Using prosody and grammar to describe natural discourse in Auslan

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Research Aim:

1) Use the Auslan Corpus to investigate the natural unit of cognitive processing (the Intonation Unit) and a possible frequent unit of grammatical structure (the Clause) in a SL

2) Examine the relationship between two units for what it tells us about Auslan grammar
We will discuss:

I. Data set—text types and participants
II. Aim 1—our current understanding of the signed Intonation Unit and the signed Clause unit
III. Aim 2—frequent alignment of these units in natural Auslan discourse
IV. Findings—major implications of this study

I. Auslan Data

- Data comes from the Auslan Corpus and PhD research by one of the authors
- Three text types were targeted: spontaneous and stimulated narrative, and conversation
- Data set consists of 20 minutes of signing by 18 deaf native signers
- Video clips were annotated in ELAN using a modified version of the Auslan Corpus template
II. Aim 1—How did we investigate what constitutes an IU and Clause in a SL?

1) We annotated IUs using a perceptual approach  
(Chafe 1994; Croft 1995; Matsumoto 2000; Park 2002)

2) We annotated candidates for Clause units using a semantic approach to identify elements that function as predicate(s) and argument(s). As we annotated only possible Clause units, we currently refer to them as ‘Clause-Like Units’ (CLU)  
(Van Valin 2005; Johnston & Schembri 2006)

What is a signed/spoken Intonation Unit (IU)?

A perceptual unit of cognitive processing that indicates shifts in active ideas, and that is the right size to be processed in its entirety

1. **Sequence of elements combined under a single, coherent *intonation contour***

**SpL**
- Changes in:
  - Pitch
  - Duration
  - Intensity
  - Pausing
  - Voice quality

**SL**
- Changes in:
  - Duration (> 2 sec)
  - Eye gaze pattern
  - Head/torso momentum
  - Tensity of hands
  - Sign holds (> .3 sec)
  - Pausing (> .3 sec)
  - Head tilt + eye closure
  - Body ‘re-set’ (return to ‘neutral’ position)

**NO ABSOLUTE VALUES**
- figure vs. ground

2. **Interactional discourse moves of participants**

**SpL**
- Changes of turn
- Interruptions, e.g. *but*, *yeah*, *hey*
- Back-channeling, e.g. *uhuh*, *hmm*, giving good ‘face’

**SL**
- Changes of turn
- Interruptions, attention-grabbing gestures, e.g. *hey*, *ummm*, *well*
- Back-channeling, e.g. nodding, giving good ‘face’
**What is a signed CLU?**

<table>
<thead>
<tr>
<th>SpL (Van Valin 2005)</th>
<th>SL</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Clause is a language-specific grammatical construction containing a universal semantic structure</td>
<td>A Clause-Like Unit is a possible language-specific grammatical construction containing a universal semantic structure</td>
</tr>
<tr>
<td>Semantically identified:</td>
<td>Semantically identified:</td>
</tr>
<tr>
<td>1) Predicating elements</td>
<td>1) Predicating elements</td>
</tr>
<tr>
<td>2) Argument(s) of predicate</td>
<td>2) Argument(s) of predicate</td>
</tr>
<tr>
<td>3) Adjunct modifiers of P and A</td>
<td>3) Adjunct modifiers of P and A</td>
</tr>
</tbody>
</table>
**CLUs in Auslan**

We frequently observed:

1. *Partly* or *fully lexical* manual signs may function as predicate(s) and argument(s), e.g. [PT+DS] constructions
2. *Manual gestural* elements may function as predicating elements, e.g. [PT+G] constructions
3. *Non-manual* elements may function as predicating elements and arguments, e.g. [CA] constructions

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**Preliminary Results of Annotation**

<table>
<thead>
<tr>
<th>Tokens of Substantive Units</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Substantive IUs</td>
<td>907</td>
</tr>
<tr>
<td>CLUs</td>
<td>923</td>
</tr>
<tr>
<td>IU-CLU Alignments</td>
<td>732</td>
</tr>
</tbody>
</table>

NB: Please note that we expect to revise all annotations—Final results will be presented in our paper.
III. Aim 2—What are the relationships between IUs and CLUs in Auslan?

<table>
<thead>
<tr>
<th></th>
<th>One IU</th>
<th>Multiple IUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>One CLU</td>
<td>Type I</td>
<td>Type III</td>
</tr>
<tr>
<td>Multiple CLUs</td>
<td>Type II</td>
<td>Type IV</td>
</tr>
</tbody>
</table>

Type I: Alignment of one IU to one CLU

Represents **70.36%** of all alignments
Type II: Alignment of one IU to multiple CLUs

Represents 17.35% of all alignments—strong preference for one IU to align with two CLUs
Type III: Alignment of multiple IUs to one CLU

Represents 9.97% of all alignments—strong preference for two IUs to align with one CLU
IV. What does it all mean?

Aim I:

- Signed IUs—IUs in Auslan are perceived by prosodic contours and interactional discourse moves, and not by discrete prosodic markers interpreted as boundary markers

- Signed CLUs—the relationship between predicate(s) and their argument(s) can be identified using a semantic approach, but we do not yet know the linguistic status of the forms of these elements
IV. What does it all mean?

Aim 2:
- IUs most frequently align with CLUs (cf. Type I: 70%)
- Prosody and grammar are tightly entwined in Auslan, it is necessary to look at contours NOT boundaries or we will miss layers of cohesiveness (cf. all CLU Types)
- It’s possible Auslan uses prosody to express relationships between CLUs (cf. Type II: 17%) or between CLUs and other types of grammatical constituents (cf. Type III: 10%). These relationships may be represented by morphosyntactic markers in non-signed (older? spoken? written?) languages

QUESTIONS?

Thank you!
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Selected References