

## POLYSEMY AND ITS RELATION TO CONCEPTUALIZATION, CATEGORIZATION AND LEXICALIZATION

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**Abstract:** The paper describes the dependence of polysemy on conceptual structures, logical inferences and the whole system of lexical means existing in a language. It is argued that though polysemy is an intrinsic feature of language as a cognitive ability it may hardly be regarded as the reflection of concept creation processes. Polysemy is the final result of secondary categorization of concepts by language means and appears at the stage of lexicalization by semantically derived naming units. Semantic naming based on reuse of existing name-forms is universal, primary in ontogenesis, the most flexible and economic type of name-building and concept-bounding means.

**Keywords:** lexical semantics, polysemy, conceptualization, categorization, naming, lexicalization.

Though a word with multiple senses was already considered by ancient Greek philosophers and by lexicographers in many ancient civilizations, systematic study of *polysemy* is usually associated with the name of Michel Breal who in 1887 undertook its thorough analysis paying special attention to historical aspect of this phenomenon /Breal 1991/. Since then the number of linguistic works scrutinizing polysemy has become countless, but even now they mostly remain descriptive as a century ago.

The appearance of cognitive science aiming to explain different cognitive processes and states and to discover the essence of language as a specific mental ability encouraged linguists to relate mental processes and those observed in a language much closer than it was done before. This new science proved to be beneficial both for long established linguistics and for cognitive science as it sheds new light on traditional questions and launches new ones, opens new aspects in description of concrete language phenomena and empowers this description

with explanatory character, reveals new data about language as an external and internal system.

Lexical polysemy turned out to become in the center of many cognitive studies due to its complex and specific character closely related to new discoveries about the structure of conceptual categories and due to its centrality, omnipresence in a language system. In this paper basic cognitive processes will be viewed in order to find there answers to some questions about polysemy, namely about its cognitive origin, nature of sense distinction and sense identity, directions of its development.

## CATEGORIZATION AND POLYSEMY

Recent psychological investigations of conceptual categories proved the existence of the so-called exemplar, or prototypical categories which in contrast to classical ones, where all members are equal and share the same features, are characterized by open-endedness and fuzziness of their boundaries, by ability to include an unlimited number of new members on different ground and by different status of its members belonging to the core of the category or periphery.

Many of these qualities are very well known to lexicologists and lexicographers who describe polysemantic words and face problems of establishing the number of their senses and of arranging these senses in an entry. These qualities made some cognitive linguists, especially the supporters of experiential realism, consider polysemy identical to one conceptual category of a prototypical character which includes members related on the basis of family resemblance and view polysemy as one of the most important argument in favour of existence of such prototypical categories /Lakoff 1990/.

We, however, would rather speak about not one but a cluster or superstructure of related conceptual categories which being lexicalized by one polysemantic word present in our mental lexicon a *polysemantic superstructure*. It has a specific complex organization and each constituent member in it is characterized by fuzziness of boundaries and other mentioned above properties of a prototypical category.

The complex structure of this conceptual unity is revealed by language means. Instances of one category called identically can be summed, like in the example: *That is a tiger [a regular one] and this is a tiger [a stripeless one] too. There are two tigers.* The same trick is not possible with constituent members of a polysemantic category: *This is a cat [carnivorous domesticated animal] and that is a cat [CATFISH]. \*There are two cats.*

All diversity of conceptual relations of categories in a polysemantic superstructure may be summarized into two major classes — those based on similarity, or classification, and on implication /Nikitin 1983/.

*Implicational relations* of categories in a polysemantic superstructure are based on their connections and dependence in holistic unities like a frame/script/scenario or gestalt, on different logical inferences about their coexistence in time or space (*skirt* 'an outer garment' — 'GIRL, WOMAN'), on their causality (*despair* 'utter loss of hope' — 'a cause of hopelessness'), metonymy (*orange* 'globose berry with a yellow reddish rind' — 'any of various evergreen trees'), conversiveness (*dizzy* 'having a whirling sensation' — 'causing giddiness'), etc.

*Classificational relations* of categories lexicalized by a polysemantic word are based on some similarity in their semantic structures which may be accounted for, as Ray Jackendoff, the

founder of conceptual semantics, puts it, essentially the same conceptual algebra underlying many fields /Jackendoff 1996:115/.

Similarity between two categories of concepts may be based on some features, like shape, color, sound, taste, structure etc., perceived mainly by senses (*ink* 'a coloured usu liquid substance for writing or printing' — 'the black protective secretion of a cephalopod').

A special, synaesthetic type of perceived similarity happens between concepts formed by different sense modality due to peculiarities of human perception organization (*sour taste* — *sour smell*).

Similarity may be based on the features reflecting more complicated reasoning operations (*chicken* 'young bird, esp a young hen' — 'a young woman'), world assumptions (*lion* 'large, strong, flesh eating animal called the 'King of Beasts because of its fine appearance and courage' — 'person whose company is very much desired at social gatherings, e.g. a famous author or a musician'), on common evaluation of conceptual categories (*white* 'of the colour of the snow' — 'free from moral impurity: INNOCENT'), their estimated amount or intensity (*black* 'of the colour of coal' — 'UTTER, EXTREME' (*a black fool*)).

A special type of similarity takes place between ontologically different categories, like concepts of physical objects and of mental entities (*lamp* 'a device for producing light or heat' — 'a source of intellectual or spiritual illumination'). Similarity in this case is very subtle for explanation, it is based on our innate ability to establish the connection between such categories due to some common components in their conceptual structures like 'action/its results' or 'structure'.

*Hypero-hyponymic relations* is a special type of classificational relations as it is based on a certain degree of similarity between categories and at the same time on their inclusion, hierarchy (*cat* 'a carnivorous domesticated mammal' — 'any of a family including the domestic cat, lion, tiger, etc.').

Some relations between categories in a polysemantic superstructure are even less clear cut and are rather a *blend* of the two: implicational and classificational. The relations between the categories lexicalized, for example, by the noun *cream* 'the yellowish part of milk' — 'a pale yellow' may be regarded as a kind of part-whole, or pro-meronymic, relations, and as a kind of relations based on certain similarity.

Thus a polysemantic word names differently related conceptual categories. The relations of complete incompatibility of categories may also be expressed with one form of a word but it leads to homonymy. In contrast to other conceptual superstructures based on only one or two types of conceptual relations between its constituents, for e.g., hierarchy (*spaniel* — *dog* — *animal*) in hypero-hyponymic groups, partial incompatibility (*dog* — *cat* — *wolf*) in lexico-semantic groups, or part — whole relations (*head* — *body*) in meronymic groups, a polysemantic superstructure displays a *great variety of relations between its constituent members*.

Categories in a polysemantic structure are predominantly belong to obviously different conceptual fields: *cat* 'a carnivorous domesticated mammal' — 'a strong tackle used to hoist an anchor', or different subgroups of the same field: *cat* 'a carnivorous mammal' — 'any of numerous stout-bodied large headed fishes with long tactile barbels'.

In case of hypero-hyponymic relations they may belong to the same conceptual field though to different level of abstractiveness as in the example with the word *cat*.

In some cases categories may belong to the same conceptual field and be of the same level of abstractiveness. The noun *cap*, for example, names such categories as 'a head covering', 'a cardinal's biretta' and 'MORTARBOARD' the relations between which can be regarded as incompatibility usually observed not in a polysemantic superstructure but between differently lexicalized categories in a superstructure 'lexico-semantic group' (cf. also: *bus* '1.a large motor-driven passenger vehicle, 2.a small hand truck' where the relations between categories lexicalized by one word are similar to the relations between categories lexicalized by two words *bus* and *truck*; ).

Presentation of such concepts as separate categories derived from more specific or more generic ones however are not indisputable and cause special problems for lexicographers dealing with the problem of sense identity and sense distinction.

Concluding this part of the paper we shall stress that on the conceptual level lexical polysemy is predetermined by a network of different categories related by similarity, hierarchy, partial incompatibility and various implications.

## CONCEPTUALIZATION AND POLYSEMY

Diachronic analysis of semantic structures of polysemantic words shows that historically meanings appear in a word one by one and more abstract meanings appear usually (but not always!) later than concrete ones. All this may create an impression that derivational processes in semantic structures of polysemantic words directly reflect derivational conceptualization processes.

Such a point of view is characteristic of adherents of experiential realism who regard polysemy as a reflection of concept derivation processes, as a kind of relic traces of conceptualization deriving more complicated and abstract concepts on the basis of simple and concrete ones with the help of metaphor which is believed to be first of all the property of mind and without which the whole understanding of our experience would not be possible /Lakoff and Johnson, 1980/.

The point of view on polysemy as a mirror reflecting conceptualization processes cause a lot of doubts as lexical units may not even signal the existence of some categories in our minds (non-lexicalized categories, or nonymes, using terminology of Democritus), not to say many unconscious conceptual processes. And then, if derivational relations between names reflect derivational relations between concepts, how it happens that for the same concepts, let it be, for example, a gustory concept 'PUNGENT, PEPPERY' in different languages stand differently created names: an adjective semantically created from a word denoting temperature sensation in English (*hot sauce*) and an adjective semantically created from a word denoting tactile perception in Russian (*ostriy sous* '*sharp sauce*')? Or do these semantically derived from different adjectives correlated names in English and in Russian stand for differently derived concepts? How can the latter be identical then in the mind of people living in different language communities?

Conceptualization and abstract reasoning are far much complicated processes to be investigated only by language means. While relations between senses in a polysemantic word have derivational character, concept creation should not be identified with name derivation and semantic derivation in particular.

Nevertheless polysemy may be of interest for investigation of conceptualization processes as it in the most vivid form points to similarities in structures of certain conceptual categories but these similarities should be rather viewed not as the result of metaphorical derivation of



concepts but as the result of parallel functioning of innate concept-forming mechanism /Jackendoff 1993/ (though not necessarily simultaneous).

## POLYSEMY AND LEXICALIZATION

Polysemy as a vocabulary phenomenon appears only at the stage of lexicalization which is a kind of secondary categorization by linguistic means, and is the result of *naming* based on *semantic derivation* — a secondary use of the word form to label a different yet somehow connected concept. Without semantic naming polysemy would never appear.

Semantic derivation of a name is universal — there are no languages without it. It is primary in ontogenesis — young children often overuse it in their naming activity and having named a conceptual superstructure and a category in it by identical name it is easier for them to boost into other activities like vocabulary extension and sentence construction. It is also the most flexible and economic type of name-building and hence concept-bounding means with exceptionally wide application range, yet certain preferences.

Analysis of the most frequent morphologically simple nouns in English, for example, shows that semantic naming is mostly used to lexicalize different conceptual categories of *man* (usually figuratively), *instruments* (usually directly), *parts of human and animal body* (both figuratively and directly), *part of a structure, events, states, actions and their results, qualities* (mainly evaluation, intensity, quantity, size, shape, colour) (usually directly), *place* and *a group of entities*.

These categories got their names from the basic-level categories lexicalized earlier both in philogenesis and ontogenesis and belonging to the following groups: *parts of human and animal bodies, animals, parts of plants, instruments and appliances including containers, buildings, parts of space, substance, clothes, furniture, man, plants, events and actions*.

It is possible to predict some derived meanings in a word analyzing the conceptual structure of its primary meaning and its connections with other categories in polysemantic superstructure. If, for example, a noun denotes certain substance (*gold*), the *classificational relations* of this category may lead to the derived meanings of 'another similar substance', 'quality characteristic of this substance'; its *implicational relations* may lead to the derived meanings of 'part/whole of the substance', 'object made of the substance', 'action with the substance or its result'.

There are, however, 2 important issues that should be mentioned in connection with such logical constructing of polysemy.

Like in case with any other means of concept lexicalization, the use of semantic naming is finally determined by the whole system of naming means existing in a language. Semantic naming, for example, is more restricted in Russian than in English due to a more developed system of morphological word-building means in the former. Thus, concepts of relatively narrow parts of different appliances suggestive of a *neck* are lexicalized in English semantically ('*neck* of a bottle') while in Russian there are special nouns *gorlyshko* and *gorlovina* morphologically derived from the word *gorlo* 'a neck'.

Inclusion of semantic naming into a language specific system of name-building means seriously hampers logical constructing of polysemy and is one of the reasons why universal polysemantic words with identical meanings are hardly possible though not absolutely excluded.

Another limitation of logical constructing of polysemy is difficiency of more detailed information about the derived meanings, like, for example, their reference to the conceptual fields. Linguistic investigations accumulating the data may be of great help here.

Like all major ways of name creation semantic naming is patterned. In linguistics it was proved that derived meanings in words with similar primary senses are not hazard but quite regular: names of animals, for e.g., may be used to denote people /Apresjan 1974/.

The total sum of such patterned meanings makes up *a model of polysemy* /Leshcheva 1996/. The model of polysemy for the English words denoting, for e.g., *animals* includes semantically derived names of the following categories of concepts:

- *its flesh*;
- *object made of its body parts*;
- *another animal* ;
- *(fig) a person*;
- *appliance*;
- *action or quality characteristic of the animal*;
- *a constellation or sign of Zodiac*.

Some more important characteristics may be added to such a model, like types of relations between meanings in a word reflecting the relations between the categories in a conceptual structure, and then *the model of regular polysemy for a group of nouns denoting animals* may become more detailed:

Derived senses	Types of sense relations					
	classification				implication	
	1a*	1b*	2*	3*	4	5
Flesh					+	
Object made of its body parts						+
Another animal	+	+	+			
Person	+	+				
Appliance	+	+				
Action or quality				+		
Constellation		+				

- Note:
- 1a\* - similarity in function;
  - 1b\* - similarity in quality (shape; size, etc.);
  - 2\* - hypero-hyponimic relations;
  - 3\* - pro-meronymic relations (quality, action);

4\*- part-whole relations;

5\*- material-object.

When applied to a particular word in this group the model of polysemy reveals regular, recursive derived meanings in the words of this group and their relations with the primary one, specifies singular meanings — individual, characteristic of only one word in the group derived meanings, which are usually the result of further derivation of semantically derived names — and lexico-semantic gaps which are possible ways of future semantic extension. The degree of realization of this model of polysemy in each word of the group, the exact contents of these categories, lexicalized by semantic naming are culture and language specific.

So, lexical polysemy mechanism in human languages is quite law governed and the task of linguists is to discover these laws.

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