

Chunking as the cognitive basis of a dynamic grammar: What evidence do we have?

Anna Mauranen and Svetlana Vetchinnikova (University of Helsinki)

In this paper, we build on *Linear Unit Grammar* developed by Sinclair and Mauranen (2006) and hypothesise that humans make sense of incoming linear speech flow by intuitively breaking it down into manageable chunks. The properties of such on-line chunking should be primarily determined by (1) the linearity of text; (2) constraints of human cognition and (3) mechanisms of meaning construction. To examine them, we conducted an experiment where participants were asked to listen to short audio clips of natural language interaction and follow them from the transcripts. Their task was to mark boundaries between chunks as they listened by putting a boundary where they felt a chunk ends. Each audio clip was followed by a comprehension question to correlate chunking behaviour with understanding. The chunking task was designed as a web-based application for tablets which records all the boundaries marked by the participants. These boundaries were then analysed both individually and in the aggregate to see (1) whether they correspond to predictions of Linear Unit Grammar; (2) which boundaries are perceptually more salient being most commonly marked; (3) which chunk types are perceived as least breakable in that participants never insert a boundary within them.