

Force-dynamic image schemas and their analysis

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In *Verbs: Aspect and Causal Structure* (Croft 2012), I argue that aspectual construals are partly independent of both verbal semantics and tense-aspect construction, though constrained by both. For example, *see* has the potential to be construed as a transitory state (*I see Mount Tamalpais*) and a directed achievement (*I suddenly saw Mount Tamalpais*), and the English Present Progressive allows an event to be construed as a directed activity (*The balloon is expanding*) and an iterative (*She was tapping the table*). Aspectual image schemas are analyzed in terms of two dimensions: time and qualitative change. The qualitative change dimension is the first step in the analysis of the previously unanalyzed verbal root (Levin and Rappaport 2005).

I argue that the same is true of force-dynamic construals, the basis for argument structure: they are partly independent of both verbal semantics and argument structure constructions. These are the semantic structures described as “transfer”, “emission”, “application,” “directed motion” and so on (Goldberg 1995; Levin and Rappaport 2005; Iwata 2008; Croft 2012). These semantic structures are force-dynamic image schemas that are only partly constrained by verb meaning and argument structure construction. Verbs have a force-dynamic potential that allows them to be construed in more than one force-dynamic image schema. Argument structure constructions constrain but do not determine the force-dynamic structure of the event expressed by the verb occurring in the construction; this will be illustrated in English and other languages.

Force dynamics involves a third “dimension”, namely the force-dynamic interactions between participants, also known as the causal chain (Talmy 1976, 1988; DeLancey 1981; Croft 1991; Langacker 1991). In this talk I present a tentative semantic analysis of the force-dynamic image schemas for physical processes. Force-dynamic image schemas involve both the types of force-dynamic interactions between participants, and the qualitative changes that they undergo. The latter appear best analyzed in terms of the types of qualitative changes undergone by the “incremental theme” (Dowty 1991; Hay, Kennedy and Levin 1999; Croft 2012). The semantic analysis of aspectual and force-dynamic image schemas helps us begin to understand the semantic structure of the verbal root.

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