The Computation of Language: Syntactic Acquisition Edition

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One way to think about language acquisition is as an information processing task, where the computation being performed is the extraction of information about language from language data. The process itself involves complex knowledge representations that build on themselves over the course of linguistic development, all while being embedded in a developing cognitive system (i.e., the child's mind). Given this, there is a natural link between theories of linguistic representation and theories of language acquisition.

Computational modeling is a very useful tool because it forces us to be more precise about (i) the nature of the acquisition task being solved, and (ii) the learning strategies used to potentially solve that task. When we identify successful learning strategies this way, this then allows us to refine our theories about both the knowledge representations the learning strategies rely on and the acquisition process that uses those representations. A key finding in much of my recent computational modeling work is that the prior knowledge needed for successful acquisition may take a different form than previously thought — for example, the contents of Universal Grammar may not need to be as specific.

I will discuss two case studies of this approach in syntactic acquisition: (i) syntactic islands, and (ii) English anaphoric *one*. For each one, I investigate what happens when we broaden the set of data considered relevant for acquisition and evaluate the output of the acquisition process by how useful it is for generating observable behavior. This leads to the validation of alternative proposals for the contents of Universal Grammar.