

THEMATIC ROLES

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Verbs describe a situation involving one or more entities, or arguments. Running, for example, necessarily involves one argument (*Mary ran*), kicking involves two (*Mary kicked the chair*) and giving three (*Mary gave Sue a book*). A *thematic role* is a general characterization of an argument's role in the situation described by the verb. For example, an Agent is an argument which initiates and executes the action of the verb. A Theme is an argument which moves or changes state during the verbal action. A Patient is an argument undergoing the verbal action, a Goal is the destination of another verbal argument and an Experiencer is an argument whose mental state is affected or described by the verb. Less familiar thematic roles include Measure (the object in such sentences as *Mary weighs 150 lbs*), Source (*the box* in *Mary removed the gift from the box*), and

Incremental Theme (the created or consumed object in *Mary ate the apple* or *Sue wrote a letter*).

Thematic roles are implicated in many kinds of phenomena besides *LEXICAL SEMANTICS*. They are important in derivational *MORPHOLOGY*: for example, in English the verbal suffix *-er* forms Agent or Instrument nouns, like *writer* or *snipper*. They also play a role in acquisition: children tend to master syntactic frames in which Agents are subjects and Patients are objects early. And they are clearly relevant to *SYNTAX*: grammatical relations like Subject, Object, and Indirect Object correlate strongly with particular thematic roles—Agent, Theme and Goal, respectively. In many Austronesian languages, such as Tagalog, verbs are inflected differently depending on which theta role is assigned to a certain syntactic position (see, e.g., Kroeger 1992).

Many theories, consequently, have treated thematic roles as primitives. Within *GOVERNMENT AND BINDING* theory (Chomsky 1981), for example, " θ -roles" were central to many analyses. Every verb was associated in the lexicon with a θ -grid, a characterization of its semantic and selectional properties: e.g. *run* [Agent] or *love* [Experiencer, Patient]. Verbs with similar θ -grids thus belonged to similar semantic classes and underwent similar (morpho)lexical operations. The θ -grid also affected the well-formedness of a sentence, via the *θ -Criterion*: Every θ -role must be assigned to one and only one argument, and every argument must be assigned one and only one theta role. The theory thus predicted that clauses with too many arguments, or too few, are ungrammatical.

Arguably the most important application of thematic roles, however, is the characterization of the robust connection between syntax and semantics, a.k.a. the *linking*

problem (Carter 1976). Indeed, this was the original motivation for the postulation of thematic roles, in the work of Gruber (1965) and Fillmore (1967); in the latter work the assignment of thematic roles was intimately connected with the assignment of morphosyntactic case.

One influential idea is that there is a universal mapping from thematic roles to grammatical functions or syntactic positions, expressed as the *Universal Alignment Hypothesis* by Perlmutter and Postal 1984 and as the *Uniformity of Theta Assignment Hypothesis* by Baker 1986. If *INNATE*, such a universal mapping, besides accounting for the linking problem and acquisition facts, could also account for the mixed behavior of the single argument of intransitive verbs such as *collapse*, *appear* or intransitive *explode*. The single subject arguments of these verbs, which assign only a single Theme theta-role, behave in some ways like objects—presumably because the Theme role is typically assigned to objects, not subjects.

Given such a rigid view of the syntax-lexical semantics mapping, the precise description and diagnosis of thematic roles came to be of paramount importance. However, despite intensive study, a definitive list is elusive. Theorists disagree on the definition of roles and their relationship to syntactic structure. Particularly difficult cases for the rigid mapping hypothesis are posed by alternating verbs (Levin 1993)—verbs whose arguments can appear in more than one position, despite apparently bearing the same role, e.g. ditransitive verbs like *give* (*Mary gave the book to Sue/gave Sue the book*), and spray/load verbs (*Mary sprayed the wall with paint/paint on the wall*). Similar problems are posed by pairs like *buy/sell*, *chase/flee* and *like/please*, where apparently identical roles appear in different positions with each verb.

There have been two types of response to these issues. On one approach, the notion of thematic role is recast as more probabilistic. Each argument is characterized as more or less like one of two "macro-roles", Proto-Agent and Proto-Patient (Dowty 1991), or *ROLE AND REFERENCE GRAMMAR*'s Actor and Undergoer (Van Valin 1993). Strongly identified arguments will map to the canonical position associated with each role, while arguments exhibiting characteristics of both roles map more flexibly. For example, *The tank filled with water* and *The water filled the tank* are both possible with *fill*, because one of the arguments is moving (*the water*) and the other is changing state (*the tank*).

The other approach has eliminated thematic roles as primitives, and introduced a more fine-grained representation of verb meaning. The decomposition of verbs into predicates such as CAUSE, BECOME, GO, HAVE and MANNER, and the recognition of the importance of event semantics and notions like Initiation, Process, and (End)State, has played an important role in accounting for argument structure alternations, for example in the work of Jackendoff (1990), Pustejovsky (1995), and Borer (2004), among many others. Although thematic relations are not primitives in recent approaches, they retain their usefulness as descriptors.

—Heidi Harley

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