Hands-on Session

HamNoSys

PART III

14th of June 2010
in Stockholm

Institute of German Sign Language and
Communication of the Deaf
University of Hamburg
Movements

repeated movement?

simultaneous movement?

sequential actions?
Brackets in HamNoSys

\( () = \text{sequential} \)

\([ ] = \text{simultaneous} \)

\( \langle \rangle = \text{fusion} \)
Movements Brackets

Combining Actions

- Sequential Actions
  - Action1 Action2 Action3 Action4
    \[ \uparrow \rightarrow \downarrow \leftarrow \]

- Sequential Actions with Additional Action
  - (Action1-4) with repetition
    \[ (\uparrow \rightarrow \downarrow \leftarrow) + \]

- Simultaneous Actions
  - \[ [ \text{Action1 Action2} ] \]
    \[ [\uparrow \bigcirc \uparrow] \]

- Fusion (fused sequential)
  - \[ \langle \text{Action1 Action2 Action3} \rangle \]
    \[ \langle \leftarrow \cup \rightarrow \exists \rightarrow \cup \rangle \]
Movements  Brackets

Sequential Actions
- Action1
- Action2
- Action3
- Action4

Round brackets ( )
- group complex actions
- simple actions not affected by round brackets
- grouping of actions necessary e.g. for repetitions

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Simultaneous Actions

• [Action1 Action2]

Square brackets indicate simultaneity. All actions within square brackets are performed simultaneously.

Movements Brackets

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Fused Actions

- \(< \text{Action1} \ \text{Action2} >\)
- \(\langle \leftrightarrow \rightarrow \rightarrow \rightarrow \rangle\)

- pointed brackets \(\langle \ \rangle\) indicate fusion of movements
- e.g. for \(\alpha\)-movement; fluent production of combined movement
Movements

Repetition symbols always refer to the item directly before

- + repeated once
- ++ repeated twice
- +++ repeated a couple of times
- + repeated once, 2nd iteration starting where first ended
- +++ repeated a couple of times, each iteration starting where previous ended
- ↓ repeated in reversed direction
- ~ hands swap roles in 2nd iteration
Two-handed signs

symmetrical

non-symmetrical

alternating

change of dominance
Overview of symbols for two-handed signs

symmetry symbols

contact symbols

alternating movement / change of dominance

[ dominant hand ≠ non-dominant hand ]

no movement

non-dominant hand
Symmetry  General

- two hands in motion: symmetry applies
- dominant (right) hand to be described
- symmetry operator determines copy to non-dominant hand

exceptions can be described if necessary

symmetry operators inventory (8 symbols):
Symmetry  General

• palm orientations always laterally equal

• up and down do not change

• extended finger directions:
  left and right swapped by " (mirror),
  with " (parallel) they remain the same
## Symmetry Movements

<table>
<thead>
<tr>
<th>symbol swaps the marked directions:</th>
<th>left/right</th>
<th>up/down</th>
<th>away from / towards body</th>
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Symmetry  Exceptions

can be described by means of
[ dominant ≠ non-dominant ]:

\[ \begin{array}{c}
\text{\textbullet} \\
\end{array} \]
Symmetry Exceptions

only one hand moves:

- with symmetry symbol, but movement description like \[ \ldots \Rightarrow \]

- no symmetry symbol, but \[ \ldots \times \ldots \] for handshape/direction (and optionally location), e.g.
Symmetry Exceptions

permutation of roles of dom/non-dom

- with tilde symbol: \[
\begin{bmatrix}
\begin{array}{c}
\circ \rightarrow 0 \\
\circ \rightarrow 0 \\
\end{array}
\end{bmatrix}
\sim \chi \downarrow \sim
\]

- with symmetry symbol: \[
\begin{bmatrix}
\begin{array}{c}
\downarrow \leftarrow \\
\end{array}
\end{bmatrix}
\]

- without: \([\Bigtriangleup]\) instead of symmetry symbol

\[
\begin{bmatrix}
\begin{array}{c}
\circ \rightarrow 0 \\
\circ \rightarrow 0 \\
\end{array}
\end{bmatrix}
\begin{bmatrix}
\begin{array}{c}
\downarrow \\
\end{array}
\end{bmatrix}
\downarrow \sim \chi
\]

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Symmetry  Examples

\[ \square < 0 \implies \triangle \]
\[ \square < 0 \implies \triangle \quad \diamond \]
\[ \exists \triangle 0 \times \square \Rightarrow \quad \sim \]
Two-handed signs

• purely symmetrical signs: like one-handed, but prefixed by symmetry symbol, e.g.

• non-symmetrical signs:
  right hand \( \xrightarrow{\text{LOC}} \) left hand
  right hand \( \xrightarrow{\text{MOV}} \) left hand

  • different possibilities

• alternating movement: tilde symbol after symmetry symbol, e.g.

• change of dominance: tilde symbol at the end of the string, e.g.
Contacts in Hand Configurations

- in addition to \( \text{\ding{155}} \text{\ding{156}} \) the following symbols are available:
  - \( \text{\ding{192}} \) Interlocking, e.g. \( \text{\ding{195}} \text{\ding{193}} \text{\ding{152}} \text{\ding{154}} \text{\ding{156}} \text{\ding{157}} \)
  - \( \text{\ding{239}} \) Crossing, e.g. \( \text{\ding{197}} \text{\ding{157}} \text{\ding{156}} \text{\ding{152}} \text{\ding{151}} \text{\ding{150}} \text{\ding{155}} \)
- relation of hands: contact \( \text{\ding{153}} / \text{nearby} \text{\ding{156}} \)
- symbols written directly after hand configuration, e.g. \( \text{\ding{198}} \text{\ding{152}} \text{\ding{151}} \text{\ding{150}} \text{\ding{155}} \)
Two-handed Locations

● Same notation as in the one-handed case
  ●  hands side by side (with a certain distance)
  ●  non-dom hand on the opposite side of the body

● Hands tied together
  ●  hands side by side contacting each other, without contact to the body
  ●  same as before, but with contact to the body

● Separate notations
  ●  non-dom with reference to body, dom positioned relative to non-dom

● Contact specified in more detail
  ●  This form also allows one hand on top of the other
Brushing & Bouncing Movement

• Brushing Movement: Contact in the middle of a path

KAUFEN (BUY)

• Bouncing Movement

movement to the palm and small backwards movement (bounce)

movement in signing space with sudden stop and small backwards movement (bounce)
HamNoSys Production Exercises

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HamNoSys Reception Exercises

R1
\[
\begin{array}{c}
\downarrow \Delta 0 \ [\uparrow \Rightarrow \downarrow] \\
\hline
\end{array}
\]

R2
\[
\begin{array}{c}
\downarrow \Delta 0 \ \uparrow C + \\
\hline
\end{array}
\]

R3
\[
\begin{array}{c}
\downarrow \Delta 0 \ (\uparrow C + ) \\
\hline
\end{array}
\]

R4
\[
\begin{array}{c}
\downarrow \Delta 0 \ (\uparrow C) + \\
\hline
\end{array}
\]

R5
\[
\begin{array}{c}
\downarrow \Delta 0 \ X \rightarrow \rightarrow \Theta \\
\hline
\end{array}
\]

R6
\[
\begin{array}{c}
\downarrow \Delta 0 \ X \ [\rightarrow \rightarrow \Theta] \\
\hline
\end{array}
\]
Thank you for your attention!

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