The role of animacy in the acquisition of entity constructions in British Sign Language

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Introduction

- Different ways of expressing action in sign languages, e.g. British Sign Language (BSL)
  - Entity "classifier" constructions (CL)
  - Constructed action (CA)
  - Other (lexical verb signs: e.g. WALK, GO, DRIVE, etc)

Entity constructions: Hand as referent

- Whole entity (classifier) constructions: the hand represents an entire referent
- Signer uses his/her hands to represent the location and/or motion of the person/character(s)
- "Out" of the story space, in signing space in front of signer, small-scale
- Uses observer perspective: Events are told from perspective of narrator observing scene from outside
- Cf. observer viewpoint (O-VPT) gestures in non-signers (McNeill 1992)

Use of hand as referent and body as referent

- Both types of constructions can be used separately or together (Dudis 2004)
- Signed narratives typically include these different constructions/perspectives
- Fluent adult signers are able to switch fluidly and clearly between the different perspectives

Constructed action: Body as referent

- Constructed action (aka role shift)
  - Signer uses his/her head, face and body to describe what a person/character does, thinks or feels
  - "In" the story space, large-scale, real-world space
- Uses character perspective: Events are told from perspective of person/character in the story
- Cf. character viewpoint (C-VPT) gestures in non-signers (McNeill 1992)

Acquisition of entity constructions and constructed action in sign languages

- Previous research
  - Whole entity classifier handshapes depicting people and vehicles may be amongst the earliest acquired (Kantor 1980, Supalla 1986, de Beuzeville 2006)
  - Focus mostly on deaf native signing children
  - Very few look at age of acquisition effects or effects due to language experience (one example - Galvin 1989 for classifier constructions)
  - Majority of deaf children (≥95%) as non-native signers (Mitchel & Karchmer 2004)
Acquisition of C-VPT & O-VPT gestures

- Character viewpoint (C-VPT) and observer viewpoint (O-VPT) gestures
  - Occur early in childhood (e.g. 2.5 years in hearing children)
  - Character perspective far more frequent than observer perspective (McNeill 1992)

Research questions

- How do deaf children with different degrees of experience with BSL depict location/motion of animate vs. inanimate referents?
  - Hand as referent? (expected)
  - Body as referent? (possible?)
- How do such productions compare with adult Deaf native BSL signers?
- How similar are productions across groups?

Participants

<table>
<thead>
<tr>
<th>Group</th>
<th>Age</th>
<th>Family background</th>
<th>BSL experience (School)</th>
<th>BSL experience (overall)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adults-BSL</td>
<td>5</td>
<td>&gt;18 deaf family</td>
<td>Various</td>
<td>Native signers</td>
</tr>
<tr>
<td>DD-BSL</td>
<td>5</td>
<td>6 deaf family</td>
<td>Bilingual school using BSL</td>
<td>Native signers</td>
</tr>
<tr>
<td>DH-BSL</td>
<td>5</td>
<td>6 hearing family</td>
<td>Bilingual school using BSL</td>
<td>Early learners</td>
</tr>
<tr>
<td>DH-oral</td>
<td>5</td>
<td>6 hearing family</td>
<td>School using total communication or oral method</td>
<td>Minimal BSL</td>
</tr>
</tbody>
</table>

Video stimulus materials

- Inanimate entities moving (car, bike, tree, plane)
- Animate entities moving (people)

Coding

- CL: Hand as referent (+/- body)
  - Hand(s) represent the location/motion of a whole entity within observer perspective
  - Essential properties of whole entity classifier constructions in signed languages, also O-VPT gestures in non-signers
  - May occur with or without 'body as referent' (constructed action) simultaneously/sequentially
- CA: Body as referent
  - Use of one or more manual/non-manual articulators to enact the actual (or perceived) actions, utterances, thoughts or feelings of a referent within character perspective
  - Essential properties of constructed action in signed languages, also C-VPT gestures in non-signers

Coding in ELAN
Results: CL/CA by animacy

- BSL adults & children: Majority usage of "hand as referent" constructions for motion and location of vehicles and people
  - Cf. Entity handshapes acquired earliest in deaf native signing children may be vehicles and people (Kantor 1980, Supalla 1986, de Beuzeville 2006)
- Oral children: Only ~50% use of "hand as referent" constructions for depicting people could be due to competing option of using constructed action ("body as referent") instead
  - Cf. Character viewpoint & observer viewpoint gestures reported as early as age 2.5 in hearing non-signing children, though character viewpoint much more frequent (Robert 1995)

Discussion: CL/CA by animacy

- BSL adults & children
  - Use of handshape coding system from Eccarius & Brentari (2008)
    - Grouped handshapes into categories based on selected fingers, joint usage (and in some cases, orientation)
    - If more than one CL was produced, the one of longest duration was chosen for analysis

Coding for entity handshapes

- Where CLs were used, how similar were productions across groups?
  - Use of handshape coding system from Eccarius & Brentari (2008)
    - Grouped handshapes into categories based on selected fingers, joint usage (and in some cases, orientation)
    - If more than one CL was produced, the one of longest duration was chosen for analysis

Entity handshape-orientation types identified

Entity handshapes for inanimates

- DH-oral children produced no entity constructions for bicycle – otherwise handshape use is fairly consistent across groups

Entity handshapes for animates

- a, b, c: all groups different from each other
- d: DH-oral group looks unlike others

Results: CL/CA by animacy

Animates (e.g. cars, bikes, planes)

- DH-oral (N=18)
- DH-BSL (N=19)
- DD-BSL (N=20)
- Adults-BSL (N=24)

Inanimates (e.g. cars, bikes, planes)

- DH-oral (N=18)
- DH-BSL (N=19)
- DD-BSL (N=20)
- Adults-BSL (N=24)
Example

- Some participants (including native signers) struggled with handshapes for animates

Discussion & conclusion

- Less variation in handshape across groups for inanimate entities
  - Oral children using BSL?
  - Handshapes depicting non-animate entities as non-linguistic?
  - More likely: Similarity across groups reflects common gestural origins of entity constructions and observer viewpoint gestures (both types: “hand as referent”)

- More variation in handshape across groups for people
  - Where all groups differ: could be differences in choice of salient features of referent/event expressed (legs vs uprightness)
  - Where DH-oral differ from others: this may reflect conventionalised entity handshape system of BSL

- Analysis of more data is needed

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- More info about PALM project: http://www.dcal.ucl.ac.uk/Research/assoc1.html
- Thank you!!

Next steps

- In progress
  - More comparison of form and meaning of entity constructions and constructed action across groups
  - Elicited typical vs. atypical entity constructions (e.g. running cars, walking trees)

- Elicited narrative data

- Reference tracking in the narratives with entity constructions and constructed action and discourse cohesion overall

- Comparison with children when they are older
  - Longitudinal data: from same children at ages 8-9 and again at 10-11

- For future
  - Entity constructions and constructed action and reference tracking in:
    - non-signers (adults and children)
    - L2 learners of sign language