

Nouns and Verbs in Language Acquisition

Heike M.E. Tappe (TAPPE@INFORMATIK.UNI-HAMBURG.DE)

Graduate Program in Cognitive Science & Center for Knowledge and Language Processing
University of Hamburg, Vogt-Kölln-Str. 30, 22527 Hamburg, Germany

Introduction

This paper presents various data which reflect differences in first language acquisition of *nouns* and *verbs*.

A first study (Tappe, 1996) reveals that an acallosal girl faced enormous difficulties with the acquisition of nouns due to difficulties in concept formation. Verbs, quite to the contrary, were acquired without much effort. Their acquisition seems to have been facilitated by the girl's intact syntactic knowledge.

Convergent evidence for this hypothesis is provided by bilingual children. These children generally rather learn new words than equivalents, yet, they seem to learn more verb equivalents than noun equivalents. The children thus experience a greater amount of *newness* in verb equivalents than in noun equivalents. Even though verb pairs may be semantically near to synonymous, the syntactic information encoded in the respective verbs may differ across languages.

Data Collection and Subjects

The data presented in this paper stem from three longitudinal studies based on videotaped play sessions. Each one employed the same methods in data collection and analysis. Thus, comparable expressive vocabularies for the five children under consideration were documented.

Each of the bilingual children acquires two first languages (French and German) simultaneously. Two male and two female children were studied, from age 1;0 to 2;0 in three cases and from 1;0 to 3;0 in the last one.

The monolingual German child, L., is a case of complete corpus callosum agenesis. In her overall development the child falls about one year behind her neuroanatomically unchallenged peers. Yet, her abilities develop at an average pace and she is not mentally handicapped. Her language development was documented right from the onset at 2;0 until the age of 5;0.

Results

During the first 12 months of language acquisition nouns constitute about 20% of all words in the expressive vocabulary of the acallosal child. Noun acquisition seems to be affected by deficits in the fine tuning of the verbal association. The deficits themselves are based on lacking inhibition on lateralized processes in object perception, which are proposed by Brown and Kosslyn (1995). Verb

acquisition, on the other hand, is unspared. Supposedly, this effect is supported by syntactic processing which is unaffected by the neuroanatomical condition of the child.

Further evidence for the view that verb acquisition encompasses syntactic aspects (Lederer, Gleitman & Gleitman, 1995) can be found in the data of the bilingual children. In the younger children the effect under consideration is but a trend, yet in older children who are beyond the pre-syntactic stage in their linguistic development, verb equivalents (42%) largely outnumber noun equivalents (18%).

Conclusion

The data drawn from several longitudinal studies on language acquisition provide evidence for the hypothesis that children are sensitive to syntactic information in verb acquisition. On this basis, an acallosal child with difficulties in the integration of perceptual information is able to effortlessly acquire verbs while nouns are learned with great difficulty. Bilingual children, too, differentiate between the two word classes: they learn more verbs equivalents as soon as syntactic processing becomes available.

References

- Brown, H.D. & Kosslyn, St.M. (1995). Hemispheric differences in visual object processing: Structural versus allocation theories. In R.J. Davidson & K. Hughdahl (Eds.). *Brain asymmetry*. Cambridge, MA: MIT Press.
- Lederer, A., Gleitman, H. & Gleitman, L. (1995). Verbs of a feather flock together: Semantic information in the structure of maternal speech. In M. Tomasello & W.E. Meriman (Eds.). *Beyond names for things: Young children's acquisition of verbs*. Hillsdale, NJ: Erlman.
- Tappe, H.M.E. (1996). *Eine explorative Einzelfallstudie zu den ersten drei Jahren des Spracherwerbs bei Corpus Callosum Agenesis*. [An explorative single case study on the first three years of language acquisition in callosal agenesis]. Hamburg, Germany: University of Hamburg, Unpublished doctoral dissertation.