Linguistic Categorization. Prototypes in Linguistic Theory. By John R Taylor. Clarendon Paperbacks. Oxford: Clarendon Press, 1991. xv + 270. £10.95.

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This book is another significant work in the growing body of literature on 'Cognitive' linguistics. Taylor develops further the far-reaching implications for linguistic theory of Eleaner Rosch's seminal work on categorization. Rosch (1978) showed through a series of psycholinguistic experiments that human beings categorize the world around them on a prototypical basis, where a prototype category is defined in terms of 'core' or prototypical members of the category, which function as exemplars of the category, rather than on a 'classical' basis, where categories are defined in terms of a conjunction of necessary and sufficient conditions. Prototype categories do not have clear boundaries and one category can merge into another, whereas classical categories have invariable boundaries. The term 'classical' category has two senses: (1) this understanding of the nature of categories goes back ultimately to the Greeks, e.g. Aristotle, (2) this understanding of categories has dominated psychology, philosophy, and linguistics (especially autonomous linguistics, both structuralist and generative) throughout much of the twentieth century.

Taylor builds on the work of other cognitive linguists, such as Lakoff (1987) and Langacker (1987), and extends the prototype approach from its obvious applications in lexical semantics to other areas of linguistic analysis including morphology, syntax and phonology.

With respect to phonology, Taylor (1987:222) sees it as crucial that prototype categorization can be extended even to phonology, where generative grammar, the archetypal linguistic theory based on disjunctive categories defined in terms of distinctive features, began. Taylor succeeds by demonstrating that the phoneme /t/ in English, for example, manifests all the characteristics of a prototypical category and none of the characteristics of a disjunctive category as promulgated within generative phonology. He shows that /t/ in English constitutes a category made up of a large number of members, i.e. the allophones of /t/. He lists at least fourteen phonetic variants of /t/ and points out that some of these variants overlap with other phonemes of English. Thus /t/ is a category based on prototypical exemplars of /t/ and some members of this category grade over into other English phoneme domains.

Taylor articulates and fleshes out a number of assumptions and constructs which have become known, especially through the work of Lakoff (1987) and Langacker (1987), as Cognitive linguistics. Taylor develops a clear distinction between classical categories defined in terms of a conjunction of

necessary and sufficient features and prototypical categories defined in terms of the attributes of the members of the category. The main differences between classical and prototypical categories are summarized below.

Other key ideas in Cognitive linguistics that Taylor develops are as follows:

Basic level terms

Items are categorized hierarchically along 'two axes of categorization.' Along the vertical axis each category level is included in the category above.

Classical Categories	Prototypical Categories
(1) Categories are defined in terms of a conjunction of necessary and sufficient features.	(1) Categories are defined in terms of the attributes of the members of the category. No one single attribute is essential for distinguishing one category from another. Categories are defined in terms of prototypical members, which function as exemplars of the category.
(2) Features are binary.	(2) Attributes are not binary but are gradable.
(3) Categories have boundaries.	(3) Categories do not have boundaries. One category can merge into another.
(4) All members of a category have equal status.	(4) An entity is categorized according to its optimum possession of the prototypical attributes of the category.
(5) Features are primitive.	(5) Attributes are not semantically primitive since they are culturally defined. Attributes can be functional (they concern the use to which an object is put) or interactional (they concern the way people handle an object).
(6) Features are universal.	(6) Since attributes are culturally defined and there are many different cultures in the world, they are not universal.
(7) Features are abstract.	(7) Attributes are not abstract entities of autonomous linguistics but are properties of real-world entities which are readily accessible.
(8) Features are innate.	(8) Given the role of domain-based knowledge in the characterization of meanings in cognitive grammar, it is clear that the child's grasp of the semantic distinction (i.e. an attribute) is necessarily dependent on a prior understanding of the domain against which the semantic distinction is drawn. Attributes are not innate but rather the child develops and refines the meaning of particular attributes as with growing understanding and perception he categorizes the real world with which he interacts.

Along the horizontal axis are contrasting categories which are included in the next highest category. There is a level in the categorization hierarchy, however, that is cognitively and linguistically more salient than the others. This is the 'basic level' of categorization. It is at the basic level of categorization that people conceptualize things as perceptual and functional gestalts (wholes). Rosch argues that it is the basic level categories that most fully exploit the real-world correlation of attributes. Basic level terms cut up reality into maximally informative categories, i.e. basic level terms (a) maximize the number of attributes shared by members of the category, and (b) minimize the number of attributes shared with members of other categories.

Constructions

In structuralist grammar constructions were largely restricted to purely formal aspects of linguistic patterning. In cognitive grammar a construction is the pairing of a specification of form with a specification of meaning. With regard to specification of form a construction can be understood as a kind of formula consisting of an ordered sequence of slots. Some elements are obligatory to the construction, others are not obligatory. Each element carries a specification of the kinds of item that can instantiate it. Specification of meaning includes information on conditions and context of use.

Relations may exist between different constructions of a language:

(1) A construction may function as part of another construction.

(2) A construction may be an instantiation of another construction. e.g. NP's N = NP = Det N

(3) One construction may be 'based-on' another construction. But there are no transformations or derivation processes in cognitive grammar.

Constructions which Taylor describes as prototype categories are: the possessive genitive, the transitive construction, the syllable.

Domains

In general, we can only understand the meaning of a linguistic form in the context of other cognitive structures; whether these other cognitive structures happen to be lexicalized in the language is in principle irrelevant. For example, the seven-day week is the semantic domain against which *Monday* is understood. Three-dimensional space is the domain against which *up* and *down* are understood. This not only applies to the meanings of lexical items. Morphological and syntactic categories also need to be understood against the relevant domain. For example, the diminutive presupposes the domain of physical size, the category of past tense presupposes the domain of time.

A linguistic form gets its meaning by 'profiling,' or highlighting, a particular region or configuration in the relevant domain. Profiling entails the structuring of a domain by means of an appropriate 'schema' or set of 'schemas' (from Lakoff, 1987). The concepts 'week', 'day' and 'Monday' emerge when a bounding schema profiles bounded regions in the domain of time. A sequencing schema structures 'week' into successive discrete entities. *Up* and *down* impose an up-down schema on the domain of vertical space.

There can be basic domains like *time* and *space* which are not reducible to more primitive cognitive structures (from Langacker, 1987). There may be basic schemas like boundedness, part-whole, up-

down (from Lakoff, 1987). Langacker (1987) also distinguishes primary and secondary domains. *Salt* is primarily associated with the domain of food, only secondarily is its chemical composition as *sodium chloride* considered a domain of meaning.

Frames and Scripts

'Frame' is the knowledge network linking the multiple domains associated with a given linguistic form. 'Script' is the temporal sequencing and causal relations which link events and states within certain action frames.

Category extension by Metonymy and Metaphor

A metonymy is a figure of speech in which the name of one thing is put for that of another related to it, for example, *the kettle is boiling* in which it is the water that is boiling and not the kettle. Taylor argues that the essence of metonymy resides in the possibility of establishing connections between entities which co-occur within a given conceptual structure. Therefore metonymy can be extended beyond the act of reference and becomes one of the most fundamental processes of meaning extension, more basic, perhaps, even than metaphor.

A metaphor is a figure of speech by which a thing is spoken of as being that which it only resembles in some way, for example, when a ferocious man is called a tiger. Since the landmark publication in 1980 of *Metaphors we Live By* by Lakoff and Johnson the study of metaphor has assumed a central role within the cognitive paradigm. Within generative linguistics, on the other hand, where the meanings of words are represented as bundles of necessary and sufficient features it proves difficult, if not impossible, to handle metaphor within the grammar and it is therefore considered to be 'grammatical deviance' and outside the study of linguistic competence. In cognitive linguistics, however, metaphor is seen as the central means by which ever more abstract and intangible areas of experience can be conceptualized in terms of the familiar and concrete.

Taylor also discusses a number of other topics along the way, including: the encyclopedic nature of all semantic knowledge, the redundancy of pragmatics, the phenomenon of polysemy and meaning chains, and language acquisition.

For anyone who wants to stay at the cutting edge of linguistic theory this book is a must.

References

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