

# Cognitive modeling and levels of linguistic explanation: applications and implications

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This presentation examines the applications and implications for a fully-fledged account of meaning construction in linguistic description of some analytical tools developed within the domain of *Cognitive Model Theory* (Lakoff, 1987). Among the tools, we have *cognitive operations* like *enrichment*, *parametrization*, *development*, *highlighting*, and *chaining* and *cognitive constraints* such as *invariance*, *correlation*, and *mapping enforcement*. These operations and constraints work on principled combinations of situational and non-situational cognitive models (whether at the low or high levels of description). Then, these tools are applied to a model of meaning construction called the *Lexical Constructional Model* (LCM). The LCM is intended to be operational at all levels of linguistic description, including pragmatics and discourse. Thus, it has a level 1 or core module consisting of elements of syntactically relevant semantic interpretation, a pragmatic or level 2 module that accounts for low-level inferential aspects of linguistic communication, a level 3 module dealing with high-level inferences (i.e. illocutionary force), and finally a level 4 module that accounts for the discourse aspects of the LCM, especially cohesion and coherence phenomena. Each level is either subsumed into a higher-level constructional configuration or acts as a cue for the activation of a relevant conceptual structure that yields an implicit meaning derivation. At the heart of the LCM we find the notions of *lexical template* (LT) and *constructional template* (CT), which are the building blocks of the model. A lexical template is a low-level semantic representation of the syntactically relevant content of a predicate; a constructional template is a high-level or abstract semantic representation of syntactically relevant meaning elements abstracted away from multiple lower-level representations. The principled interaction between lexical and constructional templates supplies the central or *core* meaning layer for other more *peripheral* operations - involving implicated meaning- to take place. Thus, fully worked-out representations at each level either *cue* for the activation of representations at the next higher level or are constructionally *subsumed* into them. Both *conceptual cueing* and *constructional subsumption* are cognitive processes and as such are constrained by a number of principles that determine their scope of application. Some of these principles take the form of licensing or blocking factors that depend on lexical class ascription, lexical-constructional compatibility, and either predicate or argumental conditioning of lexical or constructional roles. Other principles are external, such as high-level metaphorical and metonymic operations.