A New Vision of Language

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A metaphor that has dominated linguistics for the entire duration of its existence as a discipline views sentences as edifices consisting of Lego-like building blocks. It is assumed that each sentence is constructed (and, on the receiving end, parsed) *ab novo*, starting (ending) with atomic constituents, to logical semantic specifications, in a recursive process governed by a few precise algebraic rules. The assumptions underlying the Lego metaphor, as it is expressed in generative grammar theories, are: (1) perfect regularity of what Saussure called *langue*, (2) infinite potential recursivity of syntactic structures, (3) unlimited human capacity for linguistic creativity, (4) the impossibility of acquiring structural knowledge from examples, and (5) the impossibility of such knowledge being stored in a memory-intensive form (ensembles of exemplars).

Although these assumptions still reign in Lego-land (Lasnik, 2002; Hauser et al., 2002; Jackendoff, 2002), cognitive psychologists contend that the empirical evidence for the psychological reality of generative grammar is patchy at best, while the mathematical apparatus it postulates is overly complicated (*viz.* "Mathematics versus Psychology"; Tomasello, 1998, p.ix). The drive for psychological realism should not, however, preclude a theory of language from being mathematically rigorous. Indeed, the theoretical framework envisaged by Langacker (1987), which calls for a reexamination of the classical generative stance and sees grammar as a potentially large collection of units of varying complexity, or constructions (Croft, 2001), does allow for computationally sophisticated modeling of acquisition and processing (Solan et al., 2003). The new computational model gives up the logicism of generative grammar in favor of information-theoretic learning of distributed construction patterns. The structure and the meaning of a sentence (which can be thought of as the proverbial elephant groped by the blind men) are thus represented by the chorus of responses of construction detectors, which can be further processed by methods that are being worked out for another cognitive domain with similar computational needs: vision (Edelman and Intrator, 2003).

Recent empirical findings indicate that (1) *langue*, and not merely *parole*, is imperfect (Chipere, 2001), just as the other faculties of the mind are, (2) people can handle only very shallow true recursion or center embedding (MacDonald and Christiansen, 2002), and (3) language is more formulaic than creative (Wray, 2002). The newly emerging computational work shows also that (4) linguistic knowledge can be learned from scratch, and (5) reliance on constructions (parameterized phrases, or patterns of usage) rather than "rules" need not overload lexicon-like memory. This suggests that language is, after all, continuous with the rest of cognition, and that the new metaphor — representing structure by a fuzzy Chorus of Phrases — may in the long run help revert the grounds of the crumbling Lego castle of generative linguistics happily back to nature.

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