Setting Parameters: Triggering and Mis-Triggering

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Abstract

The principles-and-parameters theory of language proposed by Chomsky (1981) greatly simplifies the task of language learning. However, recent research in learnability theory has made it clear that for natural languages there can be no instant "automatic" triggering of parameters. This is because the trigger properties in natural languages are often deep properties, not recognizable without parsing the input sentence.

Current approaches such as Gibson and Wexler (1994) therefore use the sentence parsing routines to identify triggers. Unfortunately, the proposed mechanism for doing so is very inefficient. I show that this is because it does not respect the Parametric Principle: it evaluates millions of particular grammars, rather than establishing the values of 20 or 30 parameters.

By tracing out why this is so, I have found a remedy for it. There is a way of using the parser that does implement the Parametric Principle, and permits efficient learning with no exponential complexity increase. But it calls for a new model of how sentence parsing contributes to learning, and a new conception of parameters and of their triggers: they are one and the same thing, and consist of features or small treelets, made available by UG and adoptable into individual grammars.

This conclusion is in accord with most current theories of syntactic parameterization, including the Minimalist program, HPSG and TAG theory.

References

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