

A Compositional Constructional Analysis of 'Hitting' Verb Argument Realization Patterns and Their Meanings

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'Hitting' verbs (e.g. *hit*, *slap*, *kick*) evidence a wide range of argument realization patterns, including transitive (1) and 'conative' (2) (Fillmore 1970). This talk focuses on three particularly intriguing patterns that are closely similar in form, but show important differences with respect to the types of scenes they describe and the nature of the semantic roles they express. For instance, (3) describes a situation in which an actor (*She*) contacts the entity expressed by the direct object (*his hand*), causing it to move with respect to some spatial landmark (*her leg*). The actor is thus also a causer, and the contacted entity is also a moving thing. In (4), the situation once again involves motion, but it is the actor's body part (*her hand*) which moves. The contacted entity is expressed by the prepositional object. And (5) appears closely similar to (3), but the contacted entity (*him*) does not necessarily move, and the prepositional object serves to elaborate the particular location at which this entity is contacted (*the leg*).

- (1) She slapped him
- (2) She slapped at him
- (3) She slapped his hand off her leg
- (4) She slapped her hand on his leg
- (5) She slapped him on the leg

This talk presents an analysis of these examples that captures the semantic elements that motivate the use of these verbs in descriptions of these different types of situations, and identifies the particular syntactic and semantic cues that indicate which scenes and semantic roles are being expressed in each case. This analysis is formalized using Embodied Construction Grammar (Feldman, Dodge, and Bryant, 2010), a unification-based construction grammar in which embodied meaning plays a crucial role. Significantly, this formalization supports computationally-implemented analyses that capture both similarities and differences in the meanings of examples such as these.

One key element of this analysis involves the use of Argument Structure (A-S) constructions similar to those proposed by Goldberg (1995, 2006). These constructions each identify their meaning with some particular kind of 'basic scene', and specify the general argument realization patterns by which one or more of the scene participants are expressed. Sentences such as (1-5) are analyzed as instantiating the same verb construction, but different A-S constructions; in each case, the meaning of the verb is integrated into that of a given type of scene.

The relevant meanings of these verbs and A-S constructions are analyzed and represented as a lattice of interconnected schemas, in which more complex schemas for concepts such as 'caused motion' are defined as composites of more directly embodied schemas involving action, motion, and causation. By utilizing schemas from the same lattice, it is possible to capture both the semantic commonalities that motivate the different patterns of verb and A-S construction composition, as well the resulting complex meanings that result from this composition. Additionally, specifications regarding the ontological type of the role filler (e.g. person, body part) and the presence or absence of schematic relations such as contact and possession serve as constraints on the unification process, enabling differentiation of these different sentence patterns.

References

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