Relational Frame Theory and Early Language Learning: Evidence from Outside the Experimental Analysis of Behaviour

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Abstract
This poster outlines research by Michael Tomasello and his colleagues (see Tomasello, 2000, for a review) concerning the nature of early language learning. It is argued that the data should not merely be seen as consistent with RFT, but as important evidence that verbal behaviour emerges in accordance with RFT principles.

Cognitive Approaches to Language Learning
Continuity theorists (e.g., Pinker, 1984; Chomsky, 1986) argue that children use innate, full-fledged grammatical categories during language acquisition. The acquisition process merely involves aligning this innate, linguistic machinery to the appropriate properties of the child’s language.

Continuity prediction:
Early language looks very much like adult language.

There exist many theories that involve discontinuity between child language acquisition and adult language (e.g., Tomasello, 2000; Seidenberg & MacDonald, 1999). Central to this approach is the importance of the primary linguistic data to the child’s language experience. In general, each theory purports that language acquisition proceeds according to some general function of the child’s language experience.

Discontinuity prediction:
Early language looks very different from adult language.

These extreme views lie at opposite ends of a continuum of theories, with many a mixture of continuous and discontinuous features (e.g., Newport, 2002; Fisher, 2002). The focus of their debate, the role of experience, is taken for granted in both views.

Relational Frame Theory
Behaviour analysis (BA) has been experiencing a revived interest in the nature of verbal behaviour. The debate in BA has centred around the phenomenon of naming, an unfortunate fact given good arguments against its status as central to verbal behaviour (e.g., Wittgenstein, 1958; Quine, 1960). RFT (Hayes et al., 2001) and alternative accounts of naming (e.g., Horne & Lowe, 1996) have gone to lengths to explain basic equivalence performance, such as naming.

Verbal behaviour, however, involves other levels of organization just as amenable to theoretical discussion in BA as elementary naming behaviour. One such level is syntax, a perennial problem (Lashley, 1951) around which much of modern cognitive science has revolved.

A possible strategy is to show emerging verbal behaviour in accordance with RFT. In what follows, I argue that data from discontinuity theorists (Tomasello, 2000) reveal that syntactic properties of early language are predicted by RFT principles.

RFT prediction:
Words and their syntactic (autochotic) frames are initially tied to exemplars, and gradually decontextualized into complex relational frame networks akin to adult syntax.

Challenging Chomskians
Tomasello (2000) reviews data showing that learning revolves around concrete exemplars, not abstract grammatical categories. Most studies involve simply introducing a new word to children in some grammatical context, and observing what children do with that word in the same or different grammatical contexts (in production or comprehension). This general technique yields interesting results:

Young children (1;6 to 3;0) do not use novel verbs in new ways; this skill emerges later (3;0 and later).

Novel transitive constructions are highly constrained to the model exemplar in young children (2;0 to 3;0).

Younger children (2;0) form sentences based on an exemplar model, despite its being unusual; older children (4;0) correct with the usual word order (figure 1).

References

1. Discontinuity is still consistent with the continuity prediction, should it bear out. However, only discontinuity could account for its prediction, because much of a difference between early and adult language could be discovered with future research.

2. Consider Chomsky, 1959, and both its real and imagined effects on the study of behaviour.

3. Lipton et al. (1993) contributed to this debate by studying a preverbal child, and demonstrating behaviour in accordance with RFT principles.

4. RFT might predict words and their sequential relations becoming increasingly complex as relational responding emerges through multiple-exemplar training.

In early language (1;3 to 2;0) 50% of verbs were constrained to one construction type; verbs with similar “semantics” exhibited disparate usage; even verbal inflection (-ing, -ed, etc.) appeared as constrained to particular verbs.

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