Signing and gesturing in later life: How to adapt bodily talk in context?

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Rationale

Communication in aging

- Slowdown of information processing, attentional deficits and troubles in working memory
- Somatic constraints and gesture specialization (Feyereisen & Havard 1999)
- Individual variation (Valdois et al. 1990): subtle changes at old age > severe communicative changes at very old age (80 y. old and more)
- Adaptive and compensatory strategies (Baltes & Baltes 1990)

Pragmatic gestures

- Gestures are an integral part of linguistic communication (Sweetser 2009) and window onto the speaker's mind (Goldin-Meadow & Alibali 2013)

"Pragmatically, gestures are involved in the production, packaging and conveyance of meaning, the control and negotiation of interpretation, the expression of stance and viewpoint, the internal and external regulation of discourse" (Lapaire 2011: 102)

- Pragmatic markers in Spoken Languages (SpLs) are learned pairings of form/meaning (i.e. constructions) (Langacker 2001)
- Sign Languages (SLs) offer the unique property to grammaticalize both manual and nonmanual gestures (Herrmann & Steinbach 2013; McKee & Wallingford 2011)

Palm-Up gestures (PUs)

- Canonical form of PU family gesture (Kendon 2004; Müller 2004):
  open lax handshape, supine forearm, upward orientation

Nadine; 75 y. old; CorpAGEst corpus

Hypothesis: There are some adaptive, pragmatic age-related phenomena that can be shared by both speakers and signers in later life

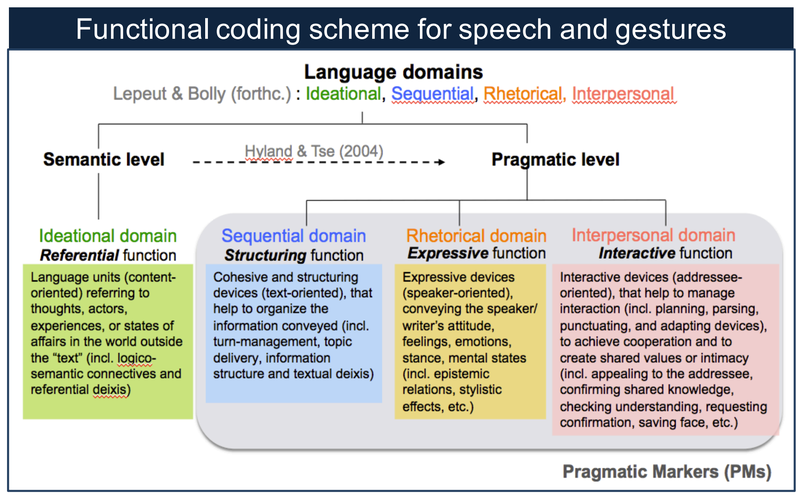
Research question 1: What could be the similarities and differences in deaf and hearing older people's use of pragmatic devices ?
Research question 2: Do manual gestures cluster with nonmanuals in the same manner in Spoken French (SpFr) and French Belgian Sign Language (LSFB) to convey similar functions ?

Data and method

Cross-linguistic, interindividual

CorpAGEst (Bolly & Boutet forthc.)	LSFB Corpus (Meurant 2015)
• Two women aged 75 (Nadine) and 84 (Albertine) • Belgian Native French speakers • Face-to-face interviews with a family member (task: major steps in their life) • 6.5 minutes in total	• Two men aged 74 (S004) and 83 (S003) • Belgian Native LSFB signers • Conversation between the two informants, with a deaf moderator (task: past memory) • 8 minutes in total

Functional coding scheme for speech and gestures



Coding procedure and analysis

- Video data analysis using the ELAN software
- Form-based (Müller et al. 2013) and functional analysis (Bolly & Crible in prep.)
- Identification of PUs (including micro-PUs) and description of co-occurring nonmanuals
- Frequency of PUs/minute with regard to number of signs in LSFB and number of words & gestures in SpFr

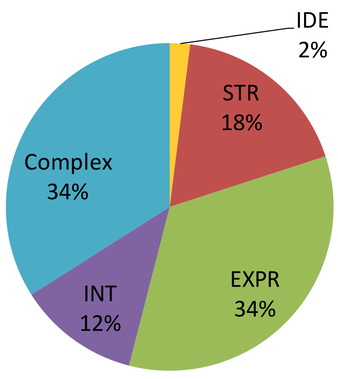
Main results

Macro-functions of PUs

IDE: Ideational
STR: Structuring
EXPR: Expressive
INT: Interactive
Complex: 2 or 3 functions

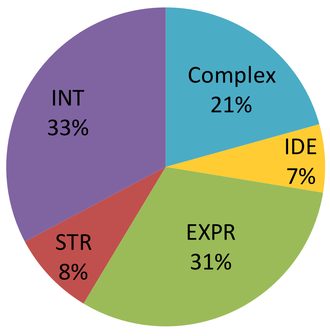
SpFr

50 PUs (incl. 18 micro-PUs)
Nadine: 48 PUs (10.5/min.)
Albertine: 2 micro-PUs (0.5/min.)



LSFB

63 PUs (incl. 11 micro-PUs)
S004: 49 PUs (8/min.)
S003: 14 PUs (6/min.)



Micro-functions of PUs

ATTITUDE (12%) *Only Nadine*	• 1 or 2 hands • Gazing back and forth gazing (with a not addressed piek) + eye-closing + eyebrow raising + head turn with repeated nods, tilts or shakes (if not repeated, then with shrugs) • Speech: opinion, positioning (e.g. *je vois* 'I see', *c'est vrai que* 'it's a fact that')
EMPHASIS (9%) *Only Nadine*	• 1 hand (left), mostly micro-PUs • Mostly vague gaze + repeated eye-closing (sometimes with exagg. opening) + eyebrow raising + head turn (+ shrugs) • Speech: affect, intensifier (e.g. *cancer* 'cancer', *s'émerveiller* 'to marvel at smth', *tellement vite* 'so fast')
SPECIFICATION (8%) *Only Nadine*	• 1 or 2 hands: full or micro-PUs • Mostly vague gaze + always (repeated) eye-closing and eyebrow raising + multiple head turns always with (multiple) shrugs • Mostly combined with struct. tags (e.g. listing, topic-shifting)
UNCERTAINTY (24%) *Only S004*	• Nonmanuals for modality + non-addressed gaze + movement of the head (or body) if another co-occuring function from the ideational or expressive domain
AGREEMENT (12%)	• Head nod + adressed gaze + closed mouth
PUNCTUATING (11%)	• Non-addressed gaze + head movement + blinking
ATTITUDE (9%)	• Nonmanuals for modality + non-addressed gaze + closed mouth (if no other parallel function)
PLANIFICATION (7%) *Only S004*	• Non-addressed gaze + blinking

① Intra- and interindividual variation

- SpFr: the younger speaker produces much more PUs than the older one (10.5/min. vs. 0.5/min.)
- LSFB: similar number produced by the two participants (8/min vs. 6/min)

② PUs and nonmanual layers

- PUs are mainly expressive (viz. conveying attitude, emotions), but the most frequent micro-functions vary from one language to the other
- Nonmanuals layered with PUs tend to be more conventionalized in signers than in speakers

③ Inspiring results and perspectives

- High frequency of shrugs (instead of PUs) in the oldest speaker: compensatory strategy to maintain pragmatic skills while aging?
- Reduced fingers agility in the youngest signer: what role of arthritis in gesturing at old age?
- 2 women (SpFr), 2 men (LSFB): what impact of gender on gestures within/between languages?

➔ These insights (based on a small-scale study) need to be checked through larger-scale studies

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