

A multimodal approach to reformulation

Contrastive study of French and French Belgian Sign Language through the productions of speakers, signers and interpreters

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Reformulation is remarkably frequent in discourse and has been the subject of much work in spoken languages, both on written and oral data. Because of its metalinguistic nature, combined with its general aim of clarifying an expression, the act of reformulation offers a window to the way speakers process and adjust their expression in discourse. However, to date, the study of reformulation has hardly taken into account the now increasingly recognized multimodal and semiotically composite nature of language. This study aims to revisit the notion of reformulation from a multimodal perspective by comparing the use and semiotic composition of reformulations in the discourse of speakers and signers, as well as in the productions of interpreters. In doing so, we lay the foundations for a comparative study of discourse in signed and spoken language that accounts for the multimodality and semiotic complexity of language practices in different human ecologies.

Keywords: reformulation, multimodality, signed language, spoken language, interpreters, reformulation markers, depiction, French/French Belgian Sign Language (LSFB)

1. Introduction

Reformulation is a commonplace occurrence in our language practice, be it in prepared or unprepared discourse: we often re-elaborate an idea that has been previously said in an alternative way. The French speaker in Example (1) has to make her interlocutor understand a picture without showing it to her. The extract corresponds to the beginning of her description:

- (1) <en fait ça joue sur euh l'illusion d'optique> c'est-à-dire que <euh il y a deux perspectives>
 “<in fact it plays on uhm optical illusion> that is to say that <uhm there are two perspectives>”

As the lexical marker *c'est-à-dire* ‘that is to say’ underlines, the speaker starts her speech with an initial formulation, *it plays on the optical illusion*, to which she immediately returns by making it more explicit with *there are two perspectives*.

Similarly, in Example (2), shown in Figure 1, the LSFBS (French Belgian Sign Language) signer expresses herself in two steps: she first says that for her a beautiful sign language (SL) is a language that is as visual as possible, and then goes on to rephrase the same idea in other words, i.e. a language that helps me visualize. Both parts of the reformulation are linked by the sign SAME, which acts as a reformulation marker: it signals explicitly the reformulation act. These examples show that the progression of the discourse is paradoxically based on a reflexive return to what has previously been said.

- (2) <SIGN-LANGUAGE VISUAL MORE> SAME <GIVE IMAGINE INDEX THERE>¹
 “<A sign language that is as visual as possible> I mean <a language that helps me visualize>”








						
SIGN-LANGUAGE	VISUAL	MORE	SAME	GIVE	IMAGINE	PT THERE
<X>			marker	<Y>		
a sign language that is as visual as possible			like	a language that helps me visualize		

Figure 1. Reformulation in LSFBS (Example (2)). Corpus

LSFBS_1205_00:00:08.090–00:00:13.226

1. For all the examples presented in this paper, the glosses printed in capital letters represent LSFBS signs. In the glosses, ‘DS:’ signals a non conventional and highly depictive sign and ‘DE:’ an idiomatic expression. The figures that illustrate the example are composed of four lines: the pictures from the video clip, the LSFBS glosses or the French transcription, the reformulation components and the English translation. The caption of each figure situates the example in its respective corpus: e.g., Corpus LSFBS_1205_00:00:08.090–00:00:13.226, where ‘12’ is the number of the recording session, ‘05’ is the task number and where the last part indicates the time code of the example within the video. At this stage, only the LSFBS Corpus is available online (www.corpus-lsfbs.be), but data from FRAPÉ can be made available on request by contacting the authors.

However, looking at the video recording of the French Example (1) (Figure 2) leads us to consider it beyond the speech. For the duration of the first (<X>) and the second formulation (<Y>), the speaker produces a repeated gesture with the left hand, performing five left-right movements of the wrist, which is interrupted in between, during the marker *c'est-à-dire que* 'that is to say that'. This gesture and its timing highlight the reformulation structure (X – marker – Y) as well as the equivalence relation established between the two constituents of the reformulation.

				
en fait ça joue sur euh l'illusion d'optique		c'est-à-dire que	euh il y a deux perspectives	
<X>		marker	<Y>	
in fact it plays on uhm optical illusion		that is to say that	uhm there are two perspectives	

Figure 2. Reformulation in French (Example (1)).

FRAPé_0109_00:00:04.120–00:00:09.310

Because of its metalinguistic nature, combined with its general aim of clarifying the expression, we consider the act of reformulation as a window to the way the locutors engage in and actively adjust their expression in discourse. This study aims to revisit the notion of reformulation from a multimodal perspective, by describing and comparing the use and composition of reformulations in a sample of French speakers' and LSFBS signers' productions. We will complete this comparison by looking at the use of reformulations in the productions of interpreters, when contrasted to their use in non-interpreted data.

Both the multimodal approach and the comparative perspective between spoken and signed language and between spontaneous speech and interpreted productions are novel. Therefore, this study proposes a methodological framework ensuring the comparability of the observed phenomena (Section 3). The results obtained (Section 4) are envisaged as a first reference point for the use of reformulations in the language practices of speakers, signers and interpreters: their frequency, individual variations, the variation between discourse genres and their use in interpretation. The results also include a first typology of reformulation markers extended to the multimodality of marking elements as well as a distinction between four types of reformulations (self- vs. other-reformulation; interlingual vs. intralingual). The observations from our data sample are discussed (Section 5) and reveal avenues that deserve to be placed on the agenda of future work that aims to contribute, through the insight of reformulation phenomena, to a better understanding of language practices and their varieties. To begin with,

the next section (Section 2) will give a brief overview of the state of knowledge on reformulation and its relevance to an approach to language as multimodal and semiotically composite.

2. Reformulation

The phenomenon of reformulation is intrinsically related to the communication process and therefore prevalent in discourse. “[S]peakers or writers often feel the need to offer a second formulation or reinterpretation of a first discourse member in order to expand, adjust, specify, clarify, define, correct or modify different aspects” (Murillo, 2016:1). The study of reformulation started in the 1980s with the study of the lexical reformulation markers such as the English *in other words*, *that is to say*, etc., that are used to signal the operation of reformulation (Gülich and Kotschi, 1983). Since then, it has become a key notion for the study of language and meaning, at the crossroads of many issues such as language acquisition (Martinot, 2010), conversation analysis (Roulet, 1987), languages comparison (Rossari, 1994; Cuenca, 2003), and automatic language processing (Eshkol-Taravella and Grabar, 2018).

2.1 Reformulation, paraphrase and markers

In the narrow conception, reformulation is strictly limited to the domain of ‘paraphrastic reformulation’, which establishes a semantic equivalence relationship between the two related statements. Paraphrastic reformulation is typically introduced by markers such as *that is*, *in other words*, *put another way*, *namely*, etc. The second formulation conserves the meaning and is simply seen as clarifying the original one, saying it *in other words*. Broader conceptions extend reformulation to ‘non-paraphrastic’ types, which are introduced by markers such as *in fact*, *in reality*, *actually*, etc. These markers introduce a reinterpretation of the source statement, and the function of the resulting reformulations may be to narrow, expand, adjust, specify, define, correct or modify different aspects of the first expression, including providing a change of perspective on what has previously been said (Roulet, 1987; Blakemore, 1993:2; Gülich and Kotschi, 1983; Murillo, 2016).

In paraphrastic reformulations, the marker has been deemed to be redundant and therefore non-mandatory. On the contrary, non-paraphrastic reformulations have long been considered as requiring a marker. More recently, however, studies have revealed non-paraphrastic reformulations without connectors (Rabatel, 2007) and even non-paraphrastic reformulations introduced by *c’est-à-dire* ‘that

is' and *autrement dit* 'this is to say' (Steuckardt, 2009). Nevertheless, because of the polyfunctional nature of the markers, their presence is not sufficient for a reformulation to occur (Pons Bordería, 2013).

The study of reformulation cannot therefore be reduced to the study of its markers. Interestingly, however, the choice, use and frequency of reformulation markers, as well as the functions of reformulation, vary according to the discourse genre and the communicative purpose (Briz, 2001; Gonçalves and Valentim, 2017). Furthermore, contrastive studies have found that the different rhetorical strategies used across languages are reflected in the frequency and type of reformulation markers (Cuenca, 2003; Cuenca and Bach, 2007).

The attention paid to markers has given rise to a linear approach to the study of reformulation (source statement <X> – [marker] – reformulation <Y>), for which written or oral data suffice. The multimodality of language, e.g. the combination of speech and gesture, as well as the semiotic complexity of utterances, including for example the simultaneous use of language, images and objects from the immediate environment, have only been taken into account in a very small number of studies (Rabatel, 2010; Ursi *et al.*, 2018).

2.2 Reformulation, description and depiction

Following Peirce's semiotics (1955) and Clark's (1996) work, the multimodal and composite nature of language has been increasingly recognized (Enfield, 2009; Kendon, 2014; see also the introduction to this volume, Section 1). Researchers working on gesture as well as on SLs have highlighted that both spoken and signed interactions mobilize different modes of signaling, namely description, indication and depiction, engaging the voice, hands and arms, face, eyes and body (Ferrara and Hodge, 2018). Signed and spoken utterances can be composed of lexical signs or words, culturally-specific emblematic manual gestures or even of conventionalized intonation contours (description); these can be combined with finger pointing to physically present or abstract referents mapped onto the shared real space (indication); and, in the same utterances, mimetic enactments can be engaged to interpret characters or actions in order to show a part of the utterance meaning (depiction).

The few studies that have dealt with reformulation in SLs have all pointed out the link between reformulation and the combination of several semiotic modes. Cuxac (2007) suggests that the possibility of combining 'telling' and 'showing while telling' in SLs supports the process of reformulation, since the depictive structure offers another formulation of what is said 'without showing it'. Quinto-Pozos and Reynolds (2012), as well as Holmström and Schönström (2018), address the phenomenon of 'chaining', by which a signer connects different mechanisms

and modalities (e.g., sign, pointing sign, fingerspelled word, pointing to a written word, etc.) in order to refer to an object, highlighting the equivalence between those different resources. Meurant and Sinte (2016) show that, in LSFb interactions, signers frequently produce reformulations by combining conventional signs and structures with signs and structures whose meaning is constructed depictively.

Just as signers, it is more than likely that speakers do not limit themselves to the descriptive strategy while reformulating. We hypothesize that when speakers and signers reformulate, they exploit the composite nature of language, and, according to the context and the discourse genre, try not only to say but also to make their interlocutor see what they mean. However, the different access to sensory experience between hearing speakers and deaf signers as well as the linguistic and articulatory properties of their respective languages is likely to differently influence their language practices and discourse preferences across genres and contexts. These differences, if any, potentially constitute a challenge for interpreters. Moreover, since the redundancy and clarifying power of reformulation grapple with the time constraints and clarity requirements of the interpreting act, reformulation potentially plays a key role in the interpretative process.

3. Methodology

The contrastive and multimodal approach adopted for this study requires the availability of comparable multimodal data, which is not a trivial matter. In addition, the contrastive approach requires that reformulation be compared and analyzed on equal terms in the two languages under consideration, and that they are annotated in a similar way.

3.1 Data

Our sample is made up of videotaped data from three corpora: the LSFb Corpus (Meurant, 2015), the FRAPé Corpus (Meurant *et al.*, ongoing) and the CorMILS Pilot Corpus Project (Gabarró-López, 2018).

The LSFb Corpus is the current reference corpus for the SL used in French-speaking Belgium. It contains data from 100 signers, who sat in pairs in a studio and performed a battery of tasks guided by deaf moderators. The FRAPé Corpus is being collected from native Belgian French speakers using the same conditions (studio setting) and tasks, guided by hearing native French-speaking moderators. CorMILS contains interpreted data from the LSFb Corpus into French and from FRAPé into LSFb. Six interpreters participated, one at the time, in the recordings

in the studio. They were asked to interpret the LSFb and French source dialogues they were shown on a screen.

The LSFb sample selected for this study contains data produced by two pairs of deaf signers (So28–So29 and So59–So60). We selected three tasks, representing three genres: a conversation about what signing good or bad LSFb means (Task 5 in the LSFb Corpus), an explanation based on polemical or enigmatic pictures (Task 9), and the narration of a story given on paper or on video (Task 12). In total, 28 minutes of data were analysed (1,677 sec.). Furthermore, reformulations were identified in Tasks 3 (narration of a childhood memory) and 4 (discussing the differences between deaf and hearing culture) as they were used as source texts to be interpreted into French in CorMILS.

The French sample contains data produced by two pairs of native French speakers (L001–L002 and L009–L010). The same three tasks were selected, the only difference being that in Task 5 the speakers discuss what speaking good or bad French means for them. In total, 22 minutes (1,300 sec.) of data have been analysed. We also identified reformulation structures in Task 3 (narration of a childhood memory) and Task 4 (discussing the multilingual and multicultural situation in Belgium), which served as French source data that participants of CorMILS interpreted into LSFb. The distribution of the LSFb and the French data duration across genres is presented in Table 1.

Table 1. Distribution of data across the LSFb and the French samples according to the three discourse genres under study

	Narration	Explanation	Conversation	Total
LSFb sample (LSFb Corpus)	8 min. 53 sec.	10 min. 5 sec.	8 min. 59 sec.	27 min. 57 sec.
French sample (FRAPÉ Corpus)	7 min. 36 sec.	4 min. 57 sec.	9 min. 7 sec.	21 min. 40 sec.

The sample extracted from CorMILS includes the interpretations of Tasks 3 and Task 4 from the LSFb Corpus and from FRAPÉ, which were interpreted into French and LSFb respectively by two experienced interpreters (5 to 6 years of experience). The first two minutes of each task were fully annotated and analysed, totaling 16 minutes.

3.2 Working definition of reformulation

In this study, the concept of reformulation will be understood in its broader dimension, i.e. including non-paraphrastic types (see Section 2.1). Reformulation

will be considered as a discursive process whereby a locutor – speaker or signer – or an interpreter restates in another way something that has already been said, and posits that the two formulations are in some sense equivalent. This does not mean that the two parts of a reformulation are equivalent, e.g. from a semantic perspective, but that the locutor presents the two parts as equivalent by the act of reformulation itself. This definition covers cases of correction,² generalization, specification, recapitulation or summary.

Some properties derived from this definition helped to guide the identification of reformulations within the data. On the one hand, it implies that, between the source and the reformulated statement there is something identical and something different. This makes it possible to distinguish reformulation from repetition (Tannen, 1989). On the other hand, since reformulation is based on the creation of an equivalence between two utterances, the act of reformulation implies a reflexive, or metalinguistic return to the first statement. This makes it possible to distinguish reformulation from all cases where the sequence of statements, from one to the next, advances the information, maintaining a common core to which new information is added.

However, given that there is no formal element that unambiguously identifies reformulation, we have limited our study to the reformulations that are made explicit by a marker. In doing so, we are aware that we will be discarding a significant number of structures that meet the above definition. However, this choice provides us with a *tertium comparationis* which we have found to be necessary for this first-of-its-kind, cross-linguistic and multimodal comparison. As mentioned above (see Section 2.1), reformulation markers in French, at least the lexical ones, have been widely described. On the contrary, in the absence of a typology of reformulation markers in LSF, and indeed in any other signed language, the reformulation markers could not be selected a priori. Therefore, for both languages, we decided to gradually identify all the cues from the data (whether lexical, gestural, or of any other nature, and whatever their position in the structure) that signal the act of reformulation as defined above. The resulting typology is presented in Section 4.2.

2. The concept of reformulation intersects other related discourse phenomena such as correction, also referred to as repair (Schergloff *et al.*, 1977). Correction/repair is a mechanism that people use for the real-time resolution of problems of speaking, hearing and understanding in conversation. Within this mechanism, reformulation of a prior talk is one of the strategies available to solve these problems (Tsuchiya and Handord, 2014).

3.3 Annotation scheme

Data were annotated in ELAN,³ using a common template for the three parts of our sample (Section 3.1). It was composed of four tiers for each participant, which are shown in figure 3.

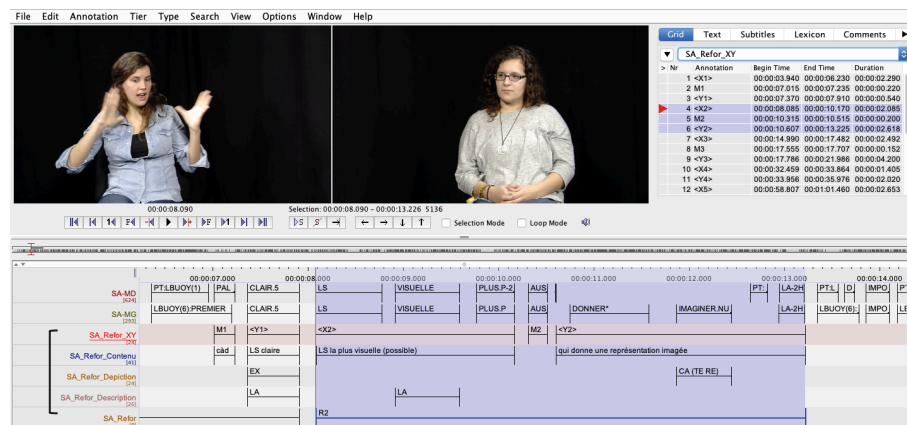


Figure 3. Screenshot of the annotation template in ELAN

First, the two parts of each reformulation structure were identified: the source utterance was assigned the code ‘X’ plus a number, while the rephrasing was assigned the code ‘Y’ plus the same number. Second, we summarized the content of the reformulation structures in French to facilitate navigation across the data. Third, for each X and Y interval, we indicated across two lines which manual and non-manual articulators, if any, were involved respectively in the descriptive and in the depictive strategies of expression (see Section 2.2), using the abbreviations in Table 2. It is worth noting that, in line with Capirci *et al.* (2022), we did not consider that an a priori distinction exists between descriptive and depictive signs or gestures. We rather considered that all signs exhibit, in context, a dominant descriptive or depictive mode, and we identified the dominant strategies used in each reformulation part (i.e., X and Y) according to the discursive and situational context.

After having trained on pilot data, each author was in charge of one of the samples. Difficult cases were discussed, and the first author was in charge of proofing both interpreted and non-interpreted data.

3. ELAN is an annotation tool for audio and video recordings, developed at Max Planck Institute for Psycholinguistics, The Language Archive, Nijmegen, The Netherlands (Wittenburg *et al.*, 2006).

Table 2. Abbreviations used to annotate the articulators employed in descriptive and depictive fragments

MD	Movement of the right hand
MG	Movement of the left hand
VX	Use of speech
TE	Head movement
EX	Facial expression
BU	Body movement
RE	Eye gaze direction
MO	Mouth gesture
LA	Mouthing

4. Results

Given the size of our data sample, the results presented should be considered as a first benchmark regarding reformulation practices in French and LSFb, when considered in their multimodal dimension. The analysis of our data sample reveals some trends in the use (4.1), the markers (4.2), the formal and interactional properties (4.3), and the semiotic composition (4.4) of reformulations in French speakers', LSFb signers' and interpreters' productions.

4.1 Use of reformulations in French, in LSFb and in interpreted data

We extracted a total of 63 marked reformulation structures from the 28 minutes of the LSFb data (i.e., 2.25 reformulations per minute on average) and 46 from the 22 minutes of the French sample (i.e., 2.12/min.). Among the LSFb reformulations, two categories emerged according to the distribution of utterances between the interlocutors: 'self-reformulations', where signer A reformulates his or her own utterances, and 'other-reformulations', where it is signer B who reformulates the words of signer A (Ursi *et al.*, 2018). These configurations will be detailed in Section 4.3. However, given that the French data do not include any other-reformulations, we will first focus on the comparison between self-reformulations in LSFb and in French.

In all genres combined, we identified 49 self-reformulations with a marker in LSFb versus 46 in French, which means an average frequency of 1.75/min. in LSFb and of 2.12/min. in French. As shown in Figure 4, the average frequency of reformulations within the explanation task is similar in signers' and speakers' productions. In narration, French speakers reformulate more frequently than LSFb signers, whereas conversation data show the inverse pattern: signers reformulating more than speakers.

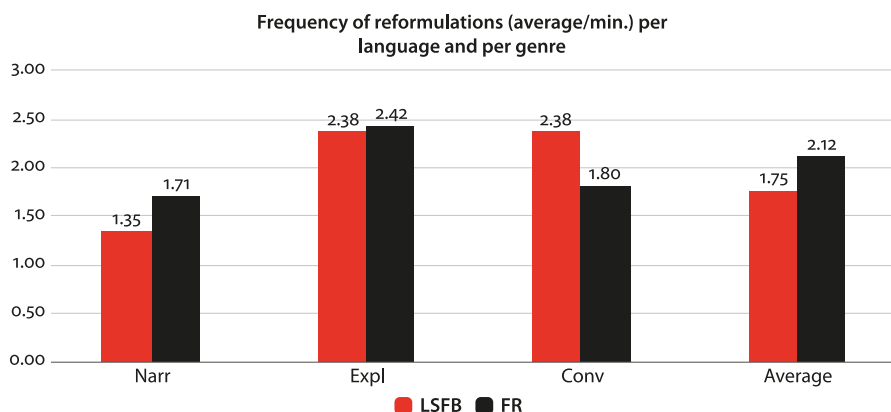


Figure 4. Frequency of reformulations (average per minute) per language and per discourse genre (Narration, Explanation, Conversation and Average of the three genres)

However, some individual variation must be noted among the signers and the speakers, as reported in Figure 5. In general, signer So60 pulls the average frequency down in LSFb and speaker Loo2 pushes it up in French. Signer So60 does not produce any marked reformulations in either narration or explanation. It is also noticeable that signer So28 contributes significantly to the frequency of conversational reformulations in LSFb, and that speaker Loo2 increases the average frequency of reformulations in French in all three genres. These individual characteristics are consistent with the general impression that signers So28 and So60 and speaker Loo2 differ from their peers in their style of expression. A study based on a larger number of speakers would make it possible to verify to what extent the frequency of reformulations reflects a certain stylistic profile in the language practices of signers and speakers.

In addition to the 49 self-reformulation structures detailed above, the LSFb data sample includes 14 other-reformulations. Most of them (ten), are produced in the interaction between signers So28 and So29. In total, nine appeared in the explanation task and five in the conversation one.

Despite the small size of our sample, we can see that interpreters do also produce reformulation structures when interpreting into their two working languages. As can be seen in Table 3, the number of reformulation structures in the target productions differs from the source productions to different extents.

The variations between source and target productions may be due to the constraints of the interpreting task (i.e., time lag, cognitive load, language structures) and to the interpreters' choices in order to deal with these constraints. Furthermore, the frequency of reformulations in target productions could also be affected by the lack of interlocutors. This will be detailed in Section 4.3.

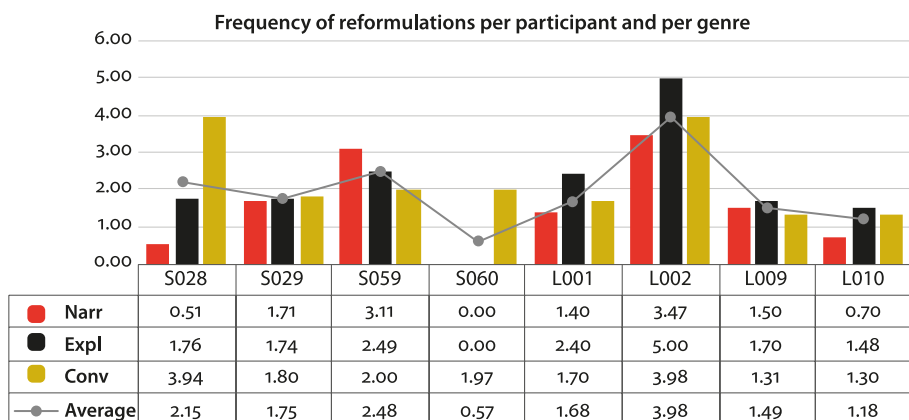


Figure 5. Frequency of reformulations (average per minute) per participant (S=signers; L=speakers) and per discourse genre

Table 3. Number of reformulation structures with a reformulation marker (RM) in source and target productions of interpreters and average per minute

Language	Data	Participant	Number of reformulations with a RM	Number of reformulations/minute
French	Source	L001 & L002	5	2.5
	Target	I002	6	3
		I006	4	2
LSFB	Source	S055 & S056	10	5
	Target	I002	7	3.5
		I006	3	1.5

4.2 Reformulation markers

As has been mentioned previously, this study focuses only on reformulations that are signaled by a marker. In line with the definition presented in Section 3.2, we considered as a potential marker any cue that makes explicit that the speaker, signer or interpreter posits an equivalence between two formulations, and that in doing so he or she produces a reflexive return to the initial formulation. No criterion was adopted beforehand as to the formal composition of the markers: they could be lexical markers, but could also be a gestural marker or a combination of both. Although according to the literature on spoken languages the usual place for

the reformulation marker is between the source and the reformulated utterance, we did not rule out *a priori* that it may appear elsewhere.

4.2.1 LSFb

Of the 49 self-reformulations found in the LSFb data, 33 were identified by the presence of a lexical marker, namely a sign that has been assigned a lexical gloss in the LSFb Corpus. In descending order of frequency, these signs are SAME, THAT-MEANS, THAT-IS, FOR-EXAMPLE, BECAUSE, NO and NOTHING. Example (2) (see Figure 1) is marked by SAME, i.e. the most common lexical marker in the sample ($n=15$). The semantic effects of the reformulations that these markers make explicit are varied (e.g., clarification, correction, recapitulation, etc.) and independent of the semantic content of the markers themselves. In Example (3) (see Figure 6), the reformulation is introduced by THAT-MEANS, the second most frequent marker ($n=5$). Besides the manual sign THAT-MEANS, the act of reformulation is supported, in this example, by the additional use in the Y part of the structure of both initialization (i.e., the signer produces the letter ‘E’ of the LSFb manual alphabet – SP:E – just before signing MOVE-FORWARD), and mouthing (i.e., the signer’s lips articulate the French word *évolution* ‘evolution’ while signing MOVE-FORWARD). This example illustrates an instance of chaining (Quinto-Pozos and Reynolds, 2012).

- (3) <BEFORE NATURE MAN MOVE-FORWARD MORE> THAT-MEANS <SP:E MOVE-FORWARD_[mouthing:evolution]>
 “<before, it used to be mainly nature, then man made constant progress> I mean <it’s evolution>”

Another four reformulations were identified by the presence of a PALM-UP gesture ($n=2$) or of a disfluency gesture ($n=2$), such as a wiggling of the fingers accompanied by a vague eye-gaze, which is typical of a word-searching moment (Notarrigo, 2017) (see Figure 11, line 3, second picture). In all four cases, the gestural marker is located between the X and the Y parts of the reformulation structure.

In addition to these simple markers (lexical or gestural items), a compound marker has been identified, namely the repetition of one or more lexical elements from one part (X) to the other (Y), as illustrated in Example (4) (Figure 7). In (4), the signer repeats the manual sign RARE with the same facial expression and shoulder movement in both occurrences. The use of such a repetition seemed to us to meet the two properties of a reformulation marker: by maintaining part of the initial formulation into the second formulation, it underlines the equivalence between the two, and it does so based on an explicit return to the terms already used. In the LSFb sample, 12 reformulations have been identified with a repetition









				
BEFORE	NATURE	MAN	MOVE-FORWARD	MORE
<X>				
Before, it used to be mainly nature, then man made constant progress				
				
IT-MEANS	SP:E	MOVE-FORWARD		
			[mouthing: evolution]	
marker	<Y>			
I mean	it's evolution			

Figure 6. Reformulation introduced by the lexical marker THAT-MEANS in LSFb (Example (3)). Corpus LSFb_2909_00:05:56.724–00:06:01.080

as the only marker. Yet another 11 cases show the combination of a repetition with a simple marker, be it lexical ($n=7$) or gestural ($n=4$), including manual (PALM-UP or word-search marker) or non-manual (mouthing) gestures.

- (4) <TODAY PT:PRO1 HAVE CALL ERR PALM-UP RARE> <NOTHING NOTICE RARE>
 “<nowadays, to be wrong is rare> <not noticing anything is rare>”








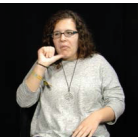


				
TODAY	PT:PRO1	HAVE	CALL	ERR
<X>				
nowadays, to be wrong is rare				
				
PALM-UP	RARE	NOTHING	NOTICE	RARE
<X>		<Y>		
not noticing anything is rare				

Figure 7. Reformulation in LSFb marked by the repetition of a lexical sign (RARE) (Example (4)). Corpus LSFb_1205_00:06:08.811–00:06:13.418

4.2.2 French

All the 46 reformulations identified in the French data were marked by at least one phonetic cue, possibly by a combination of multimodal cues; but we did not find any reformulation that was signalled by a manual or a non-manual gesture only. A lexical marker has been found in 44 of the cases. The two most frequent markers were the conjunction *donc* ‘so’ ($n=12$), be it alone or in a sequence like *euuh donc* ‘hum so’, or *donc ça veut dire que* ‘so it means that’, and the adverb *enfin* ‘well’ ($n=9$). These markers may introduce different semantic subtypes of reformulations (e.g., clarification, correction, recapitulation), regardless of the semantic content of the marker itself. Example (5) (Figure 8) shows a clarifying reformulation introduced by *donc* ‘so’.

- (5) <ses deux parents lui ont parlé le Frioulan> donc <c’est même pas le bon italien c’est le c’est un dialecte donc>
 “<both his parents spoke Friulian to him> so <it’s not even the right Italian it’s it’s a dialect so>”






				
ses deux parents lui ont parlé le Frioulan	donc	c’est même pas le bon italien c’est le c’est un dialecte donc	<X>	<Y>
both his parents spoke Friulian to him	marker	so	it’s not even the right Italian it’s it’s a dialect so	

Figure 8. Example of clarifying reformulation in French introduced by *donc* ‘so’ (Example (5)). FRAPé_0505_00:04:39.152–00:04:47.194

Different structures built around the verb *dire* ‘say’, or a semantically related verb, introduce some additional reformulations ($n=6$), as for instance *c’est-à-dire* ‘that is to say’, *ça veut dire que* ‘that means that’ and *je sais pas comment t’expliquer ça mais* ‘I don’t know how to explain you that but’. The other markers found are *c’est* ‘this is’, *voilà* ‘that is’, *par exemple* ‘for instance’, *en fait* ‘in fact’, *parce que* ‘because’, *mais* ‘but’, *allez* ‘come on’ and *ah oui* ‘ah yes’. Most often, the marker is placed between X and Y. In five of the 44 cases, however, it appears within Y or at the end of Y. Moreover, in two cases, the reformulation marker was a repetition structure, similar to the one identified in the LSFb sample, either alone, such as in Example (6) (Figure 9), or in combination with a lexical structure. It is very common for the marker to be surrounded by one or more disfluency markers such as filled pauses (*euuh* ‘hum’) and accompanied by gestures from the speakers (see

Section 4.4.2). This is not surprising given the proximity between the phenomena of reformulation and repair (see note 2).

- (6) <le fait de pas pas arriver à se faire comprendre euh> <de pas arriver à exprimer un sentiment euh>
 “<the fact of not not being able to make oneself understood er> <not being able to express a feeling er>”

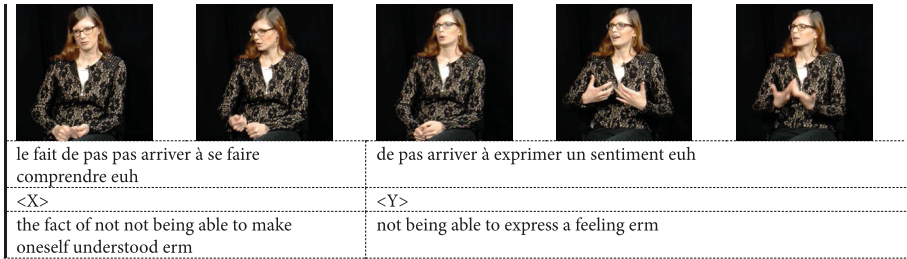


Figure 9. Example of a reformulation in French marked by the repetition of a syntactic structure (*de ne pas arriver à* ‘not being able to’) (Example (6)).

FRAPé_0105_00:01:20.244–00:01:25.961

4.2.3 Interpreters

Similar to what was observed in the French sample, when interpreting from LSFb into French, the markers used are mainly produced by the vocal track and include (in descending order of frequency) prepositional phrases (*en fait* ‘in fact’, *par exemple* ‘for instance’), combinations of conjunctions and filled pauses (*euh donc* ‘uhm so’ or *donc euh* ‘so uhm’), filled pauses (*emm* ‘erm’), and adverbs (*oui* ‘yes’). We did not find cases in which reformulation structures were introduced by a manual or a nonmanual gesture. When interpreting into LSFb, interpreters produced manual markers of reformulation including (also in descending order of frequency) the PALM-UP gesture and lexical signs, such as ATTENTION, FOR-EXAMPLE and YES.

Besides these spoken and manual markers, reformulation structures were also marked by repetitions in interpreted data, as in the LSFb and French samples. In some of these cases, the nonmanual activity between X and Y may be considered a reformulation marker. This is illustrated in Example (7) (Figure 10). The source speaker produces the reformulation marker [*en*]*fin* ‘well’, which introduces a reformulation that corrects what has been said in X. I002 does not translate this lexical marker using a manual marker, but she moves her head, changes her eye

gaze direction and changes her facial expression to express the meaning of *[en]fin* ‘well’.⁴






(7) a. *Source discourse (French):*

<en secondaire j’avais une correspondante> *[en]fin* <une correspondance avec une une jeune du même âge que moi qui habitait autour de Beveren>
 “<while in high school I had a penpal> well <my penpal was a a young girl of my age who lived nearby Beveren>”

b. *Target discourse (LSFB):*

<ONE FRIEND>[head, gaze, facial expression] <FRIEND WOMAN FLANDERS>
 “<I had a friend> well <a female friend from Flanders>

Source discourse (French)

				
en secondaire j’avais une correspondance	fin	une correspondance avec une une jeune fille du même âge que moi qui habitait autour de Beveren		
<X>	marker	<Y>		
while in high school I had a pen friend	well	my pen friend was a a young girl of my age who lived nearby Beveren		

Target discourse (LSFB)

				
ONE FRIEND	[head, gaze, facial expression]	FRIEND	WOMAN	FLANDERS
<X>	marker	<Y>		
I had a friend	well	a female friend from Flanders		

Figure 10. Example of a reformulation in LSFb (interpreted from French) marked by non-manual components (Example (7)). Source:

FRAPé_0104_00:00:53.360–00:01:00.650; Target:

CorMILS_I002-004-TR_LSFb_00:01:15.029–00:01:18.186

4.3 Types of reformulations: Source and responsibility

Depending on who is the source of the initial formulation and who is responsible for the reformulation, the definition presented in Section 3.2 covers different types of reformulations, which are summarized in Table 5.

4. In interpreted examples, we first present the source production and afterwards the target production. For both, the English translation is provided below.

Table 5. Summary of the types of reformulation structures found in the dataset

Data setting	Type of reformulation
Non-interpreted data	Self-reformulation <i>One speaker or signer reformulates his or her own words</i>
	Other-reformulation <i>One speaker or signer reformulates the other's words</i>
Interpreted data	Interlingual <i>Carried over from source to target text</i>
	Intralingual <i>Produced within the target text</i>

4.3.1 Self- and other-reformulations

As mentioned in Section 4.1, we distinguish ‘self-reformulations’ from ‘other-reformulations’, according to their arrangement in the interactional sequence (Ursi *et al.*, 2018). Self-reformulations have been described as significantly more frequent than other-reformulations in French interactions (Kanaan, 2011: 115). Our LSFb and French samples confirm this trend.

In French, only self-reformulations were identified, such as the one illustrated in Examples (1), (5) and (6) (Figures 2, 8 and 9). In LSFb, 14 reformulations out of a total of 63 (i.e., 15%) are other-reformulations. Example (8) (Figure 11) illustrates both types: X5 and Y5 form a self-reformulation by signer So28, while X6 and Y6 form an other-reformulation, with So29 reformulating So28’s words. Just at the beginning of Y5, So28 searches for her words (signalled with finger movement and a vague gaze) to explain what she means by *those who sign in an exaggerated way* (X5), which prompts So29 to help her by imitating a signer performing exaggerated hand movements and an amplified facial expression. Simultaneously, So28, who takes over her explanation, performs (as Y5) a depictive sign similar to the one So29 is proposing (as Y6).

- (8) [So28] <X5 – PT:PRO1 HATE SAME PERSON SIGN-LANGUAGE WITH EXAGGERATE A-LOT> SAME <Y5/X6 – PT [gesture] EXPRESS FACIAL-EXPRESSION_[strong facial expression] A-LOT>
 [So29] <Y6 – SIGN-LANGUAGE_[strong facial expression] THAT’S-IT>
 “[So28] <X5 – I hate people who sign in a really exaggerated way> like <Y5/X6 – large signs like that with a too strong expression>
 [So29] <Y6 – who sign like that, that’s it>”















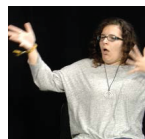

				
PT:PRO1	HATE	SAME	PERSON	SIGN-LANGUAGE
<X5				
I hate people who sign in a really exaggerated way				
				
WITH	EXAGGERATE	A-LOT	SAME	
<X5>				marker
				like
				
PT	[word-searching gesture]	EXPRESS	FACIAL- EXPRESSION	A-LOT
<Y5/X6>				
with large signs like that with a too strong expression				
				
SIGN-LANGUAGE	THAT'S-IT			
<Y6>				
who sign like that, that's it				

Figure 11. Example in LSFb including one self-reformulation (X5–Y5) and one other-reformulation (X6–Y6) (Example (8)). Corpus LSFb_1205_00:00:58.816–00:01:04.156

4.3.2 Interlingual and intralingual reformulations

Reformulation is potentially a key resource in interpreting. Its inherent potential for clarification and redundancy makes it an interesting opportunity for relief for the interpreter who has to manage the temporal and cognitive constraints of interpretation. Among the choices they have to make, interpreters may decide to carry over a reformulation structure from the source discourse in the target discourse. This is an ‘interlingual reformulation’ (Woroch, 2010). However, interpreters may decide to omit a reformulation structure from the source discourse, considering that it is redundant and can therefore be dropped, or that the same information can be given in the target discourse without a reformulation structure. Interpreters may

also decide to add a reformulation which did not appear in the source discourse in order to make their production clearer or more genuine. This is an ‘intralingual reformulation’ (Woroch, 2010). In Figure 12, we present the number and type of reformulation structures produced by the two interpreters of our sample.

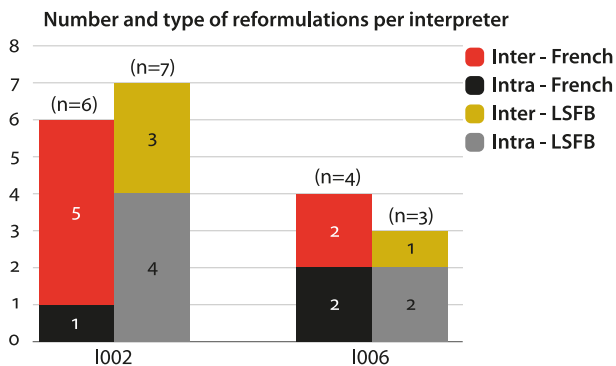


Figure 12. Number and type of reformulations (interlingual vs. intralingual) per interpreter and per production in target language

Although I002 produced an overall higher number of reformulations than I006 (13 vs. 7), both interpreters produced the two types of reformulations. The two interpreters sometimes produced the same interlingual reformulation structures, whereas the intralingual reformulations produced by I002 appear at different places in the interpreted discourse than those produced by I006.

Example (9) (Figure 13) shows an interlingual reformulation. The source signer explains some of her daily frustrations as a deaf person. I006 interprets the excerpt into French and reproduces the same reformulation. He translates the original PALM-UP as *par exemple* ‘for instance’ in French. The content of X is maintained, and the content of Y is partly omitted.

(9) a. *Source discourse (LSFB):*

<WHEN HAVE FEELING GESTURE OBSTACLE DE:PAF> PALM-UP <IF LITTLE SIMPLE HAVE-NOT SUBTITLES DS:SUBTITLES UNDERSTAND NOTHING OR TRAIN INDEX-2 KNOW TRAIN>




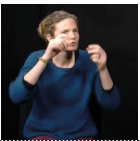

“<when I face obstacles> for instance <little subtitles [on TV] which I don’t understand or the train, you know>”

b. *Target discourse (French):*

<quand je rencontre des difficultés dans la vie> par exemple <la difficulté liée au train, avec le changement de quai, etc.>

“<when I face problems in my daily life> for instance <the difficulty related to the train, the change of platform, etc.>”

Source discourse (LSFB)

WHEN HAVE FEELING gesture OBSTACLE DE: PAF		PALM-UP		IF LITTLE
<X>		marker		<Y
when I face obstacles		for instance		little
				
SIMPLE	HAVE-NOT	SUBTITLES	DS:SUBTITLES	UNDERSTAND
...Y...				
subtitles which I don't understand				
NOTHING OR TRAIN PT:PRO2 KNOW TRAIN>				
Y>				
or the train, you know				

Target discourse (French)














			
quand je rencontre des difficultés dans la vie		par exemple	
<X>		marker	
when I face problems in my daily life		for instance	
			
la difficulté liée au train avec le changement de quai,		etc.	
<Y>			
the difficulty related to the train, the change of platform, etc.			

Figure 13. Example of an interlingual reformulation in French (interpreted from LSF) (Example (9)). Source: Corpus LSF_B_2704_00:00:46.435-00:00:55.303; Target: CorMILS_1002-006-TR_FR_00:00:55.011-00:01:01.240

Example (10) (Figure 14) displays an intralingual reformulation. The speaker explains one of her experiences as a Walloon going to Flanders. I002 interprets this excerpt and produces a reformulation which is not found in the source discourse. Moreover, she omits the part where the speaker talks about the running track, possibly because it would take too much time to explain it in LSF_B. Instead, I002, in order to emphasize the message conveyed by the speaker, produces two chained intralingual reformulations (i.e., the Y of the first reformulation structure becomes the X of the second one).

Source discourse (French)

		
et j'ai jamais eu de problème d'aller euh		en Flandre et d'avoir droit à oui mais toi t'es francophone c'est bon
[no reformulation]		
and I had never a problem erm going		yes, but you're a French speaker, ok,
		
tu vas être reléguée	bien loin sur la piste d'athlétisme	ou dans le mauvais couloir parce que parce que tu es francophone
[no reformulation]		
you will be far away	in the running track	in the wrong lane because because you are a French speaker

Target discourse (LSFB)









			
PT:PRO1	OPPRESSION	PT:PRO1	WALLONIA
<X1			
I never felt oppressed or excluded because of my Walloon origin			
			
EXCLUDE	PT:PRO1	NEVER X1>	PALM-UP marker I mean
NEVER PT:PRO1 FEEL NOT OPPRESSION PT:PRO1 PALM-UP FAULT LANGUAGE PT:PRO1 NOT TOGETHER MIX			
<Y1/X2>			
I never felt oppressed because of the language, we were all together			
PALM-UP marker I mean	REALIZE FEEL NOT CRITICIZE PT:PRO1 OR NEGATIVE NOT <Y2> I didn't feel criticized or lived a negative experience		

Figure 14. Example of an intralingual reformulation in LSFB (interpreted from French) (Example (10)). Source: FRAPé_0104_00:01:19.006–00:01:31.440; Target: CorMILS_I002-004-TR LSFB_00:01:42.713–00:01:57.734

- (10) a. *Source discourse (French)*:
 <Et j'ai jamais eu de problème d'aller euh en Flandre et d'avoir droit à oui mais toi t'es francophone c'est bon tu vas être reléguée bien loin sur la piste d'athlétisme ou dans le mauvais couloir parce que tu es francophone>
 “<and I had never a problem erm going to Flanders and hearing yes, but you're a French speaker, ok, you will be far away in the running track or in the wrong lane because, because you are a French speaker>”
- b. *Target discourse (LSFB)*:
 <PT:PRO1 OPPRESSION PT:PRO1 WALLONIA EXCLUDE PT:PRO1 NEVER>
 PALM-UP <NEVER PT:PRO1 FEEL NOT OPPRESSION PT:PRO1 PALM-UP FAULT LANGUAGE PT:PRO1 NOT TOGETHER MIX> PALM-UP <REALIZE FEEL NOT CRITICIZE PT:PRO1 OR NEGATIVE NOT>
 “<I never felt oppressed or excluded because of my Walloon origin> I mean <I never felt oppressed because of the language, we were all together> yes <I didn't feel criticized or lived a negative experience>”

4.4 Semiotic modes and articulators used in reformulation structures

In general, the reformulations observed in our dataset abundantly combine descriptive and depictive strategies in the productions of both LSFBS signers and French speakers, even though depiction is even more prevalent in the LSFBS data than in the French data. By counting the number of X–Y pairs that have been identified as involving depictive expression (but without taking into account the number or the duration of the markers involved in the depictive effect), it appears that depiction is present in 87% of the X–Y pairs in LSFBS and in 62% in French. In the two languages, depiction is mobilized in both the first (X) and second (Y) parts of the reformulation, although signers and speakers seem to have a slight tendency to use more depiction within the reformulative part (Y) (see Figure 15).

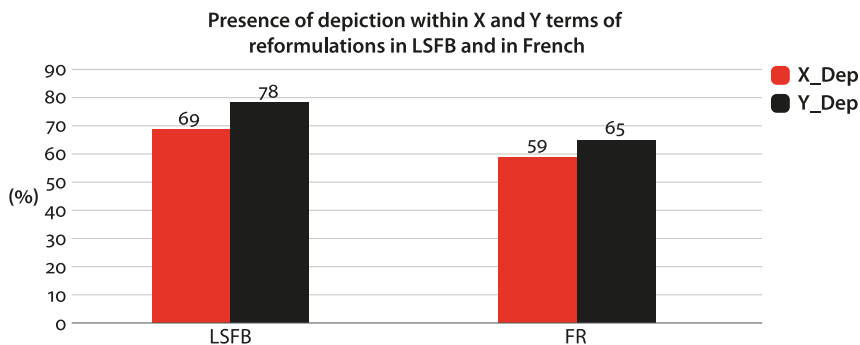


Figure 15. Comparison of the presence of depiction in the two parts (X vs. Y) of the reformulation structures in LSFBS and in French

Despite the small size of the interpreted dataset, we observed that the descriptive mode is mainly used as the dominant mode, the depictive mode being scarcely used. We only found description combined with depiction in five reformulation structures in French and in two in LSF. Moreover, except for two cases in French, the depictive mode was only used by I002. When depiction is used in X, it is frequently found in Y too. However, there are cases in which description was only used in X or in Y.

The observation of some examples allows us to more precisely appreciate the way in which these semiotic strategies are used and combined to reformulate in each language, and how the interpreting setting influences the use of composite utterances in reformulation.

4.4.1 LSF

In line with previous work on reformulation in signed language (Cuxac, 2007; Meurant and Sinte, 2016), it appears in our sample that LSF signers express themselves often in a depictive way when they reformulate, and depiction is used almost as much in the first segments (X) as in the second ones (Y) taken as a whole (see Figure 16). Only a slight advantage appears for the depictive Ys in the three genres represented (narration, explanation and conversation). This indicates that reformulation does not essentially serve to add a depictive dimension to an initial descriptive formulation.

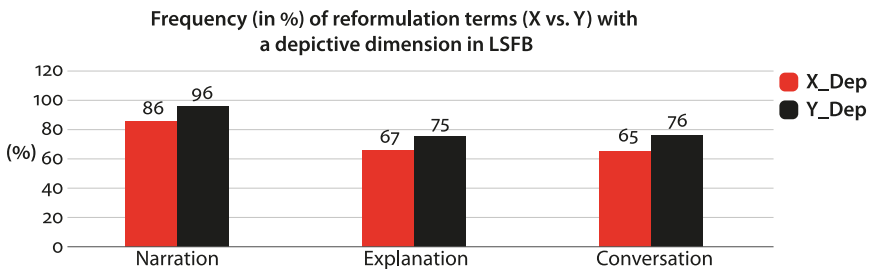


Figure 16. Frequency (in %) of X vs. Y reformulation segments with a depictive dimension, within the LSF sample

Moreover, the observation of X–Y pairs shows that, in the majority of cases, the two parts of the reformulation are similar regarding their semiotic composition. They can both be predominantly descriptive, as within Example (3) (Figure 7). It is also very common for the two parts of the reformulation to combine description and depiction in a very interwoven way, as in Example (11) (Figure 17). The signer says that the character sees the woman he was looking for and that she seems to be waiting for an interview (X), and then reformulates

interview as *job interview* (Y). Simultaneously, the whole structure (X and Y) is shown from the point of view of the character who sees the scene from the opposite building: by the location of the hands, the direction of the head and gaze and the position of the signer's upper body, the scene is shown as being located above and to the left of the character. As a result of this viewpoint expression, the descriptive and depictive dimensions intertwine in each sign of both the X and the Y parts.

- (11) <INTERVIEW DS:SEATED WAIT> THAT-MEANS <SAME INTERVIEW WORK>
 “<she is seated, waiting for an interview> that is <like a job interview>”








			
INTERVIEW	DS:SEATED	WAIT	THAT-MEANS
<X>			marker
she is seated, waiting for an interview			that is
			
SAME	INTERVIEW	WORK	
<Y>			
like a job interview			






Figure 17. Example of reformulation in LSFb where the two terms (X and Y) combine description and depiction in a balanced way (Example (11)). Corpus

LSFB_1212_00:04:22.922–00:04:25.131

When the two parts of the reformulation use different (combinations of) semiotic strategies, two patterns appear. In the first one, the signer reformulates to show what he or she has previously said descriptively (X descriptive – Y depictive). In Example (8) (Figure 11), the X₅–Y₅ structure corresponds to this first arrangement. The signer first says that she does not like people who sign in an exaggerated manner and then reformulates by showing what she means, making large arm and hand movements accompanied by a forced and unpleasant facial expression. But the opposite pattern also appears in the data: the first formulation (X) is predominantly depictive while the second formulation (Y) is essentially descriptive. In Example (12) (Figure 18), the signer first produces a highly depictive

tive formulation, i.e. representing with her body the action of the character standing still like a statue, before reformulating her utterance in a descriptive structure (*he is touched*).

- (12) <MAN SMILE DS:HOLD-PAPER STAND-STILL STATUE DS:HOLD-PAPER> SAME
<TOUCH PT:PRO3>
“<the man smiles and stands still with his paper in his hand> like <he is touched>”

				
MAN	SMILE	DS:HOLD-PAPER	STAND-STILL	STATUE
<X>				
the man smiles and stands still with his paper in his hand				





			
DS:HOLD-PAPER	SAME	TOUCH	PT:PRO3
X>	marker	<Y>	
	like	he is touched	

Figure 18. Example of reformulation in LSFb where the first term, which is predominantly depictive (constructed action) is reformulated in a descriptive way (Example (12)). Corpus LSFb_2912_00:04:45.654–00:04:50.026

This last example highlights, by comparison with Example (11), that the combination of descriptive and depictive modes within composite utterances in LSFb can take two different forms: alternation or simultaneity. On the one hand, like in the X part of (12) (Figure 18), the signer alternately produces signs with a prominence of depiction (DS:HOLD-PAPER) and signs that she dominantly produces in the descriptive mode (MAN, STAY-STILL, STATUE). When she favours the depictive mode, her hands, facial expression, head and chest movements, gaze direction and mouth gestures represent those of the character in the story. In the predominantly descriptive passages, the signer’s hands, very often accompanied by mouthings, articulate the lexical elements. On the other hand, in Example (11) (Figure 17), the two semiotic modes are interwoven in each sign within the view-pointed passages. Sometimes it is the upper-body movements, the facial expression, the lip movements and the gaze that convey the depictive features, while the hands carry the descriptive components (as in the first occurrence of INTER-

VIEW); sometimes the hands themselves bear the depictive features (as in the sign DS:SEATED), accompanied by different combinations of non-manual articulators.

The existence of these two patterns, i.e. the sequential pattern where the two semiotic modes alternate vs. the simultaneity of their intertwaving, can be put in relation to the relative plasticity of the articulators in their relationship to the different modes of semiotic expression in LSFb. More specifically, the articulators involved in description are the hands, mostly associated with the lips (for mouthings). Within the explanation and conversation tasks, other non-manual components have been attributed to description, e.g. when a head nod marks a conditional structure or when a facial expression supports an interrogative one. Depiction entails many different articulators and rich combinations of them: the most frequently involved are the facial expression, the lips (for mouth gestures), the hands (but in a limited way within the conversation tasks), the head and the upper body. In sum, the hands, lips, facial expression and head can contribute to both the descriptive and depictive components of utterances.

4.4.2 French

As in LSFb, depiction is prevalent in the French reformulations, when examined on multimodal data, both in the first (X) and second (Y) parts of the reformulation. The lowest presence of depiction is in the first parts (X) of the reformulations in the conversation task, with 45% of the number of Xs including a depictive passage (see Figure 19).

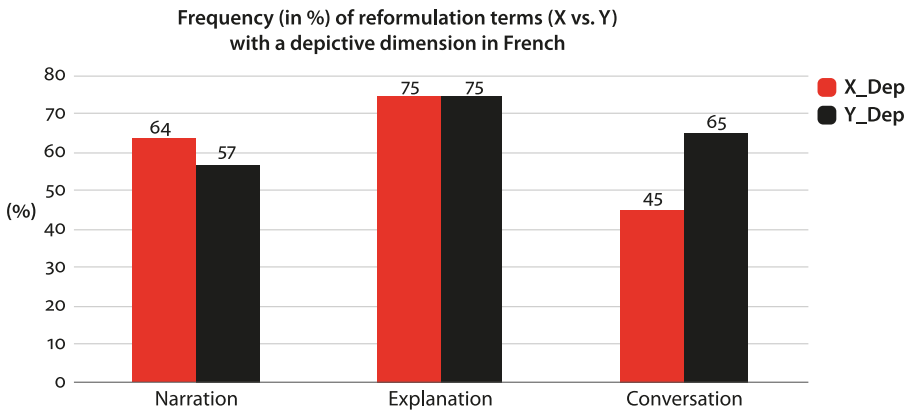


Figure 19. Frequency (in %) of X vs. Y reformulation terms with a depictive dimension, within the French sample

Most often (35 cases out of 46, i.e. 76%), the two parts of the reformulation (X and Y) have the same semiotic composition: either they are both predominantly

descriptive (12 cases, i.e. 26%), or combine description and depiction (23 cases, i.e. 50%). Examples (13) and (14), respectively, illustrate these two possibilities. In (13) (Figure 20), the speaker formulates and reformulates the idea of a difference between spoken and written French while keeping her hands clasped between her thighs and expresses herself exclusively through descriptive resources.

- (13) <déjà si tu considères l'oral ou l'écrit> parce que <tu peux avoir un niveau de français qui est très différent selon que tu le pratiques à l'oral ou à l'écrit donc> “<if you consider the oral or the written> because <you can have a very different level of French depending on whether you practice it orally or in writing so>”






				
déjà si tu considères l'oral ou l'écrit		parce que	tu peux avoir un niveau de français qui est très différent selon que tu le pratiques à l'oral ou à l'écrit donc	
<X>		marker	<Y>	
if you consider the oral or the written		because	you can have a very different level of French depending on whether you practice it orally or in writing so	

Figure 20. Example of a reformulation in French where the two parts (X and Y) are predominantly descriptive (Example (13)). FRAPé_0105_00:00:09.056–00:00:17.789

In (14) (Figure 21), both parts of the reformulation combine description and depiction. The speaker uses the depictive modality to show and make audible the conservative point of view of the Académie Française which she criticizes and qualifies as absurd. To that end, she mobilizes the modulations of her voice, her head and chest movements, the gesture she makes with both hands and her facial expression. In this case, the depictive aspects are more developed in Y than in X. The X part introduces an initial dramatization of the Académie Française's speech (*la langue, c'est sacré!* 'language is sacred!'), but the reformulation in Y exploits the same process at greater length (*féminiser, c'est complètement absurde!* 'feminising, it's completely absurd!'; *on va tuer la langue française!* 'we are going to kill the French language!'). In both parts, the same articulators (hands, voice, head, facial expression and gaze) are mobilized to show while saying, but they are used for a longer time in Y.

- (14) <et il faut pas euh je pense dire que la langue c'est sacré que> par exemple <avec la féminisation euh des noms de métier des titres et tout ça euh quand on entend le point de vue de l'Académie française, c'est quand même un peu

aberrant où il en ils en viennent à dire que féminiser, c'est complètement absurde, on va tuer la langue française>

"<and one mustn't uh I think say that language is sacred that> for instance <with the feminisation um of job titles and all that um when you hear the point of view of the Académie Française, it's a bit aberrant when he they come to say that feminising, it's completely absurd, we'll kill the French language>"

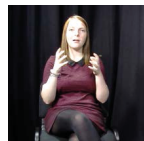
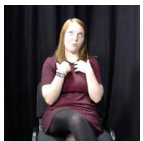
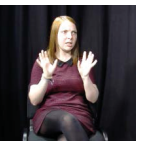
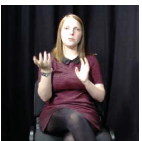
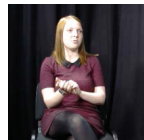
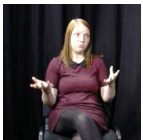

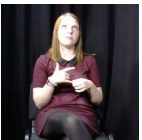
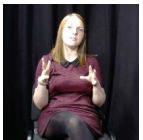

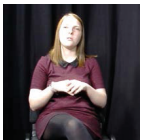
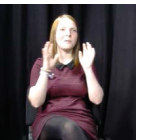
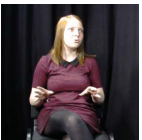
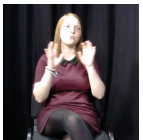
				
et il faut pas euh je pense dire que la langue c'est sacré que		par exemple		
<X>		marker		
and one mustn't uh I think say that language is sacred that		for instance		
				
avec la féminisation euh des noms de métier des titres et tout ça euh quand on entend le point de vue de l'Académie française, c'est quand même un peu aberrant où il en ils en viennent à dire que				
<Y>				
with the feminisation um of job titles and all that um when you hear the point of view of the Académie Française, it's a bit aberrant when he they come to say that				
				
féminiser, c'est complètement absurde, on va tuer la langue française				
Y>				
feminising, it's completely absurd, we'll kill the French language				

Figure 21. Example of a reformulation in French where the two parts (X and Y) combine the descriptive and depictive modalities (Example (14)).

FRAPé_0505_00:01:46.754–00:02:09.367

The conversation task differs somewhat from the narration and explanation tasks in our French data, however. Conversations feature the most entirely descriptive reformulations (seven cases out of 20, i.e. 35%) but also the most cases where the reformulation adds a depictive dimension to the initial descriptive formulation (four cases out of 20, i.e. 20%, compared with 14% in narration and 8% in explanation). In these cases, the depictive dimension (and in particular the use of the hands) seems to help the speaker to better say what she has not managed to say with words alone.

In French, contrary to what appeared in LSFb, the descriptive and depictive modes of reference each have their preferred articulators: the phonatory system for description vs. the hands (one or two) for depiction, with some additional non-manual articulators (including facial expression, voice modulations and head movements), especially in narration. In some cases, mainly in narration, facial expression, head and/or chest movements, gaze and voice modulations accompany the hands, as in Example (14), but generally, less richer combinations of articulators are engaged for depiction in French than in LSFb. In all the reformulations identified, the depictive dimension is carried out simultaneously with the descriptive dimension of the utterances, which is exclusively conveyed by the phonatory apparatus; the pattern of alternation between the descriptive and depictive components that was observed in LSFb does not appear in the French data.

If speakers use their hands extensively to show what they are saying, they also use them abundantly for other purposes. More specifically, in relation to the act of reformulation, two observations are worth making. On the one hand, speakers regularly repeat gestures from one part of their reformulations in the other, which produce a unifying effect on the whole structure. This phenomenon was illustrated in Example (1) above (Figure 2), where the speaker repeats an alternating movement of the hand while referring to optical illusion; in (5), where a raised index finger is repeated on both sides of the reformulation structure about Frioulan, an Italian dialect (Figure 8); and also in the source discourse of (7) (Figure 10). This observation invites us to consider these gestures as part of the marking of the reformulation process: just as the repeated lexical items, the presence of a common gesture between X and Y makes explicit the fact that the speaker establishes an equivalence between the initial formulation and its reformulation. On the other hand, self-adaptor gestures (hand touching the hair, the mouth, the ear, or a jewel), may appear simultaneously to the articulation of the lexical marker of reformulation. These adaptors highlight the speaker's investment and effort when she is about to retell what she has just said. The marking of reformulation, in this sense, turns out to be multimodal, which has so far been largely overlooked in the study of reformulation in spoken languages.

4.4.3 *Interpreters*

The interpreters' productions in our sample mainly make use of description only, in both languages. However, it is worth comparing how interpreters combined description and depiction in some extracts with how the non-interpreted French speakers and LSFb signers did.

Example (15) (Figure 22) illustrates a case in which both the descriptive and the depictive modes are used in X and Y. In the source discourse, S056 explains

a personal anecdote and then says that deaf culture is different from hearing culture. She smiles because she finds the anecdote funny and moves her head to emphasize the differences between deaf culture and hearing culture. In the target discourse, I002 moves her head and smiles in order to depict the expressiveness of the signer. This use of facial expressions and head movements to depict the attitude of S056 supports the direct interpreting style used by I002.⁵ That is, not only does I002 talk as if she was S056 using first person singular forms and direct syntactic structures but I002 also uses her body to depict the attitude of the signer she is interpreting.

(15) a. *Source discourse (LSFB):*

<UNDERSTAND NOTHING CULTURE DIFFERENT> <HEARING DEAF DIFFERENT PLACE WAY CALL> PALM-UP

“<they don’t understand that it’s a different culture> <hearing and deaf people use different ways to call for someone’s attention> in fact”

b. *Target discourse (French):*

<c’est vraiment une culture différente> en fait <c’est vraiment des des réflexes différents>











“<it is a different culture really> in fact <it’s it’s a different way to do things really>”

The first reformulation structure of Example (10) (Figure 14) illustrates a case in which the descriptive and the depictive modes combine in X, whereas Y is only made up of description. The depictive part, in X, consists of I002 enacting two characters with constructed action (Metzger, 1995), namely the speaker herself (L001) and the Flemish competitors (see the first seven pictures). For the purpose of this depiction, she changes her eye gaze direction and moves her head and body in order to represent a fictive face-to-face interaction.

When interpreting into French, description is always produced vocally, and speech may occasionally be accompanied by head movements when affirmative or negative statements are made. Depiction involves head movements and facial expression from the interpreter, including when representing the expressivity of the source signer. We only found one case in which prosodic modulation of the

5. This kind of depiction (which resembles non-referential indexicality) is different from the depiction used in non-interpreted discourse and in other examples of interpreted discourse such as number (10), Figure 14 (which resembles referential indexicality). We have taken the two types of depiction into account for this first preliminary study in order to draw a portrait of the different phenomena involved in reformulation. However, these two types of depiction deserve to be further analyzed in order to shed light on various aspects such as what makes them different or similar, the articulators used and when interpreters prioritize one type of depiction over the other, among others. We thank Lindsay Ferrara for this suggestion.

Source discourse (LSFB)

				
UNDERSTAND	NOTHING	CULTURE	DIFFERENT	HEARING
<X>				<Y>
They don't understand that it's a different culture				
				
DEAF	DIFFERENT	PLACE	CALL	PALM-UP
Y>				marker
hearing and deaf people use different ways to call for someone's attention				in fact

Target discourse (French)





		
c'est vraiment une culture différente		en fait
<X>		marker
It is a different culture really		in fact
		
c'est vraiment des des réflexes différents		
<Y>		
it's it's a different way to do things really		

Figure 22. Example of reformulation in French (interpreted from LSF) (Example (15)) where the interpreter depicts the attitude and expression of the source signer. Source: Corpus LSF_B_2704_00:01:43.512–00:01:46.903; Target: CorMILS_I002-004-TR FR_00:01:53.258–00:01:57.053

voice was also used for depiction. We did not find examples in which other non-manual or manual articulators were used depictively in target French. Interestingly, this finding contrasts with non-interpreted data, in which speakers do use their hands and body movements in their productions (see Examples (6) and (14), as well as the source discourse in Example (10)). This difference between interpreted and non-interpreted French data does not seem to appear when compar-

ing the two types of LSFb data. Just as signers do, interpreters may use all manual and nonmanual articulators for both description and depiction. In (10), I002 uses both hands, moves her head and body, and produces facial expressions as well as mouth actions and mouthings in description. For depiction, the same elements are used (except for mouthings) and there is a change in eye gaze direction.

Despite using different articulators, description and depiction may be similarly combined in the source and the corresponding interpreted production (see Example (10)). However, there are cases in which description and depiction are found in source discourse but not in target discourse and vice versa. This is illustrated in Example (7) (Figure 10), in which I002 uses only the descriptive strategy, while L001 exploits description (with her voice) and depiction (with her hands to show a path and to depict the northern part of Belgium). Also, Example (15) (Figure 22) shows a case in which I002 uses her voice for description and her head and facial expression for depiction, whereas S056 (the signer) only exploits description with different manual and nonmanual articulators. Whether this phenomenon of using the same semiotic strategies is conditioned by language properties or by the constraints of interpreting deserves to be further explored.

5. Discussion

Our data shows that reformulation plays an important role in discourse construction, in LSFb as much as in French, and that at least in LSFb, it takes place not only within the utterances of the signer (self-reformulation), but also in the interaction between interlocutors (other-reformulation). In our data, self-reformulations are slightly more frequent in French compared to LSFb, but the two languages differ more if we look at the frequency of reformulations between the three genres studied. Indeed, our sample suggests that French speakers reformulate less often in conversation than in explanation and narration, whereas LSFb signers reformulate less in narration than in the other two genres.

Description and depiction are abundantly combined both by LSFb signers and by French speakers when they reformulate, which reflects their effort to make visible or audible what they say and reformulate otherwise. The act of reformulation can be an occasion for a descriptive utterance to be retold in a more depictive way, but the most common pattern, in both languages, is that the signer or the speaker uses the same semiotic strategies (i.e., descriptive only, or descriptive and depictive) across the whole formulation structure. Under this common pattern, in our sample the distinction between signers' and speakers' productions lies in three aspects. First, the presence of depiction is slightly more prevalent in LSFb than in French. Second, the distribution of the different articulators across the

different semiotic modalities that make up the composite utterances differs. And third, the arrangement of the descriptive and depictive components offers more flexibility in LSFb than in French.

In French, the descriptive and depictive modes of expression each have their preferred articulators: the phonatory system for description, and the hands (one or two) for depiction, with some additional non-manual articulators, especially in narration. Conversely, LSFb signers' articulators show more plasticity: description is predominantly conveyed by the hands, and most often facial expression is involved in the depictive parts of the utterances (this observation is congruent with those of Parisot *et al.*, and of Quinto-Pozos *et al.*, this volume, about constructed action). However, the hands, lips, facial expression and the head can be involved both in descriptive and in depictive fragments.

This difference in the predisposition of articulators to one or the other semiotic modality is coupled with a difference in the arrangement of descriptive and depictive fragments between them, in French and in LSFb. We found that in French, the depictive components always simultaneously accompany the descriptive line of the utterance. While this simultaneous pattern appears in LSFb too, another arrangement is also present in our data, namely the alternation between descriptive and depictive fragments. In short, in our French sample depiction is never expressed alone, while it is commonly expressed alone in the LSFb sample.

Even if interpreters produce reformulation, be it in reproducing a reformulation from the source discourse (interlingual reformulations) or in creating their own reformulations in the target language (intralingual reformulations), they reformulate less than the speakers and signers they interpret. This may be attributable to the fact that since interpreters must cope with memory, cognitive load and time lag, they may need to drop some of the reformulation structures of the source productions and convey the same meaning in a condensed way. Reformulation structures appear to offer them a space for relief and adjustment. Another element that may affect the lower number of reformulation structures is the lack of having an interlocutor, which is an issue that should be taken into account in future research.

When examining target French discourse, our small dataset of interpreted data indicates that there seems to be a preference towards using the phonatory articulators for description and non-manual articulators for depiction. This finding contrasts with non-interpreted French data, in which speakers amply used their hands for depiction. This difference may be due to the training received by interpreters, who acknowledged that they were told to control their amount of gesturing. Interestingly, it seems that interpreters depict how utterances are produced by signers, but they do not depict elements such as the shape of objects or paths in our sample. In target LSFb discourse, the way interpreters use their

manual and non-manual articulators is similar to the way signers do. Interpreters use more intralinguistic reformulations in target LSFb than in target French. This may be due to the fact that interpreters are L2 users of LSFb, and therefore would use reformulation to compensate for their difficulties in finding the right sign or structure on the spot. However, these observations about the use of depiction and of intralinguistic reformulations will require the analysis of a larger sample of data to be confirmed.

In this study we focused on a subset of reformulations, namely those which were explicitly marked. We noticed that even the marking of the reformulation act exploits the multimodality of language, combining lexical words, gestures, manual and non-manual cues. The choice of focusing on reformulation with a marker was made to ensure comparability of the phenomena across the two languages and the three studied datasets. However, it should be kept in mind that this could impact the quantitative trends shown in our results. Indeed, the higher frequency of self-reformulations we observed in French, compared to LSFb, might in fact reflect a lesser propensity to use a reformulation marker in LSFb than in French. Similarly, the pointed absence of other-reformulation in French might be due to the preference of French speakers not to use a marker for other-reformulations. The extension of this study to unmarked reformulations will be necessary to verify and measure the impact of this potential bias.

The differences observed between French and LSFb regarding the frequency of reformulations across genres prompt additional studies to be made. Indeed, the observation that French speakers reformulate less often in conversation, whereas LSFb speakers reformulate less in narration could be interpreted in the light of a difference in semiotic effectiveness between the two languages and the two modalities. The depictive resources of LSFb may possibly make it more suitable (requiring fewer reformulation attempts) for narration than French. Conversely, the descriptive resources of French may make it more effective in conversation than LSFb (which elicits many more reformulation attempts, including other-reformulations). This hypothesis is in line with what several researchers (e.g., Ladd, 2003; Hodge and Ferrara, 2014; Vandenitte, 2021) have said about the importance of narrative genre and depiction in signers' communities.

6. Conclusions

The phenomenon of reformulation is eminently frequent in discourse and has been the subject of much work in spoken languages, both on written and oral data. Combining redundancy, reflexivity and search for clarity, the act of reformulation offers a privileged point of view on the way speakers process and adjust

their expression in discourse. However, to date, the study of reformulation has hardly taken into account the now increasingly recognized multimodal and semi-otically composite nature of language. This study has proposed to review the notion of reformulation from a multimodal approach by comparing the use and composition of reformulations in the discourse of speakers and signers, as well as in the productions of interpreters.

The comparison of spoken and signed data evidences that reformulation is not limited to its linear dimension, and that written and oral data only give partial access to what is at work when we reformulate. This study indicates that speakers and signers make extensive use of the combination of description and depiction in their reformulations. However, the articulators they involve for each strategy, the arrangement (simultaneous or sequential) of the descriptive and depictive components in the flow of expression, as well as the frequency of reformulations across genres reveal differences between signers' and speakers' reformulation uses. These differences require interpreters to negotiate between the specificities of the linguistic practices of signers and speakers, while managing the temporal and cognitive constraints of interpretation. They reformulate less and use less depiction than the speakers and the signers they interpret, but they use reformulation as a means to make their interpretation more idiolectal in the target language.

Reformulation turns out to be a multimodal phenomenon, including the properties of its markers, whose study contributes to the understanding of how language, in its signed and spoken modalities, acts out its composite nature (Enfield, 2009); and how interpreters deal with the specificities of signed and spoken complexities in their productions.


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