Slicing Your SL Data into Basic Discourse Units (BDUs). Adapting the BDU Model (Syntax + Prosody) to Signed Discourse
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SLICING YOUR SL DATASET INTO BASIC DISCOURSE UNITS (BDUs)
ADAPTING THE BDU MODEL (SYNTAX + PROSODY) TO SIGNED DISCOURSE

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BACKGROUND
- Discourse segmentation is at the basis of how oral discourses are structured.
- The traditional concept of sentence does not take into account interactional, discourse markers (DMs), etc. that appear in oral data, so different models have been created to segment spoken discourse.
- No model for the segmentation of SL discourse.

OUR NEED
- A segmentation model for SL data that allows us to segment in a consistent way both monologic and dialogic corpus data.
- To study the position of DMs in French Belgian Sign Language (LSFB).

USING THE BDU MODEL TO GET SLICED SL DISCOURSES.

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Adapting the acoustic cues to visual cues, i.e. "boundary markers" that segment discourse into rhythmic units because they are punctual in nature (Pau & Queer 2010)

- Pause (= pause) periods of no signing at all with the hands along the body, crossed or in the neutral space as in Figure 1.
- Sign holds or lengthened signs with respect to the context (= lengthening of a syllable) a sign hold appears when the handshake of a sign is frozen, and a lengthened sign appears when the movement of the sign is slowed or exaggerated.
- Eye blinks layered with another prosodic cue (dead nod, a change in gaze, a shrug, etc.)
- When the movement of the sign is slowed or exaggerated.

Establishing BDUs

Different types of BDUs in the original model:

- Consequent = syntactic and prosodic boundaries coincide (cf. second BDU in Figure 2).
- Syntax-bound = a syntactic unit contains several prosodic units.
- PrU [ ] (cf. second BDU in Figure 2).
- Intonation-bound = a prosodic unit contains several syntactic units (cf. third BDU in Figure 2).

Regularity = the BDU is an adjunct or a DM

SyU [ ]

PrU [ ]

Mixed [ ]

Finding the convergence point between syntactic and prosodic units

Adapting a consolidated model such as the Basic Discourse Units (BDU) Model (Degand & Simon 2005, 2009a) to the signed modality.

1. Definit syntactic units (i.e. clauses) on the basis of Dependency Grammar
2. Definit prosodic units according to a set of acoustic cues: a silent pause (longer than 250 ms), lengthening of the syllable (three times longer than the syllables in context) or a sharp rise of f0 (intrasyllabic f0 superior to ten semi-tones)
3. Establish BDUs where syntactic and prosodic boundaries coincide.

The first and second steps are independent.

Methods

LSFB Corpus (Meurant 2015)

- 6 signers: in balance of times (2 belonging to each of the following age groups: 18-29, 30-49 and 50-80) and gender (3 5 and 3 7).
- Dialogues (42-45) narration of a past memory and argumentation on deaf issues.
- ELAN

To terminate this adaptation of the BDU Model is time consuming, but allows a more fine-grained study of the position of DMs in the signed modality and answers to controversial issues in SL research such as the segmentation of SL corpus data.

The coupling of position and function of SAME is regular across different examples of our corpus, so the position can be used to identify the function of a polysynomic DM such as SAME, whose annotation strongly depends on the annotator’s interpretation

The study of the left periphery could give insight on (among others):

- the assumption that SLs prefer constructions of specialization
- whether SLs prefer implicit discourse relations over explicit discourse relations
- the discourse features that define a formal vs. an informal speech
- the devices preferred in a monologue over a dialogue.

Just try it and let us know!