

Disambiguating Syntactic Triggers

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Contrary to the trend toward statistical modeling of language acquisition, we present data from an artificial language domain which suggest that a deterministic approach to modeling syntactic parameter setting by children may be feasible after all. Deterministic learning systems need unambiguous input information. This may seem to conflict with the observation that there is a great deal of parametric ambiguity between natural languages. However, since ambiguity and unambiguity can co-exist, there is no problem for deterministic learning as long as there are sufficient unambiguous triggers for all natural language parameters, which can be recognized by the learning device. It is not practical to establish this for the full domain of natural languages, some of whose properties remain to be understood. Our research strategy is to estimate the incidence of unambiguity in natural language by searching for unambiguous triggers in a constructed domain of languages whose structural properties are fully and precisely specified.

Initial inspection of overlaps among the languages in the domain revealed that almost a third of the syntactic parameters lack unambiguous triggers in at least some of the languages to which they are relevant. However, on closer examination we were able to identify unambiguous triggers for all (non-default) parameter values in all languages in the domain. In order to do so, we had to employ some unfamiliar types of triggers, including what we call /conditional triggers/. The common thread in the rescue of the initially problematic cases is to build into the learner a means of /disambiguating/ what would otherwise be an ambiguous trigger. While more work would be needed in order to establish the psychological plausibility of such an approach, the positive outcome so far could encourage reconsideration of deterministic parameter setting models in which learners seek out unambiguous information and rely on it exclusively.