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"Look at me!" The prosody of multimodal interactions in French and LSF family dinners



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Background

New information is foregrounded, i.e. focused with a variety of processes including speech prosody, sign prosody and (hearing-deaf) shared gestures.

In interaction, focalization is implemented via multimodal phenomena: (i) focalization is described in spoken dialogue, (ii) understudied in signed interactions, and (iii) also in both signed and spoken multiparty conversations.

Family dinners

A privileged interactive situation as participants need to coordinate two kind of activities using one's mouth and hands :

- ✓ acting (eating, serving...)
- ✓ languaging (transmitting information to the other family members).

Our hypothèses

- ✓ Focalization markers are articulated in contrastive multimodal patterns
- ✓ A parallel can be drawn between 'spoken' French and LSF, in terms of the prosodic parameters and patterns used

Data: Family dinners

DinLang (ANR-20-CE27-0010)

- 10 French speaking families
- 10 LSF signing families
- Two wide-angle cameras
- One 360° camera
- One 360° sound recorder



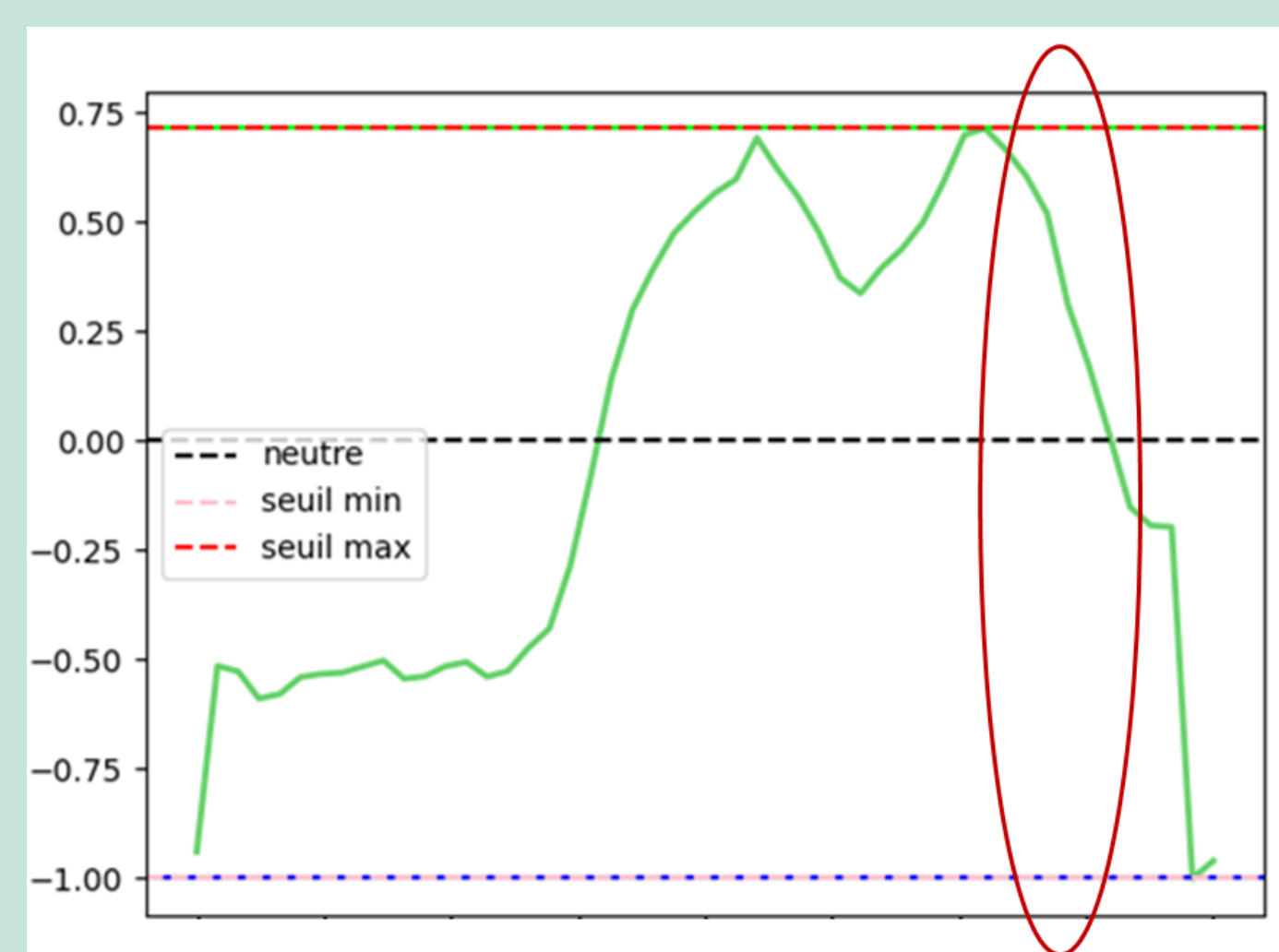
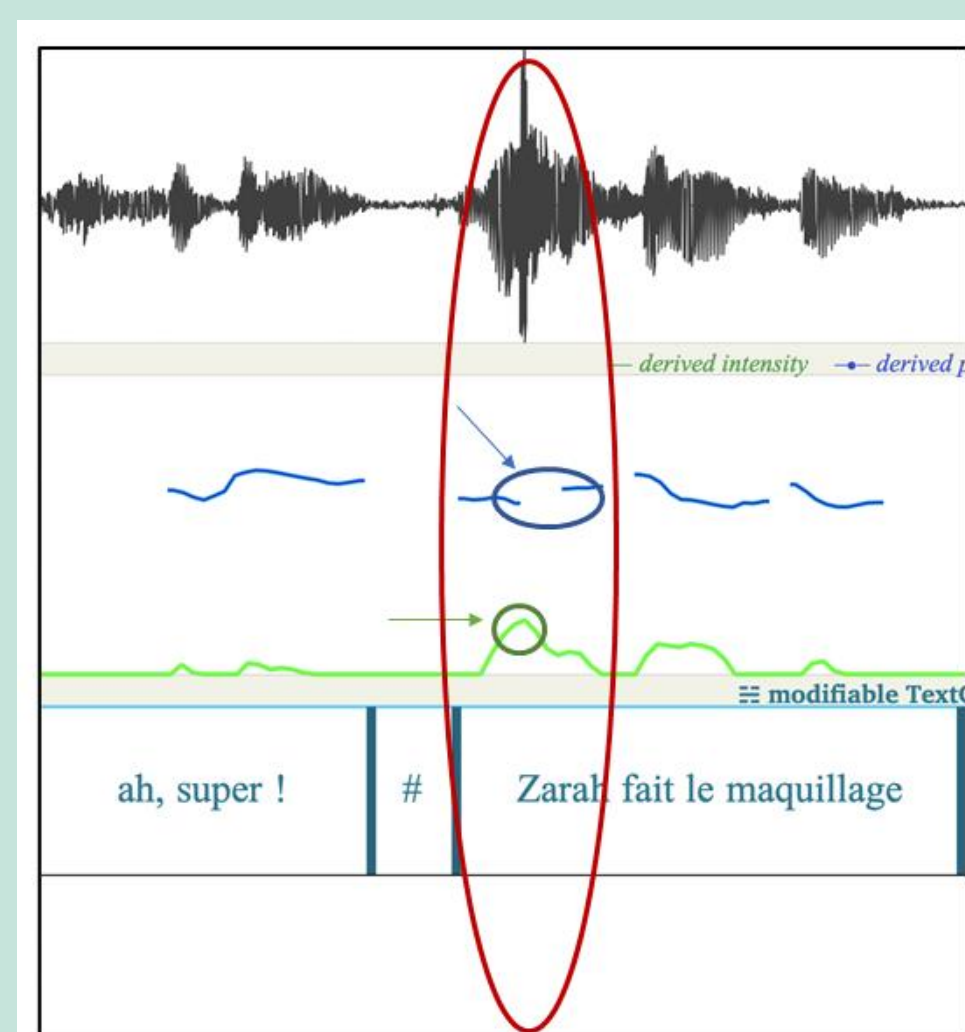
Diners analysis

- Manual annotation with the same ELAN template (for both French-speaking and LSF-signing families)
- Acoustic analysis with PRAAT (for French-speaking families)
- Motion analysis with Alphapose (for both French-speaking and LSF-signing families)

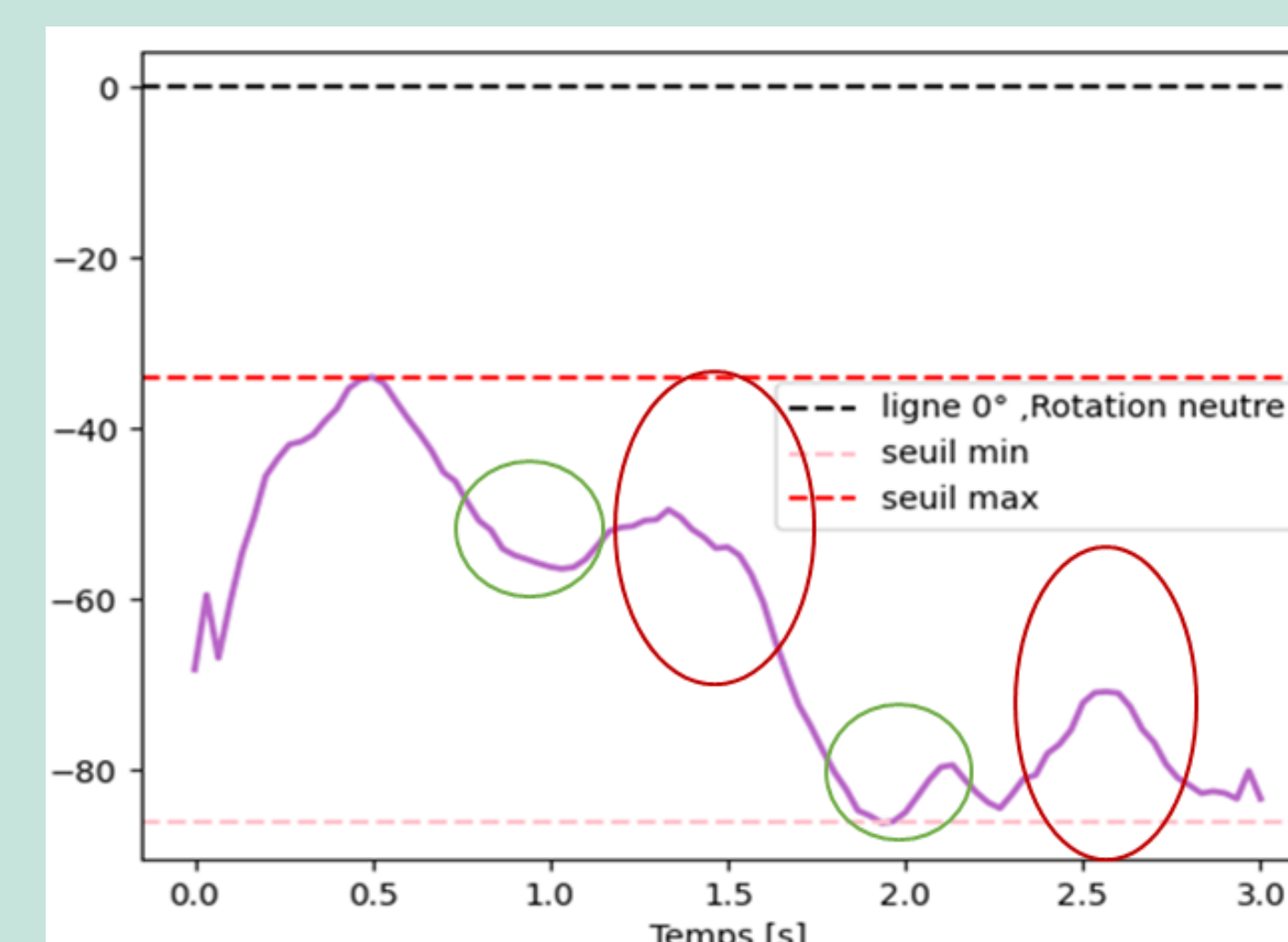
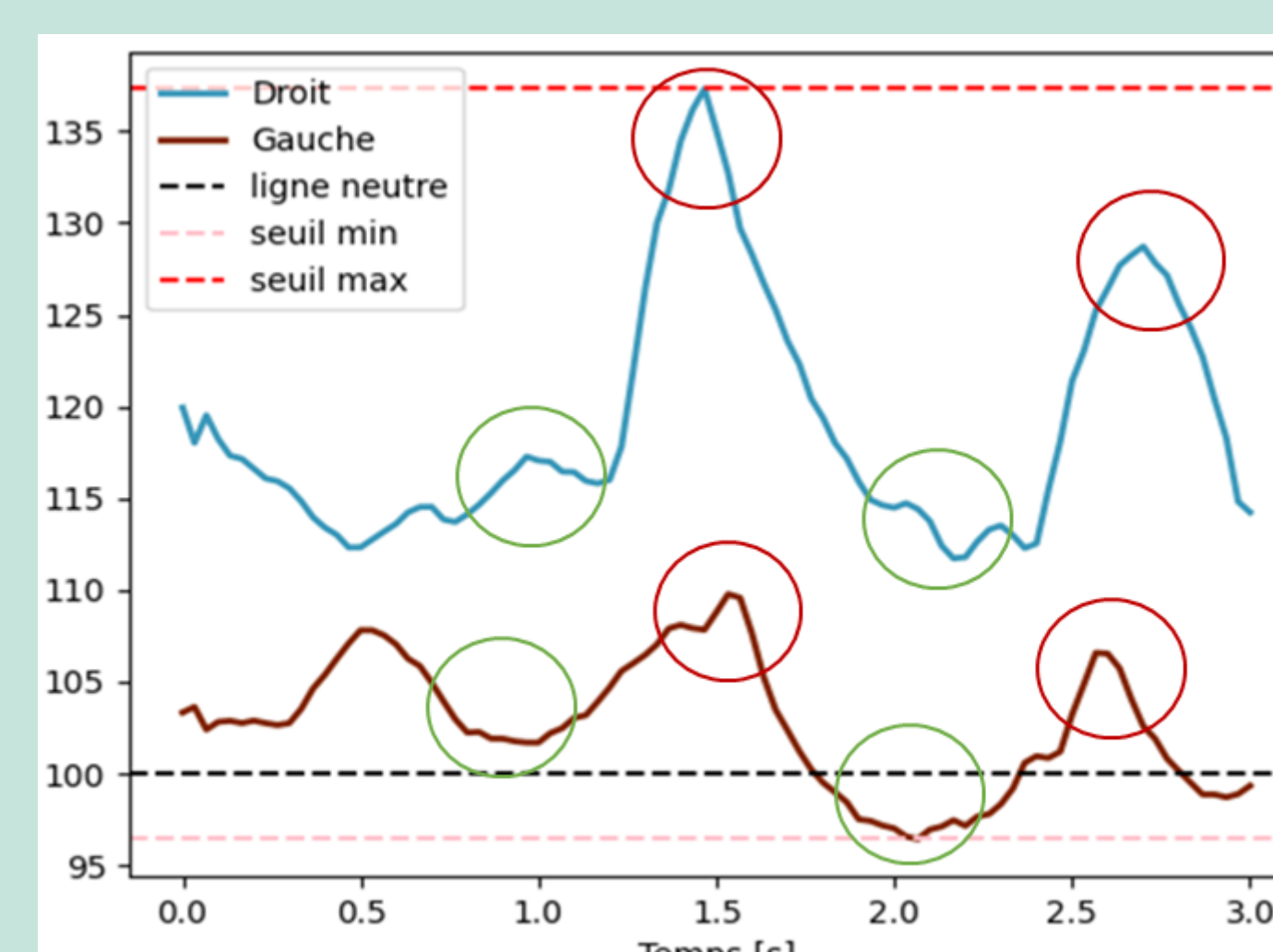
Selected sample

- 30 minutes of each dinner
- 60 utterances containing a focus

French analysis



LSF analysis



Focalization markers

Children

French-Speaking

- Syllable lengthening
- Pitch and intensity peaks
- Hyper-articulation
- Manual movement

LSF-Signing

- Extended head movements
- Extended bust movements
- Manual hyper-articulation
- Holds
- Labial hyper-articulation (sometimes with vocalization)

Adults

French-Speaking

- Syllable lengthening
- Pitch and intensity peaks
- Pause
- Glottal stop
- Hyper-articulation
- Head movements
- Manual movements
- Bust and shoulders movements
- Eyebrows & mimic
- Speech synchronization

LSF-Signing

- High amplitude of manual movements
- High amplitude of head movements
- High amplitude of bust and shoulders movements
- Slower manual movements
- Slower head movements
- Slower bust and shoulders movements
- Holds
- Manual hyper-articulation
- Eyebrows & mimic
- Labial hyper-articulation (sometimes with vocalization)

Conclusion

This study:

- ❖ Shows common prosodic markers between spoken languages (including their gestural dimension) and sign languages in the expression of focalization: an amplification of parameter values expressed by hyper-articulation
- ❖ Reveals that the parameters of duration, intensity/amplitude and frequency are compatible with circulation between languages and between modalities, and apply to the movements of different articulators, whatever their size
- ❖ Makes us reflect on the way gestuality (manual and non-manual) is used by hearing speakers, and reconsider sign languages and spoken languages, above all, as embodied languages



Bibliography & Acknowledgements

