

4. A Proposed Strategy for Research on the Semantics of Thematic Roles.

One conclusion I would like to draw from the above difficulties is that linguists may be casting their nets too wide in selecting linguistic data to identify or justify thematic roles. These role types have often been motivated and identified by correlating with various syntactic environments which admit one kind of role but not another (cf. e.g. Cruse's tests for his four kinds of Agents). But is just any correlation of a semantic distinction with a syntactic or lexical pattern evidence for a role-type?

Here is a case in point. In Dowty (1979) I pointed out that the only English stative verbs that can occur in progressive tense are *sit*, *stand*, *lie* and other verbs entailing a particular spatial orientation of an object has within its location: cf. *The book is lying on the floor*, *The umbrella is standing in the corner*, vs. **The book is being on the floor* or **There is existing iron oxide on Mars*. (I argued that this class was further semantically distinct in being the only statives that could be true or false for intervals rather than also moments in time, and the class may turn out to be those of Carlson's (1977) *stage-level* predicates which are also stative.) Watters (1985:14-17) observes that in Tepehua and other Totonacan languages a class of verbs distinguished by several morphological and syntactic properties (e.g. occurring in only certain tenses in Tepehua) are likewise those belonging to this semantic class (a superset of the English ones but plainly the same natural class, as it includes also verbs meaning "is fallen over", "is hung up on something", etc.).

Consider furthermore the closely related if not identical phenomenon that several English constructions, including the above progressive *sit-stand-lie* case, presuppose that a property being predicated of an object is temporary rather than permanent (Dowty 1975, Bolinger 1967), or in Bolinger's terms, an *accidental* rather than *essential* property. Out of the seven or more cases he mentions, three are illustrated below. The second sentence in each pair sounds odd simply because the property predicated is not a temporary one, given usual assumptions about the facts of the world:

(12) a. Clause-final adjective adjuncts:

She caught a glimpse of the dancer nude.
#She caught a glimpse of the statue nude.

b. Complements of *with* and *without*:

They took the vote with the chairman absent.
#They took the vote with the chairman arrogant.

d. *Sit-stand-lie* progressives:

The rowboat is lying on the riverbank.
#New Orleans is lying at the mouth of the Mississippi River.

(*cf.* New Orleans lies at the mouth of the Mississippi River.)

For additional discussion see Bolinger (1967, 1971, 1973), Dowty (1975, 1979:173-180). The phenomenon corresponds to the familiar *estar* vs. *ser* contrast in Spanish and perhaps to contrasts in other languages as well. Does having this many syntactic manifestations of the contrast entitle us to christen this a new thematic role *Temporary/Spatially-Oriented*?

I expect many readers will agree with me that these are somehow not the kind of contrasts we want to take as identifying a "thematic role", but if they are not, then exactly why not? The variety of semantic distinctions that correlate with syntactic and lexical patterns in one way or another is surely enormous. To postulate thematic role types for each of them is, quite possibly, to dilute the notion beyond its usefulness, but what we lack is a principled way to decide what kind of data motivates a thematic role type and what does not.

Conceivably, the difficulty we have had in reaching agreement on just what a theory of thematic roles should look like is analogous to that of the blind men examining the elephant, each having hold of a different part of its body. Though we may correctly intuit that our disparate observations are related to a common phenomenon in the grand scheme of things, it is not surprising that we are frustrated when we cannot immediately fit our present observations directly together so as to construct from them a theory of the single thing which is the leg-ear-tail-trunk of the elephant.

What is the remedy? What I propose is to try to separate our various observations about putative thematic roles along natural boundaries, to the extent we can justify non-arbitrary divisions among them. Then, as a first step, we construct the

best-motivated theoretical account for the observations of each domain separately, ignoring prior conceptions of "thematic roles" based partly from data of other domains. Examples of such domains would include: (i) the argument-selection problem (see below); (ii) the rather preposition-dependent and lexical-structural observations of the Jackendoff-Gruber approach; (iii) the argument-indexing perspective, (iv) the phenomenon of lexical meaning extension across cognitive categories as in Jackendoff 1983 (e.g. from the literal locative Goal in *throw into the room* to abstract Goal in *rewrite into a journal article*); (v) roles as reflected in language acquisition (e.g. Clark and Carpenter (1989) on generalized "Source" cf. §12); (vi) reflexes of roles in language typology (e.g. Croft 1986b, cf. §12); and (vii) experiments on adult sentence processing. If two domains really do turn out to lead to the very same theory (and inventory) of roles, so much the better, as this would suggest that the observations of each domain independently reflect the same underlying phenomenon. But if two domains of observations lend themselves to quite different optimum theories, then we should not fret but conclude that at least one of these domains and its theory (or several of them) represent only the leg or the trunk of the phenomenon: not the whole elephant, but still related to it in an important way we do not yet fully understand.

In most of the remainder of this paper (§5-§9), I am going to focus solely on the *argument selection phenomenon*, and I will conclude that the best theory to describe it is quite different from, and in some ways simpler than, the usual conception of thematic role type. This phenomenon is the question of what principles languages use to determine, for each argument of an n -place relation that is denoted by a predicate, which argument (intuitively speaking) can be expressed by which grammatical relation¹. Although the problem was studied a great deal in (early) Case Grammar (under the term *Subject Selection*, Fillmore 1968), Gruber and Jackendoff also seemed to have recognized the importance of thematic roles for argument selection, as have of course a number of more recent writers, who refer to the problem as *template matching* (Baker 1985) or the question of the existence of a *universal alignment principle* (Perlmutter and Postal 1984, Rosen 1984) or a *universal theta assignment principle* (Baker 1985). Note that (very concrete!) data on this problem is, relatively speaking, easy to come by: dictionaries and reference grammars for any language list the various valences for each verb.

By "cutting the data along natural class boundaries", I mean more specifically that

¹ I say "intuitive argument" because this sentence does not literally make sense in an extensional semantic theory, where the denotation of an n -place predicate is an n -place relation (set of n -tuples), or in a weakly-intensional theory such as Montague's (1970, 1974) in which this denotation is a function from possible worlds to such relations. Rather, in such theories the problem is described as choosing, from the permutation-set of an n -place relation (i.e. the set in which each relation is derived from another by permuting corresponding members in the n -tuples throughout the relation), which permutation(s) will be denoted by a predicate of the language and which will not.

in the present investigation:

(i) No semantic distinction will count as relevant data for our theory of roles unless it can be shown to be relevant to argument selection somewhere in some language, no matter how traditional a role it characterizes.

(ii) ANY semantic distinction that can definitely be shown relevant to argument selection should count toward defining a role type, no matter whether it relates to a traditional role or not.