn-final position in the dataset. It was always found in the turn-medial position in LSC. This was also the preferred position in LSFB, although this DRD appeared in the turn-initial position on two occasions. These results indicate that SAME does not seem to be used for turn-taking in LSC, but it could be used for this purpose in LSFB. A larger sample would be necessary to confirm or refute this hypothesis.

Position in the BDU	LSFB		LSC	
	Number of tokens of SAME	Percentage of tokens of SAME	Number of tokens of SAME	Percentage of tokens of SAME
Syntactico-prosodic left periphery	6	14%	4	18%
Syntactic left periphery	17	39%	7	32%
Initial position	0	0%	1	5%
Medial position	19	43%	10	45%
Syntactic right periphery	2	4%	0	0%

Table 8 – Position of SAME in the basic discourse unit in LSFB and LSC

Position in the turn	LSFB		LSC	
	Number of tokens of SAME	Percentage of tokens of SAME	Number of tokens of SAME	Percentage of tokens of SAME
Turn-initial	2	5%	0	0%
Turn-medial	42	95%	22	100%

Table 9 – Position of SAME in the turn in LSFB and LSC

5. Summary and conclusions

60 This paper reported on a study of DRDs in two languages of the signed modality, namely LSFB and LSC. In particular, I focused on SAME and I examined its distribution per genre, functions and position in discourse. This DRD shares the same form in these two SLs and has an equivalent meaning (i.e., resemblance and similarity). Hence, it was a good starting point to compare two under-studied languages that have scarcely been investigated from the perspective of DRDs and do not have any resource documenting their DRD repertoires. Furthermore, SAME is an interesting case because of its many different uses in natural discourse.

61 The sample selected for this study was made up of 12 comparable dialogues extracted from the LSFB Corpus (Meurant, 2015) and the LSC Corpus (Institut d'Estudis Catalans, forthcoming). These dialogues were grouped into four types of productions: argumentative genre, explanatory genre, narrative genre and storytelling. The sample was balanced in terms of duration (approximately one hour per SL) and in terms of number of signs (6,473 signs in LSFB and 5,794 in LSC). There was a total of 66 tokens in which SAME functioned as a DRD, 44 in LSFB and 22 in LSC.

62 The dialogues that attracted more tokens of SAME in the two SLs belonged to the argumentative (59% in LSFB and 57% in LSC) and narrative genres (43% and 27% respectively). Few or no tokens were found in the other two genres in the two SLs. One reason that could justify these differences between genres is that storytelling is different from the other three genres in terms of how it was elicited, and the type of structures used. The other reason is that the amount of data from the explanatory genre is smaller than the amount of data from the other three genres, so there would be more chances of finding SAME functioning as a DRD if there were more data from explanatory dialogues. This shortcoming calls for further research in this respect.

63 Although the core meaning of SAME is likeness, this study confirmed the observation that this sign is highly polyfunctional when it is used as a DRD in natural discourse. From a cross-linguistic perspective, SAME presents some similarities in terms of functions as a DRD in the two SLs under scrutiny. Six functions are shared between LSFB and LSC including cause, comment, consequence, hedging, reformulation and specification. Nevertheless, seven functions were only found in one SL of the sample including addition, concession, face-saving, opening and topic-shifting in LSFB and condition and planning in LSC. Of these functions, the only two that seem to be language-specific are addition and concession. The percentage of tokens expressing addition is the highest of the LSFB sample, whereas this use has never been observed in LSC discourse so far. On the other hand, the use of SAME as a marker of concession seems to be motivated by the contact with spoken French. The lack of use of the other functions in either of the two SLs seems to be related to the content of dialogues as, to the best of my knowledge, there are no dedicated signs to express these meanings.

64 Other differences can be stated regarding the scale of relationality and the domain. According to the dataset, SAME appears to be situated at different places on the scale of relationality depending on the SL. Despite having some non-relational functions or combining a relational and a non-relational function in one token, SAME appears to be closer to the relational edge in LSFB, whereas in LSC, SAME is positioned in the middle of the scale of relationality as half of the tokens were relational and the other half non-relational. Although SAME mostly signals functions of the rhetorical domain in the two SLs, it can fulfil functions of the other three domains or combine functions in LSFB. However, the functions are almost entirely restricted to the rhetorical and ideational domain in LSC.

65 Concerning the position, SAME was found in different positions of the clause, the BDU and the turn. In the two SLs, the left periphery of the clause was the predominant position for SAME, and the syntactic left periphery and medial position of the BDU were also the most frequent. Moreover, the function of hedging was the most movable in LSFB and LSC, so these two SLs could have a similar syntactic flexibility when encoding approximation. SAME tended to be in the turn-medial position in the two SLs, although it could be found on occasion in the turn-initial position in LSFB. Hence, it could be hypothesized that SAME participates in two different ways in the turn-exchange system of these two SLs: on the one hand, it could be a turn-taking DRD in LSFB, while it could be a turn-holding DRD in LSC (see the function of planning). In any case, the number of tokens is too low, and this hypothesis should be further examined when a larger sample is annotated and segmented.

66 As mentioned at the beginning of this paper, DRDs are one aspect of discourse in SLs which has been scarcely studied to date. Yet, using them correctly is of utmost importance for SL users (deaf people but also hearing people such as SL interpreters) to come up with structured productions. I hope that the results of this study and future research on the topic will enrich both the LSFB and the LSC dictionaries¹⁷. This paper, which is part of a European project on DRDs¹⁸, has provided a detailed description of SAME using a methodology designed for SpLs for both the annotation of DRDs and the segmentation of discourse. The main shortcoming of this study was the small size of the dataset, which may call into question whether the differences observed are motivated by the language, the genre or even the signer. Hopefully, this paper will pave the way for further cross-linguistic and cross-modal comparisons of this and other DRDs that allow us to answer this question. The outcomes of this type of research will contribute to linguistic typology and to a better understanding of the human language capacity.

17. The online LSFB dictionary is available at: <http://dicto.lsfb.be/> (accessed on 30th November 2018). The LSC online lexical database is under construction at present.

18. See footnote 1.

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