Abstract for IASCL-2024 Prague

Computing the sentence: A new method for describing syntactic competence

This talk proposes a new method for studying syntactic development. It offers a treatment of syntactic processing and its development from an unusual point of view, that of Relevance Theory. Developed by Dan Sperber and Deirdre Wilson as a pragmatics framework for understanding the interpretation of utterances, this theory has evolved into a general framework for describing the computational processes involved in the production and interpretation of sentences. Relevance theory proposes that utterances encode two basic types of information: on the one hand, conceptual or representational information about some topic, and, on the other hand, computational or procedural information about how to operate on these representational structures in order to arrive at the communicated meaning of the utterance. Instructions for syntactic or combinatorial computation are included in this theory under procedural meaning provided by the utterance.

In the present study, this approach has served as the foundation for a description of English-speaking children’s gradual mastery of syntax.

In order to describe in a formal manner the syntactic instructions for producing a given type of English phrase or clause, we have employed another novel research strategy. Following a well-trodden path of Cognitive Science, sentences are likened to computer programs, and the task of interpreting a word-combination is likened to the computations process that derives, for example, some algebraic outcome from adding together various input numbers. Unusually in linguistic theory, syntactic combinatory instructions are modelled by actual programming algorithms employed in real-life programming languages for equivalent processing tasks. The new method is presented for several syntactic patterns of Modern English.

In this approach, syntactic development is considered the gradual mastery of combinatory algorithms. It is demonstrated that similar to other instances of skill learning, syntactic development is characterized by overlapping waves of gradually perfected algorithms for achieving the target accomplishment.