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# Pause and hold in LSF: how to control one's gestural fluency?

Fanny Catteau, Marion Blondel

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## Background

### Prosody of sign languages

- Mainly based on three parameters: the **duration**, **amplitude** and **velocity** of the movements of the **manual and non-manual** articulators (Boyes-Braem 1999 for DGS, Wilbur and Malaia 2018 for ASL, Blondel 2020, Catteau 2020 for LSF, a.o.)
- **Structured at multiple levels**: syllables are combined to form feet, which are combined to form prosodic 'words', which in turn are combined to form minor and major intonational phrases (Miller 1996 for LSQ, Sandler 1999 for ISL, Catteau 2020 for LSF, a.o.)
- **Based on combination, contrasts and patterns** (van der Kooij et al. 2006 for NGT, Blondel 2020 for LSF, a.o.)

### (Still or filled) pauses in sign languages

- (i) a return of the body/one of the articulators to a rest position (incl. drop hands)
- (ii) a hold of either the handshape or one of the articulators (freezing)
- (iii) a (secondary/oscillating) movement reduplication
- (iv) self-contact or wiggling gestures

Pauses → a lengthening phenomenon

(Grosjean & Lane 1977, Wilbur & Nolen 1986 for ASL, Ormel & Crasborn 2012, for an overview, Michit 2020 for LSF, a.o.)

### The contribution/role of SL pauses to / in discourse and interactions

- ✓ **Structural function**: acting as a **boundary** between two phrasal units, two groups of meanings, two ideas)
- ✓ **Interactional function**: turn-taking (indicating, for instance, that one is giving the floor to the addressee) (Groeber & Pochon-Berger 2014 for DSGS, a.o.)
- ✓ lexical retrieval or 'speech' planning

## Our research questions

- ✓ Which contribution of mocap to visualise, analyse and recognise the various types of pauses?
- ✓ Any correspondence between one type of pause and one function?
- ✓ Any shared properties and specificities in a case in which sign fluency is potentially specific, either due to a register issue (poetic vs. non-poetic) or a physiological issue (old/young age)?

## Three types of data

### LSF Poetry (Catteau 2020 Corpus)

5 deaf artists  
11 original poems  
Recording with inertial centrals  
(motion capture system)



### Older signers' utterance (SignAge)

- Twelve 65+ years old deaf signers
- 6-minute discussions with a known deaf interviewer
- Recording with inertial centrals (motion capture system)
- 6 young adult control group

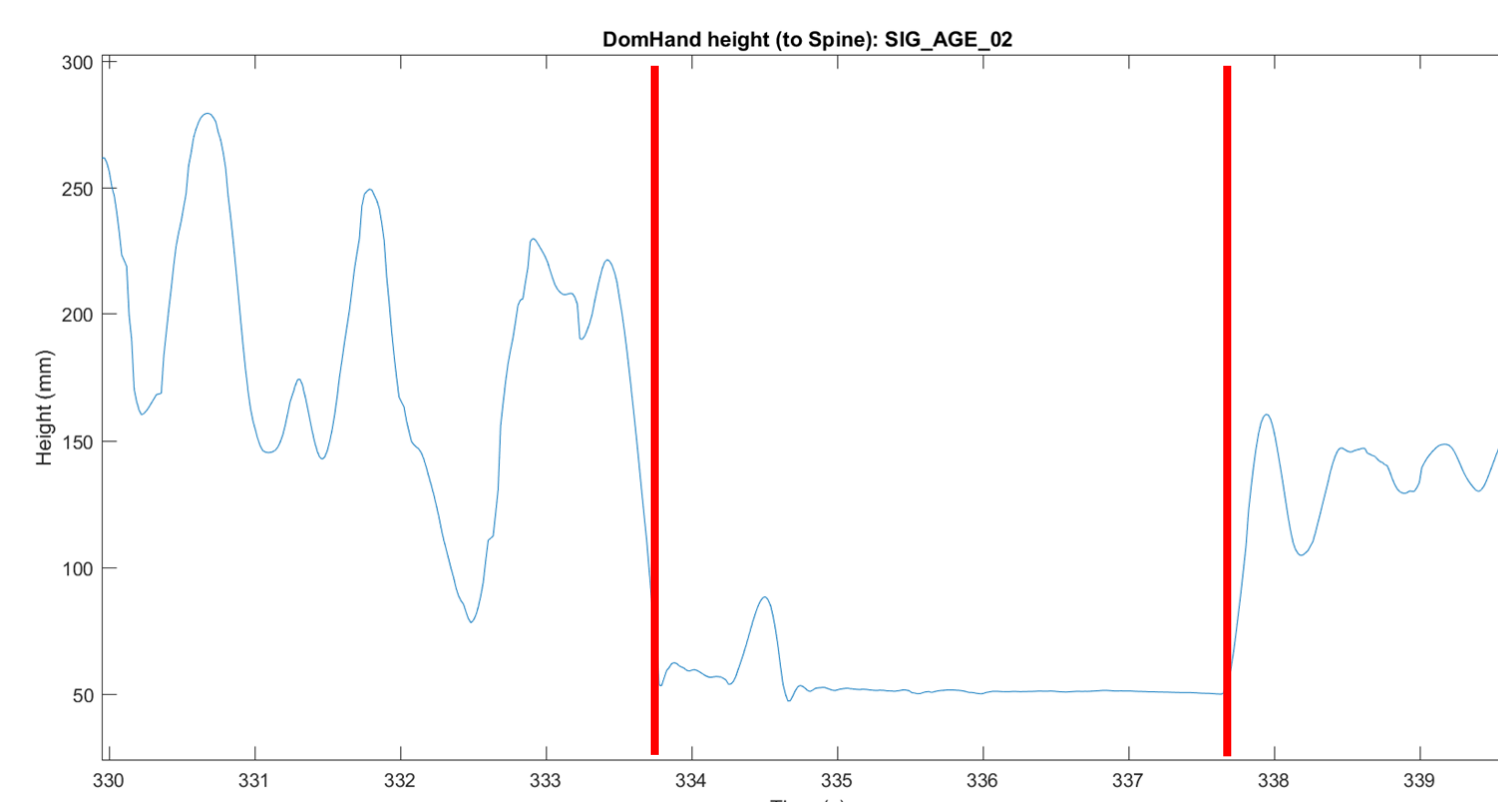


### Family interactions (Signes en Famille & DinLang)

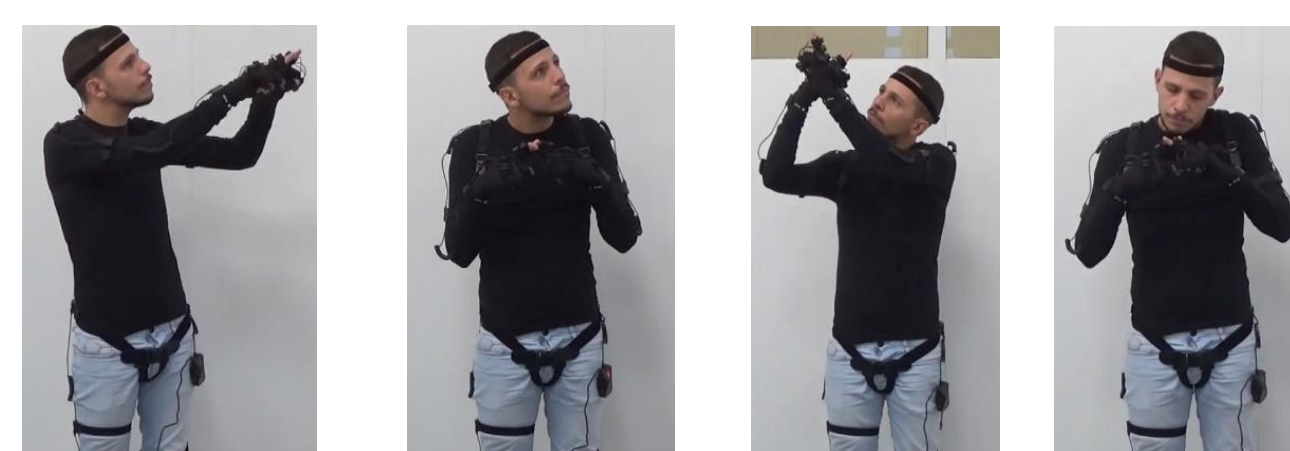
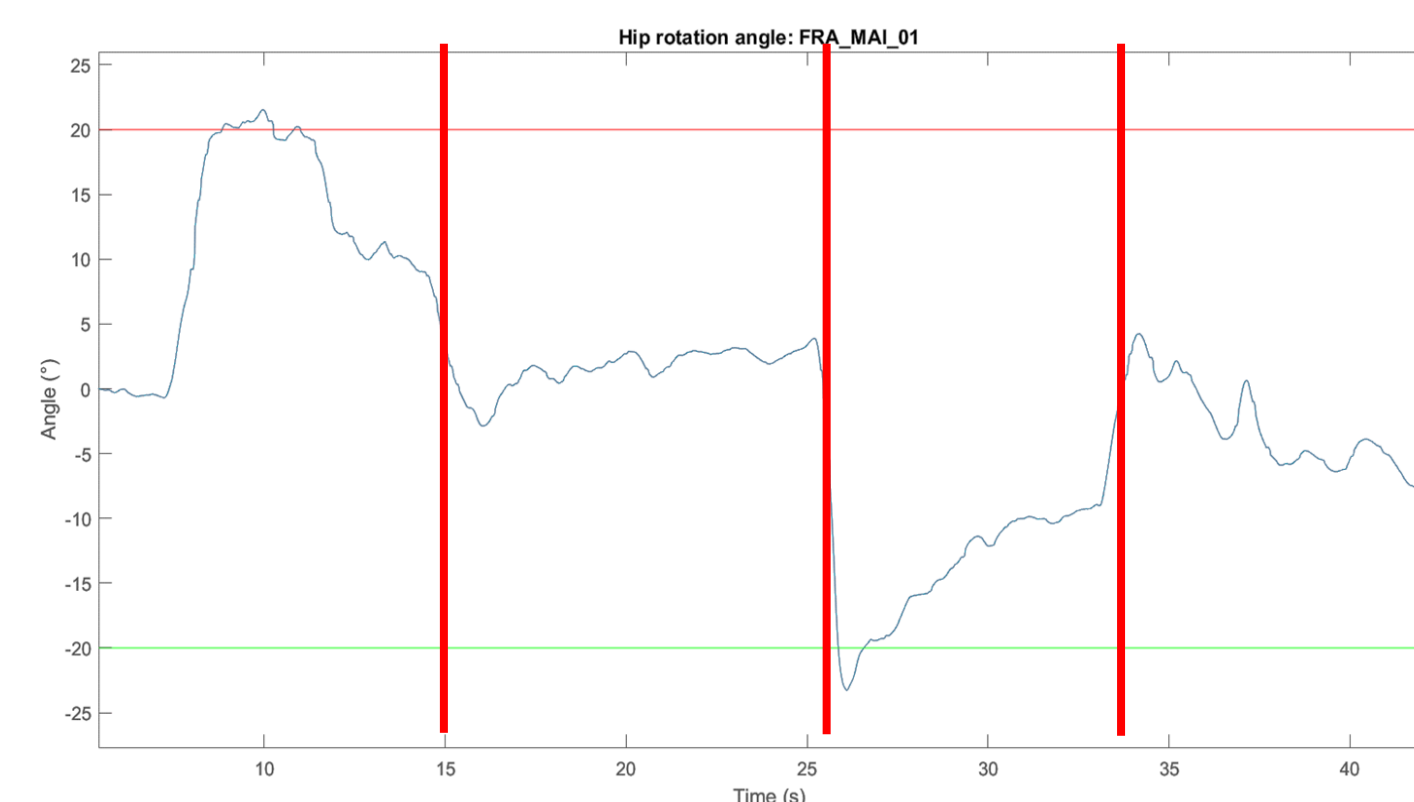
- 6 LSF family-dinners
- Families who primarily use LSF
- Two wide-angle cameras (pilot study) + one 360° camera, one 360° sound recorder (DinLang setting)



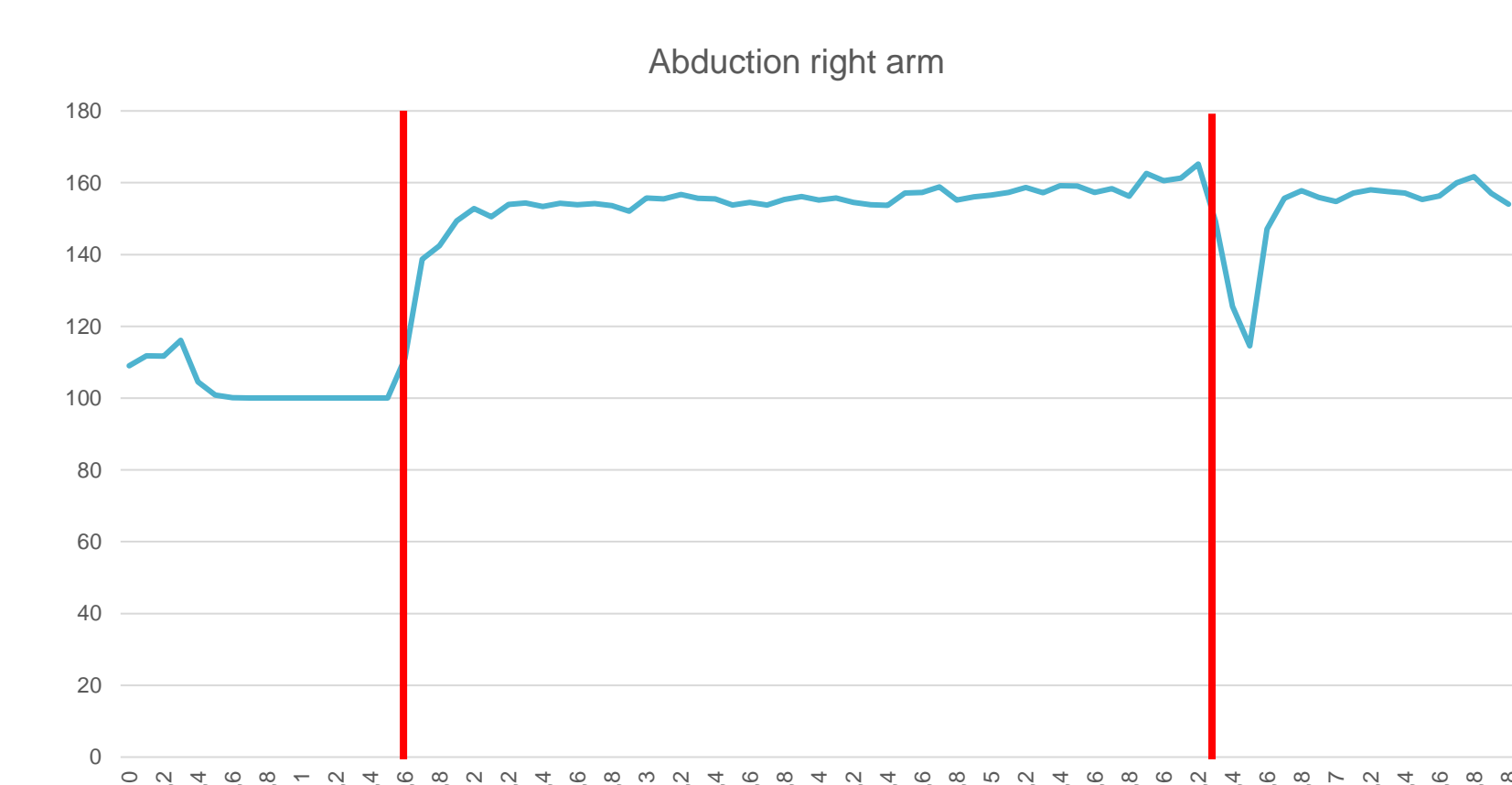
## Pauses measurements and visualisation



(i) return of the hand/body to a rest position



(ii) handshape (or other articulator) hold



(iii) a (secondary) movement reduplication

## Hypotheses and avenues to explore

Pauses (including holds) are variables of adjustment available to the signer:

- ✓ either to organise and structure information by segmenting and organising it (all types of data),
- ✓ or to create a fluid rhythmic-melodic super-pattern (poetry might be characterised by the absence of silent pauses),
- ✓ or to regulate one's own flow / and manage the flow of energy in the event of physiological constraints (old age/young children)
- ✓ or to regulate the rhythm of the interaction: pause to maintain or give up your turn.

As with other prosodic phenomena:

- ✓ we cannot draw up a strict inventory for 1 form = 1 function,
- ✓ but rather look at the distribution of a phenomenon and the relativity of contrast in distribution on an intra-individual scale but also on an inter-individual scale in the case of interactions.

## Bibliography

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