

Semiotic analysis of child's early gestures: A highlight of the role of the object

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Background

Preverbal communication between a caregiver and a child predominantly includes an **object**:

- The integration of an object in interactive dynamics marks a qualitative turn in psychological development (e.g. secondary intersubjectivity, joint attention)



- Gestural communication arises in a reference to an object (e.g. deictic or representational gestures)

- However, little effort has been made to gain a better understanding of the relationship between:

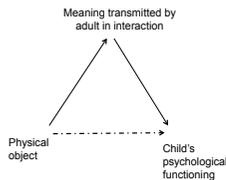
Acquisition of communicative skills

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Construction of meaning about objects

This question is addressed in my study through the cultural-historical approach of mental functioning (Vygotsky, 1978):

- The development of mental processes is considered as the appropriation of cultural signs during communicative processes
- The mind is believed to be mediated by cultural tools (signs)



When this approach is applied to preverbal communication, the mother is considered to transmit cultural signs, including ones concerning the objects in the interaction with her child.

Aims of the study

- ✓ Analyze the gestures between an adult, a child and an object: develop a coding scheme that includes both *communication about* the object (gestures, demonstrations, etc.) and *understanding of* the object by the child (non conventional vs. conventional use)

- ✓ Focus on the *hold-up* gesture (also called *showing* or *ostension*)

Hypothesis: the development of early communicative gestures and the development of meaning (conventional use) of the object are inter-dependent

Method

Participants

I followed longitudinally 12 typically-developing children from the Lausanne area. 6 children were followed from 8 to 16 months and 6 children from 16 to 24 months

Procedure

The children were video-taped for 30 minutes in their homes every two months, while interacting with their mothers. The observer provided the following four toys, given separately for about 7 minutes each



Coding

Observations are coded in 3 steps (steps 1 & 2 coded in ELAN):

1. Selection of episodes of joint engagement (adapted from Bakeman & Adamson, 1984)
2. Coding interactions for:
 - protagonists' gestures (adapted from Özçalışkan & Goldin-Meadow, 2005)
 - type of use of the object (adapted from Moro & Rodriguez, 2005)
3. In-depth semiotic analysis of the *hold-up* gesture (context of occurrence, function, relationship to other communicative acts, etc.)

References

- Bakeman, R. & Adamson, L. B. (1984). Coordinating Attention to People and Objects in Mother-Infant and Peer-Infant Interaction. *Child Development*, 55, 1278-1289.
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- Özçalışkan, S., & Goldin-Meadow, S. (2005). Gesture is at the cutting edge of early language development. *Cognition*, 96(3), B101-B113.
- Vygotsky, L.S. (1978). *Mind in Society*. Cambridge, MA : Harvard University Press.

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Example of a semiotic analysis

Understanding of the 'hold-out' gesture

In the following example, a mother and her 8-month-old son are jointly engaged with the shape sorter toy. The child doesn't master the conventional use of the toy: he essentially throws the shapes or puts them in his mouth.

The mother demonstrates how a shape should be inserted in the sorter



After every demonstration the mother holds-out the same shape to the child

This *demonstration – hold-out* pattern is repeated several times during the first 3.5 minutes of the 7-minute interaction. Despite the child's attention, he does not "understand" the mother's gesture and doesn't take the shape

But as the mother persists with the same interactive pattern, the child starts to take the shapes and tries to do the conventional use



Discussion

This interaction is an example of how a cultural convention (object's conventional use) transmitted by an adult (demonstrations of the use) help the child to:

- understand and develop a communicative skill – the *hold-out* gesture ("if an object is handed to me then take it") and,
- construct the meaning about the object ("if shape then put in the hole")

Semantic analysis is believed to reveal how similar communicative and cognitive processes are being understood and constructed in early development