

# Manual and non-manual cues used for the prosodic encoding of contrastive focus in LSF<sub>B</sub> (French Belgian Sign Language)

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Signed languages (SLs) exploit prosodic variations for a variety of purposes (Pfau & Quer 2010), including the marking of information structure (IS) (Wilbur 2012). Signers rely on a multitude of non-manual resources to accomplish this, including eyebrow or head movements, body leans, changes in gaze direction, and mouthing and mouth gestures (Pfau & Quer 2010). Manual markers also play a role in SL prosody and consist of changes of signed parameters, such as modifications of the location (displacement higher or lower in space), movement (holding or repetition), duration, or hand used (dominance reversal) (Sandler 2012).

We can identify various types of information units in languages, including contrastive focus, which is defined as the opposition between (at least) two explicit alternatives that are included in a limited set already present in the discourse (Repp 2010). Contrastive foci can be categorised into the following subtypes (Umbach 2004): discourse opposition (1), selection (2), and correction (3).

- (1) Some of them have [**a square shape**] (...). Some are [**rather triangular**] (...).
- (2) A: Dark or light blue?  
B: [**Light**].
- (3) You told me “a triangle-shaped eyebrow”. It is more like [**a circumflex**].

The field of IS research is characterised by various debates regarding the possibility of a linguistic marking specific to contrastive focus. Some SL linguists have claimed that contrastive focus is encoded by distinct manual and non-manual patterns (e.g. Crasborn & van der Kooij 2013; Kimmelman 2014; Navarrete-González 2021) while others have stated the opposite (e.g. Schlenker et al. 2016). Furthermore, little is known about the prosodic differences between discourse opposition, selection, and correction, as contrastive focus and its subtypes have remained understudied in many SLs, such as LSF<sub>B</sub> (French Belgian Sign Language).

This presentation aims to address these gaps by answering the following questions: which manual and non-manual prosodic cues of LSF<sub>B</sub> are used to encode contrastive focus and its subtypes? Do these markers combine? To investigate these questions, we examined videos extracted from the LSF<sub>B</sub> Corpus (Meurant 2015). The selected data were produced by six native deaf signers who interacted with someone familiar during several spontaneous tasks. The prosodic encoding of 400 contrastive foci was evaluated in comparison to the marking of the signed units (i.e. sequences of signs delimited by stops of the hands) that preceded or followed contrasts, and thus formed their surrounding context. From this perspective, 1500 manual signs were annotated in ELAN for holding, sign repetition, dominance reversal, duration, and displacement. A total of 1200 non-manual cues (eyebrow, head and body movements; mouthings and mouth gestures; changes in gaze direction) were also taken into account.

The results, based on quantitative and qualitative analyses, show that contrastive focus is expressed by specific manual markers in LSF<sub>B</sub> compared with the surrounding non-contrastive context. More specifically, the duration of contrastive signs is longer than that of non-contrastive items. Manual holds are also more frequent on contrastive foci as well as height variations. Dominance reversals and movement repetitions are not prosodically used by the

LSFB signers as markers of contrastive focus, contrary to what has been pointed out for other SLs (e.g. Crasborn & van der Kooij 2013). Furthermore, body leans, eyebrow, head and mouth movements are more prevalent on contrastive foci than on preceding or following elements. Non-manual cues can also combine to signal contrastive focus, with the most frequent pattern being a combination of body, head, and eyebrow movements

Moreover, a part of the SL literature claims that manual and non-manual markers occur simultaneously on contrastive focus, forming a single prosodic pattern (e.g. Wilbur 2012; Crasborn & van der Kooij 2013). However, the analysis of LSFB indicates that manual and non-manual markers are used separately rather than in combination, which echoes the observations of other studies on the independence of these two kinds of prosodic cues (e.g. Kimmelman 2014 for NGT and RSL)

Regarding contrast types, our prediction based on other SLs was that prosody becomes more intense in increasingly contrastively marked contexts: discourse oppositions are less contrastive than selections and corrections, and hence, less prosodically encoded (e.g. Navarrete-González 2021). However, in LSFB, we observe either (i) a gradual marking of the contrast subtypes (from discourse opposition to correction, or vice versa) or (ii) the use of specific markings for one subtype (e.g. selection) that are distinct from the other two (e.g. discourse opposition and correction). Patterns (i) and (ii) manifest differently depending on the prosodic cues and articulatory properties (i.e. types of sign, movement, and position in an utterance), as it will be explained during the presentation.

Ultimately, this research opens new avenues for a more thorough definition of prosody and contrastive focus in LSFB.

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