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Meaning: Cognitive Dependency of Lexical Meaning

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It is often thought or implicitly assumed, even in circles of professional semanticists, that predicate meanings, as codified in their satisfaction conditions (*see Lexical Conditions*), are lexically fixed in such a way that they automatically produce truth or falsity when applied to appropriate reference objects. This assumption is unfounded. In many, perhaps most, cases, the satisfaction conditions imply an appeal to nonlinguistic knowledge, so that the truth and falsity of assertive utterances are not the product of mere linguistic compositional computation, but are code-termined by nonlinguistic knowledge, either of a general encyclopedic or of a context-bound, situational nature.

An obvious case is provided by a large class of gradable adjectival predicates, such as *expensive*, *old*, and *large*, whose applicability depends on (preferably socially recognized) standards of cost, age, and size, respectively, for the objects denoted by their subject terms. The description of such standards is not part of the description of the language concerned, but of (socially shared) knowledge.

Further obvious examples are 'possession' predicates, such as English *have*, *lack*, and *with(out)*, and whatever lexical specification is needed for genitives, datives, and possessive pronouns. These clearly require general encyclopedic knowledge for their proper interpretation. Consider the following examples:

- (1a) This hotel room has a bathroom.
- (1b) This student has a supervisor.

For (1a) to be true, it is necessary that there be one unique bathroom directly connected with the room in question, whose use is reserved for the occupants of that room. When the room carries a notice that its bathroom is at the end of the corridor to the right, while the same bathroom serves all the other rooms in the corridor, (1a) is false – not just misleading but

false, as any judge presiding over a court case brought by a dissatisfied customer will agree. But for (1b) to be true, no such uniqueness relation is required, as one supervisor may have many students to look after. This is not a question of knowing English, but of knowing about the world as it happens to be.

The same goes for the parallel sentences:

- (2a) This is a hotel room with a bathroom.
- (2b) This is a student with a supervisor.

Possession predicates, therefore, must be specified in the lexicon as involving an appeal to what is normally the case regarding their term referents. They express a well-known relation of appurtenance between the kind of object referred to in subject position and the kind of object referred to in object position. The semantic description (satisfaction conditions) of *have* and other possessive predicates is thus taken to contain a parameter for 'what is well-known,' making the interpretation of this predicate in each token occurrence truth-conditionally dependent on world knowledge.

Not all possession predicates are subject to the same conditions. Possessive pronouns, for example, may express a relation of 'being responsible for' or 'taking care of,' which other possession predicates cannot express. An example is sentence (3) uttered by a gardener with regard to the flower beds he is tending:

- (3) Please don't mess up my flower beds.

This sentence can be uttered appropriately without the speaker implying that the flower beds are owned by him.

Many such examples can be given. Consider the predicate *flat* said of a road, a tire, a mountain, a face, or the world. There is an overall element 'spread out, preferably horizontally, without too much in the way of protrusions or elevations,' but that in itself is insufficient to determine what 'being flat' amounts to in these cases. The full meaning comes across only if it is known what roads, tires, mountains, faces, and the world are normally thought to be like. Dictionaries,

even the best ones, limit themselves to giving examples, hoping that the user will get the hint.

Another example is the predicate *fond of*, as in:

- (4a) John is fond of his dog.
- (4b) John is fond of cherries.
- (4c) John is fond of mice.

In (4a), obviously, John's fondness is of a rather different nature from what is found in (4b): the fondness expressed in the one is clearly incompatible with the fondness expressed in the other. The fondness of (4c) can be either of the kind expressed in (4a) or of the kind expressed in (4b). The common element in the status assigned to the object-term referents is something like 'being the object of one's affection or of one's pleasure,' but again, such a condition is insufficient to determine full interpretation.

Cognitive dependency is an essential aspect in the description of predicate meanings. The fact that some predicate meanings contain a parameter referring to an available nonlinguistic but language-independent, cognitive knowledge base means that neither utterance-token interpretation nor sentence-type meaning is compositional in the accepted sense of being derivable by (model-theoretic) computation from the linguistic elements alone. As regards utterance-token interpretation, this is already widely accepted, owing to valuable work done in pragmatics. The noncompositionality of sentence-type meaning, defined at the level of language description, is likewise beginning to be accepted by theorists of natural language. This type-level noncompositionality does not mean, however, that the specification of the satisfaction conditions of predicates is not truth-conditional, only that standards embodied in socially accepted knowledge have become part of the truth conditions of sentences in which the predicate occurs.

In most treatises on lexicology, the term polysemy is used for phenomena such as those presented above. At the same time, however, it is widely recognized that this is, in fact, little more than a term used to give the problem a name. The problem itself lies in the psychology of concepts. One may assume that there are socially shared concepts like 'possession,' 'flatness,' and 'fondness,' but it is not known in what terms such concepts are to be defined. In a general sense, Fodor (1975, 1998) is probably right in insisting that lexical meanings are direct reflexes of concepts that have their abode in cognition but outside language. The necessary and sufficient conditions taken to define the corresponding lexical meanings cannot, according to Fodor, be formulated in natural language terms, but must be formulated in a 'language of thought,' which is categorically different from any natural language and whose terms and

combinatorial properties will have to be established as a result of psychological theorizing.

It is clear, in any case, that phenomena like those shown in (1)–(4) pose a serious threat to any attempt at setting up a model-theoretic theory of lexical meaning, such as Dowty (1979): the neglect of the cognitive factor quickly becomes fatal in lexical semantics.

Context-bound or situational knowledge plays a role in the interpretation of predicates that involve a 'viewpoint' or 'perspective,' such as the pair *come* and *go*, or predicates such as *to the right (left) of*, *in front of*, and *behind*. The two versions of (5) are truth-conditionally identical, but they differ semantically in that the 'mental camera,' so to speak, has stayed in the corridor in the *went* version, but has moved along with Dick into the office in the *came* version.

- (5) Dick and Harry were waiting in the corridor.
Then Dick was called into the office. After five minutes, Harry [went/came] in too.

In similar manner, the sentences (6a) and (6b) may describe the same situation, but from different points of view. In (6a), schematically speaking, the viewer, the tree, and the statue are in a straight line; in (6b), it is the viewer, the tree, and the fountain that are in a straight line:

- (6a) There was a statue behind the tree, and a fountain to the left of the tree.
- (6b) There was a fountain behind the tree, and a statue to the right of the tree.

A further cognitive criterion for the lexical meaning of predicates, especially those denoting artifacts, seems to be the function of the objects denoted. What defines a table or a chair is not their physical shape or the material they are made of, but their socially recognized function. The same holds for a concept like 'luxury.' Laws imposing special taxation on luxury goods or luxury activities usually enumerate the goods and activities in question, making exceptions for special cases (such as frock coats for undertakers). Yet what defines luxury is not a list of goods or activities, but socially recognized function – roughly, anything relatively expensive and exceeding the necessities of life.

A peculiar example of cognitive dependency, probably based on function, is provided by the English noun *threshold* and its Standard German translation equivalent *Schwelle*. In their normal uses, they denote the ridge or sill usually found between doorposts at floor level. Yet these two words differ in their capacity for semantic extension: the elevations in roads and streets that are normally called *speed bumps* in

English are called *Schwelle* in German. Yet it is unthinkable that speed bumps should be called *thresholds* in English. The question is: why? One is inclined to think that, at some ill-understood level of interpretation, the word *threshold* implies containment within a space or a transition from one kind of space to another, perhaps as a result of its etymology (which is not fully known). *Schwelle*, by contrast, is a swelling in the ground that forms an obstacle to be got over – which is also its etymology, although, on the whole, German speakers do not realize that. The difference between the two words is not a question of the ontological properties of the objects concerned, but, apparently, of the

ways they are conceived of. The role of etymology in this case is intriguing.

See also: Cognitive Semantics; Lexical Conditions; Polysemy and Homonymy.

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Meaning: Development

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How do children assign meanings to words? This task is central to the acquisition of a language: words allow for the expression of the speaker's intentions, they combine to form larger constructions, and the conventional meanings they have license their use for making references in context. Without them, there is no language. In the acquisition of meaning, children must solve the general mapping problem of how to line up word forms with word meanings. The forms are the words they hear from other (mainly adult) speakers. The meanings they must discern in part from consistencies in speaker usage in context from one occasion to the next and in part from inferences licensed by the speaker on each occasion. Possible meanings for unfamiliar words, then, are built up partly from children's conceptual representations of events and partly from the social interactions at the heart of adult-child conversation.

One critical task for children is that of working out the conventional meanings of individual words (e.g., *cup*, *team*, *friend*, *truth*). Yet, doing so is not enough: syntactic constructions also carry meanings that combine with the meanings contributed by the actual words used (causative constructions, as in *They broke the cup* or *The boy made the pony jump*; the locative construction, as in *She put the carving on the shelf*; the resultative construction, as in *He washed the floor clean*). However, children start mapping word meanings before they begin combining words.

Languages differ in how they lexicalize information – how they combine particular elements of meaning into words – and in the kinds of grammatical information that have to be expressed. They may package information about events differently; for example, combining motion and direction in a single word (*depart*) or not (*go + toward*), combining motion and manner (*stroll*), or not (*walk slowly*). They also differ in the grammatical distinctions made in each utterance. Some always indicate whether an activity was completed; others leave that to be inferred. Some always indicate whether the speaker is reporting from direct observation, or, for example, from the report of someone else. Some indicate whether object-properties are inherent or temporary. The grammatical distinctions that languages draw on vary, as do the ways in which they lexicalize information about objects and events. Mapping meanings onto words is not simply a matter of equating meanings with conceptual categories. Children have to select and organize conceptual information as they work out what the conventional meanings are for the words they are learning.

How do children arrive at the meanings they first assign to unfamiliar words? How do they identify their intended referents? And how do they arrive at the relations that link word meanings in different ways? The general conversational context itself serves to identify relevant information on each occasion for children trying to work out the meaning of an unfamiliar word. Adult language use presents them with critical information about how words are used, their conventional meanings, and the connections among words in particular domains.