The influence of same-age peers on language emergence

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Contributions from Kurt Gagne and Hayseli Midence
Typical language acquisition:

VERTICAL
Typical language acquisition:

VERTICAL

and

HORIZONTAL
NICARAGUAN SIGN LANGUAGE

Cohort 1
1970s
Vertical only

Cohort 2
1980s
Vertical and Horizontal

THE EMERGENCE OF SPATIAL GRAMMAR IN NSL

stimulus event: a woman giving a cup to a man

Cohort 1
- Rotated
- Unrotated

Cohort 2

acquisition

Senghas, Coppola, Newport, & Supalla (1997)
Source of grammaticalization?

If acquisition, is vertical experience enough?

Why Rotated?

Physical and visual affordances?

Cohort 1 provided statistical “seed?”

Something else?

What if Cohort 2 did not have each other?
DISENTANGLING VERTICAL AND HORIZONTAL EXPOSURE

Cohort 1

Cohort 2

Hearing Children of Cohort 1 (Codas)

Vertical and Horizontal

Vertical only
PARTICIPANTS

Cohort 1
\[ n = 8 \]

Cohort 2
\[ n = 8 \]

Hearing Children of Cohort 1 (Codas)
\[ n = 8 \]

7 families

Vertical only

Vertical and Horizontal

Vertical only
Source of grammaticalization?

Are Codas’ spatial productions more *internally consistent* than their Cohort 1 parents’?

Why Rotated?

What layout(s) do the Codas use, and where does it come from?
STIMULI CONTEXT
CODAS’ CONSISTENCY FALLS BETWEEN COHORT 1 AND COHORT 2

Cohort 2 > Cohort 1
Mann-Whitney U = 57.5, p = 0.009
CODA LAYOUTS UNRELATED TO PARENT(S)’; MOST CODAS PREFER UNROTATED

Mann-Whitney $U = 67$, $p = .021$, Parent Median = 6.6, Child Median= 12.4
HOW DID THIS PATTERN EMERGE ACROSS THE CODAS?
SPATIAL ENCODING TASK

Stimulus:
Player kicks the ball to the **LEFT** side of the goal

Task:
Identify whether a picture presented immediately after viewing stimulus video matches the spatial layout of the video
Player kicks ball to his right

Coda signs to his left but says “to the right”

Sign: Unrotated;   Speech: Rotated

Spanish: “A la derecha”
English: To the right
Codas might be accommodating their parents with unrotated layout.

Codas experience successful communication in Spanish.

Cohort 1 do not encode spatial aspects of events.
20 years after Senghas et al. 1997 (!!):
Cohort 1 still does not use space grammatically
Cohort 2 signers still consistently rotate

Unlike Cohort 2, **Codas use unrotated layouts** more than Cohort 1 (their parents)

**Codas’ use of space corresponds to their parents’ spatial encoding ability**, not their parents’ use of space
THEORETICAL IMPLICATIONS

Vertical transmission -> Reorganization

Horizontal transmission -> Consistency

Input includes social/communicative context in addition to observed productions (Hoff, 2006)

In natural acquisition, children constantly reorganize; interlocutors shape the process of that reorganization
REAL-WORLD IMPLICATIONS: PEER CONTACT MATTERS
Señas y Sonrisas
A free smartphone app that helps parents learn basic NSL signs to communicate with their deaf children

To learn more, send an email with SYS in the subject line to:
info@manos-unidas.org

AVAILABLE SOON for Android and iPhone!!
THANK YOU

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