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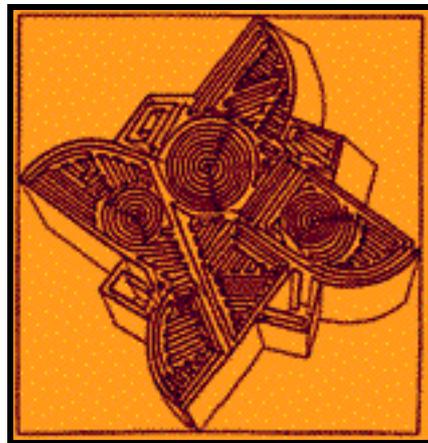
Arbeitspapier 106

ANDREAS BLANK

Polysemy in the Lexicon

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Cause you know sometimes words have two meanings.'
Led Zepppelin, Stairway to Heaven.

1. Introduction

A fundamental problem lexicologists – and indeed all speakers – are concerned with is the fact that the number of words at our disposition is limited but that human imagination is virtually unlimited (Schlieben-Lange 1997: 242) and that the number of things, beings, processes and ideas that can be referred to is endless. There are mainly two strategies to cope with this disproportion: first, we match the concrete referent with a lexicalized meaning of a word and actualize this meaning in the concrete context; second, if the first strategy cannot be applied or risks to fail because there is no lexicalized meaning to cover the actual referent, we must create a lexical innovation as, e.g., a semantic innovation, a new word-formation or idiom or introduce a loan word (cf. Blank, in press a).

In the first case, the actual context meaning is located inside of the range of an existing semantic invariant: a learned semantic rule is applied to a given context. The present paper will try to define the criteria for this contextual variation (or "vagueness") and to distinguish it from different senses of one word, i.e. polysemy, and from different words showing an identical signifier, i.e. homonymy (cf. section 3). When we decide to use a word although we leave the traditional range of its semantic invariants, we create a semantic innovation. If this innovation is successful, it becomes, in turn, lexicalized as a new invariant of the word in question. The types of polysemy resulting from this diachronic process and the possible semantic relations linking them in synchrony will be discussed in section 2. Finally, section 4 accounts for very regular types of polysemy for which the traditional explanation of polysemy is unsatisfactory. This will lead us to a new view of polysemy as a complex multi-level phenomenon right at the crossroads where cognition, discourse, discourse rules and idiosyncratic lexicalization meet.

2. The synchrony of semantic change: types of polysemy

The term "polysemy" first appears in 1897 in Michel Bréals fundamental *Essai de sémantique*:

> Le sens nouveau, quel qu'il soit, ne met pas fin à l'ancien. Ils existent tous les deux l'un à côté de l'autre. Le même terme peut s'employer tour à tour au sens propre ou au sens métaphorique, au sens restreint ou au sens étendu, au sens abstrait ou au sens concret... A mesure qu'une signification nouvelle est donné au mot, il a l'air de se multiplier et de produire des exemplaires nouveaux, semblables de forme, mais différents de valeur. Nous appelons ce phénomène de multiplication la *polysémie.* (Bréal 1899: 154s.)

It is important to note that to Bréal polysemy arises as a consequence of semantic change, it is the "synchronic side" of lexical semantic change and can show different facets according to the kind of semantic relation between the old sense and the new one that derived from this older sense (cf. also Fritz 1998: 57s.). Usually these points are not given the importance they merit (except Sweetser 1990, but only with regard to metaphor) and handbook-definitions keep defining polysemy as the existence of a semantic relation between lexicalized senses of a word without further explanation of the nature of this relation.[1]

To understand the diachronic background of lexical polysemy we thus need, first of all, a typology of semantic change in order to understand how a semantic innovation can be related to a lexicalized sense. Such a typology, which is entirely based on associations between concepts or concepts and linguistic signs, was suggested in Blank (1997) and is displayed in the left column in Table 1. This typology serves as a basis for a detailed description of polysemy as the continuation of these associative relations in synchrony and which is presented in the right column in Table 1:[2]

As you see, there is no complete isomorphy between diachronic processes and synchronic states. Let us now briefly discuss the associative backgrounds of the types of semantic change and of their synchronic counterparts:

The best known type of polysemy is **metaphoric polysemy** deriving in most cases from metaphor as a diachronic process. Both are based on a more or less salient similarity between two concepts that belong to different or even distant conceptual domains. Similarity inside of one and the same conceptual domain or folk-taxonomy is the basis of co-hyponymous transfer, giving rise to **co-hyponymous polysemy**. The reason behind those transfers is probably the fact that speaker's knowledge of the referential limits of the concepts involved is temporarily or permanently blurred. Polysemy in these cases within the same dialect or register is quite unstable and tends to fade away.[3]

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[1] Cf. e.g. Cruse 1986: 80; Taylor 1995: 99; Saeed 1997: 64.

[2] Earlier, more or less preliminary versions of this typology are given in Blank 1993: 35-42; 1996: 116ff.; for further details cf. Blank 1997: ch.s V and VII.1.; cf. also Koch 1998: 132.

[3] This type of relation is often encountered across different dialects of one language as, e.g., EurSp *tigre* 'tiger' vs. AmerSp *tigre* 'jaguar' or EurSp *león* 'lion' vs. AmSp 'puma'. These are however marginal cases of polysemy because they have no reality for speakers in ordinary life situations.

Table 1.

types of lexical semantic change	synchronic relation when conventionalized
1. metaphor E *mouse* 'small rodent' > 'computer device' It *afferrare* 'to grasp' > 'to understand' L *brevis* 'short (spatial)' > 'short (temporal)'	**A. metaphoric polysemy** E *mouse* 'small rodent', 'computer device' It *afferrare* 'to grasp', 'to understand' L *brevis* 'short (spatial)', 'short (temporal)'
2. co-hyponymous transfer ? *ratt-* 'rat' > F (reg.), It (reg.) 'mouse' Pt *aborrecer* 'to annoy s.o.' > 'to bore s.o.'	**B. co-hyponymous polysemy** F (reg.) *rat*, It (reg.) *rat, ratta, ratto* 'rat', 'mouse' Pt *aborrecer* 'to annoy s.o.', 'to bore s.o.'
3. semantic extension MF *pigeon* 'pigeon raised for eating' > 'any kind of pigeon' Sp *tener* 'to hold' > 'to have'	**C. taxonomic polysemy** F *pigeon* 'pigeon raised for eating', 'any kind of pigeon' Sp *tener* 'to hold', 'to have'
4. semantic restriction VulgL *homo* 'human being' > 'man' F *blé* 'corn' > 'wheat'	 F *homme*, It *uomo*, Sp *hombre* etc. 'human being', 'man' F *blé* 'corn', 'wheat'
5. lexical ellipsis (absorption) **a) absorption into the determinatum** Sp *coche* 'coach' > 'car' (< *coche automóvil*) G *Schirm* 'shelter' > 'umbrella' (< *Regenschirm*)	 Sp *coche* 'coach', 'car' G *Schirm* 'shelter', 'umbrella'
b) absorption into the determinans F *diligence* 'velocity' > 'stage-coach' (< *carosse de diligence*) G *Weizen* 'wheat' > 'beer made of wheat' (< *Weizenbier*)	**D. metonymic polysemy** F *diligence* 'velocity', 'stage-coach' G *(der) Weizen* 'wheat', *(das) Weizen* 'beer made of wheat'
6. metonymy L *lingua* 'tongue' > 'language' L *defendere* 'to defend' > F *défendre* 'to forbid' G *während* 'while (temp.)' > 'whereas (advers.)	 L *lingua* 'tongue', 'language' F *défendre* 'to defend', 'to forbid' G *während* 'while (temp.)', 'whereas (advers.)
7. popular etymology F *forain* 'non-resident' > 'belonging to the fair' (< *foire*) Lat *somnium* 'dream' > Sp 'sleep' (< *somnus*)	 F *forain* 'non-resident', 'belonging to the fair' Sp *sueño* 'dream', 'sleep'
8. auto-converse change It *noleggiare* 'to lend' > 'to borrow' L *hospes* 'host' > 'guest'	**E. auto-converse polysemy** It *noleggiare* 'to lend', 'to borrow' F *hôte*, It *ospite*, Cat *hoste*, Occ *oste* 'host', 'guest'
9. antiphrasis F *villa* 'country house' > F (argot) 'prison' It *brava donna* 'honorable lady' > It (gergo) 'prostitute'	**F. antiphrastic polysemy** F *villa* 'country house', F (argot) 'prison' It *brava donna* 'honorable lady', It (gergo) 'prostitute'
10. auto-antonymy E *bad* 'not good' > E (slang) 'excellent' sard. *masetu* 'gentle' > 'irascible'	**G. auto-antonymic polysemy** E *bad* 'not good', (slang) 'excellent' sard. *masetu* 'gentle', 'irascible'
11. analogous semantic change F *polir* 'to polish', 'to steal' _ *fourbir* 'to polish' > 'to steal', *nettoyer* 'to clean' > 'to steal' etc. L *levare* 'to lift up', 'to erect' _ Sp *alzar*, It *alzare* 'to lift up' > 'to erect'	all relations possible, e.g. **metaphoric polysemy:** F *fourbir* 'to polish', 'to steal' **metonymic polysemy:** Sp *alzar*, It *alzare* 'to lift up', 'to erect'

Types 3 and 4 are also based on similarity of concepts within the same domain, as in most cases one of the two concepts involved in the semantic change was conceived as a prototypical instance of the whole category and therefore as a cognitive reference-point. In synchrony however, we tend to focus on the concomitant **taxonomic relation** between the two senses, one being the hyperonym of the other. In this view, the associative relation underlying the semantic change shifts to the background, while the taxonomic inclusion of referential classes becomes dominant.[4]

Type 5, **lexical ellipsis** – or better: **absorption** – shows two subtypes, depending on which part of a given complex word *absorbs* the sense of this complex word. Synchronically however, absorption is identical either with the result of

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[4] For a controverse discussion of this problematic cf. Gévaudan 1997; Blank 1997: 191; Blank 1999a: section 3; Blank: in press b; Koch: in press a.

semantic restriction, i.e. taxonomic polysemy, or with the synchronic effect of metonymy. Thus, absorption as a diachronic process has no proper synchronic reality.

This leads us to **metonymy** (including meronymy) and to its analogous synchronic counterpart. Both are based on conceptual contiguity, i.e. the typical and salient co-occurence or succession of elements in frames or scenarios or of these frames themselves.[5] The same synchronic result is produced by semantic change through **popular etymology** (with very few exceptions). Diachronically however, popular etymology combines necessarily conceptual contiguity with formal similarity.

Type 8 deals with the reciprocal interconnection of participants in a frame, such as the HOST and the GUEST in the frame "RECEIVING GUESTS". When such a converse relation develops within the same word, we call this auto-converse change leading to **auto-converse polysemy**. Although being a classical instance of opposition (cf. Aristoteles, *Categories* 10), this is rather a special case of contiguity which one could also list among metonymy.

Opposite senses within one word develop in types 9 and 10, too. Here however, the underlying association is *contrast*, either on the connotational level (antiphrasis) or on the core content level yielding a kind of inner antonymy. Both cases do rarely become conventionalized and polysemy is often "asymmetric" as it usually does not function in the same register.

Analogous semantic change is the copy of an already existing polysemy, be it metaphoric, taxonomic or metonymic, to another word, whose older sense is synonymous (or more rarely co-hyponymous or antonymic) to the word that serves as a model: thus, during the history of Romance languages, *altiare* developed almost the same bundle of senses as *levare*, both being synonymous from the beginning (cf. Klein 1997: 134-137). As will be shown in section 4, analogy maybe plays an important role in cases of polysemy that cannot really be consequences of semantic change.

Types A–G in the right column of table 1 are synchronic relations between two senses of a word – and insofar the labels "metaphoric polysemy" etc. are somewhat inexact, as they do not describe the whole polysemy of a word. It is self-evident that each of a pair of two related senses can establish semantic links to other senses of the word in question. When we say that a word is polysemous, this does not mean that all senses of a word are interrelated or have "something in common". Polysemy is rather to be conceived as a chain or a network of senses. An application to lexicography thus inevitably leads to complex representations, but allows precise characterizing of the relations between the senses of one word, as is shown in Fig. 1 with E *man* and in Fig. 2 with F *parler*:[6]

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[5] Cf. Blank 1999b; Koch 1999.

[6] Ex. taken from WEUD and PR. Abbreviations: META = metaphor; METON = metonymy; TAX = taxonomic relation; AG = agent; COAG = counter-agent.
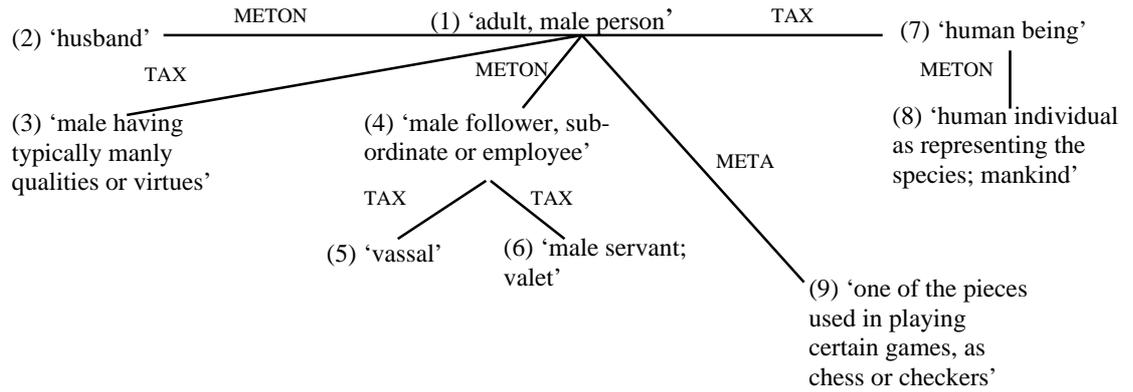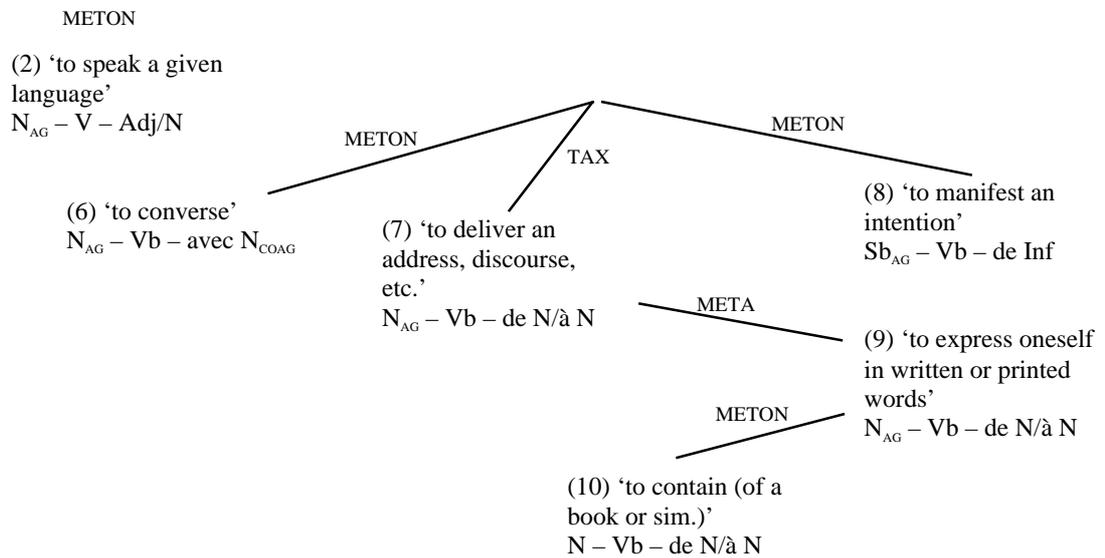
Fig. 1: E *man*_N

Fig. 1: E man_N

METON — (1) 'adult, male person' — TAX

(2) 'husband'

TAX

(3) 'male having typically manly qualities or virtues'

METON

(4) 'male follower, sub-ordinate or employee'

TAX   TAX

(5) 'vassal'   (6) 'male servant; valet'

META

(7) 'human being'

METON

(8) 'human individual as representing the species; mankind'

(9) 'one of the pieces used in playing certain games, as chess or checkers'

Fig. 2: Fr. *parler*_{VB}

METON

(2) 'to speak a given language'
$N_\text{AG} – V – Adj/N$

METON

TAX

METON

(6) 'to converse'
$N_\text{AG} – Vb – avec\ N_\text{COAG}$

(7) 'to deliver an address, discourse, etc.'
$N_\text{AG} – Vb – de\ N/à\ N$

(8) 'to manifest an intention'
$Sb_\text{AG} – Vb – de\ Inf$

META

(9) 'to express oneself in written or printed words'
$N_\text{AG} – Vb – de\ N/à\ N$

METON

(10) 'to contain (of a book or sim.)'
$N – Vb – de\ N/à\ N$

3. Contextual variation – polysemy – homonymy

Polysemy as a concept of semantic description interacts with *contextual variation* (also called "vagueness") and *homonymy* (also known as "ambiguity"). Generally, a clear-shaped distinction between these three issues is found difficult, if not impossible (as concludes e.g. Geeraerts 1993: 263). Indeed, in normal-life situations, words only occur in concrete utterances and not in their more abstract and somewhat idealized dictionary definition. Thus, one has to define where contextual variation of one sense ends and where the semantic range of another sense starts – this is the distinction between vagueness and polysemy –, and one also has to find criteria to separate polysemous words, whose senses are, by definition, related, from homonyms, i.e. two lexemes without a proper semantic relation.

3.1. Contextual variation and polysemy

In a paper entiteled "Polysemy and cognition", Paul Deane (1988) adopts the so-called "standard-version" (Kleiber 1990) of prototype-theory – which about the same time was abandoned by mainstream Cognitive Linguistics.[7] According to Deane, the prototypical structure of categories allows speakers to utter sentences like (3a – c):

> (3)   a. My *arm* hurts.
>   b. Look at the *arm* of the statue.
>   c. My mother was overdosed on LSD, so my *arm* is this little thing on my stomach.
>   d. A robotic *arm* reached out and grabbed me.
>   (all ex. cf. Deane 1988: 347)

In (3a) we have something like the prototypical instance of an *arm*, while in the other examples typical, but not necessary features of an *arm* are lacking: (3d) shares the essential functions of a human arm, but like (3b) is inanimate; (3c) has an improper position and maybe does not function as it should. Nevertheless, all three peripheral instances can be classified as "human arms". The corresponding core sense comprises a bundle of properties, some of which can be suppressed and produce the variation found in (3). Deane calls this phenomenon *allosemy* and differentiates this "on-distinct variation in the meaning of a word" (1988: 345) from polysemy by a couple of tests that cannot be referred to detailedly here (cf. Deane 1988: 347-350).

In my understanding of the problem, it is important to make a clear distinction between the referential or extensional level and the level of semantic description: in a referential view, *vagueness* can only mean that a given referent is classified as a peripheral instance of a category, but still as a member of this category. If we want to approach *vagueness* or better: *contextual variation* semantically, it can only mean that in a given utterance the contextual meaning of a word is recognised as an actualization of a lexicalized sense of this word, although not all defining features are appliable to this context, as e.g. [animate] or [human] to ex. (3b) and (3d). This more or less individual intuition is submittable to a test of *intersubjective relevance*: if two contextual meanings show a clear semantic overlapping, like e.g. the *arms* in (3), but nevertheless cannot be related properly by one of the seven semantic relations A–G, as defined in section 1, then we have contextual variation of one sense.

If, on the other hand, two referents have to be considered as instances of two different extensional classes, we are beyond the limits of referential vagueness. If these two context meanings are instances of two lexicalized senses which are related by one of the seven synchronic semantic relations stated above, then we have *polysemy*, as in (4):

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[7] Polysemy is a core concept in newer studies in Cognitive Linguistics. According to Lakoff (1987), the different senses of a word correspond to the members of one single extensional cognitive category which, instead of having one prototypical member, shows a certain number of "prototype effects". This rather naive equation "one word – one concept" not only reveals to be a typical monosemous view of semantics, but leads to the puzzling interpretation of cases of clear homonymy, such as F *louer*$_1$ 'to rent' – *louer*$_2$ 'to praise', as a kind of monosemously conceived polysemy (e.g. in Geeraerts 1993, 234)! Cognitive semantics thus simply misses the main task of lexical semantics, i.e. to describe the senses of a word and the relations between them. Cf. detailedly Blank (in press c: section 11).

(4) a. The *arm* of a coat.
     b. The *arm* of a record player.
     c. An *arm* of the sea.
     (all ex. cf. WEUD, s.v. "arm$_1$")

The *arm* in (4a) is an instance of a CONTAINER–CONTENT–metonymy; (4b) and (4c) are different types of metaphors, (4b) sharing clearly formal aspects with the human arm, (4c) being a kind of "landscape extremity". By contrast to (3), none of these referents shows a positioning in the upper part of the human body or of a body built after the human model: they are no arms but can be *conceptualized* as such.[8] In this view, it is clear that different extensional classes correspond to different concepts and senses which all can be related to one signifier. Metaphors, metonymies etc. do *not* extend an extensional or conceptual category but relate a new extensional category and its concept to a given word.[9] If this metaphor or metonymy remains a singular contextual effect, i.e. an innovation, nothing happens, but if it is picked up by other speakers and thus becomes conventionalized, a new sense is created within the lexical range of one word.

3.2. Polysemy and homonymy

The combination of the referential and the semantic criterion now enables us to distinguish polysemy from homonymy. Consider ex. (5):

(5) a. The *arm* on that statue looks better than yours. (cf. Deane 1988: 347)
     b. A special *arm* of the government is to investigate the matter. (cf. WEUD, s.v. "arm$_2$")
     c. His religious convictions kept him from bearing *arms*, but he served as an ambulance driver with the Red Cross. (cf. WEUD, s.v. "arm$_2$")
     d. Three lions passant gardant ... the Royal *Arms* of England. (Porny, Heraldry [1787], cf. OED, s.v. "arm$_2$, IV014")

Referentially, all four examples belong to different extensional classes. Now, while (5b) is another lexicalized metaphor related to (5a), there is no proper reading of (5c) that allows a semantic relation to (5a) or (5b); here *arm* means 'weapon'. (5d) is metonymically linked to (5c), as indeed, a noble's family crest was painted on a shield, i.e. on an arm (cf. G *Waffen – Wappen*). We can thus conclude that (5a) and (5b) can be assigned to one polysemous word, and (5c) and (5d) to another, while there is no link between the first pair and the latter: this is homonymy.

      Polysemy results from the lexicalization of an associative process and therefore is semantic in nature, while homonymy, in by far the most cases, arises from

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[8] This is probably the difference between (4b) and the robotic arm in (3d), which in fact *is* the arm of the robot, as it functions (and maybe looks) like a human arm, while the arm of the record player is not an arm but an artefact that can be perceived *as* an arm.

[9] It is important not to equate *word*, *concept* and *extensional category* as is done in some directions of cognitive linguistics (esp. Lakoff 1987; cf. the critique in Brown 1990: 23; Kleiber 1990: 147; Koch 1995: 37).

phonetic clash, as was the case in our example E *arm*$_1$ 'upper limb of the human body' and the like vs. *arm*$_2$ 'weapon':

(6)   a. OE *earm* 'upper limb of the body' > ModE *arm*$_1$
      b. OF *arme* 'weapon' > ME *arme* > ModE *arm*$_2$

Divergent etymology is an important hint to the lexicographer and helps to understand synchrony, but etymology should not be taken to *describe* synchrony. This is not only a question of methodological integrity, a description based on this criterion would not even succeed to explain the following cases:[10]

(7)   a. OF *voler* 'to fly (itr.)' [>METON> 'to hunt with falcons (tr.)' >METON> 'to catch the prey' >META>] 'to steal' (hence ModFr. *voler*$_1$ 'to fly' – *voler*$_2$ 'to steal')
      b. MHG *sloz* 'lock' [>META> 'castle locking a valley or a pass' >EXTENSION>] 'castle, palace' (hence ModG *Schloss*$_1$ 'lock' – *Schloss*$_2$ 'castle')
(8)   a. Lat *somnus* 'sleep' > Sp *sueño* – *somnium* 'dream' > Sp *sueño* (hence > Sp *sueño* 'sleep' –METON– 'dream')
      b. OE *corn* 'grain' > ModE *corn* – OF *corn* 'horny induration on the foot' > ModE *corn* (hence ModE *corn* 'grain' –META– 'corn on the foot')

In (7), we should have, diachronically, polysemy, but the senses that linked the first and the last acceptation disappeared from usage (put into square brackets), so that there is no semantic relation between the remaining senses: this is *secondary homonymy.* In (8), original homonymy is reinterpretated as polysemy by speakers who feel a semantic relation between the two senses in question: this is *secondary polysemy.*

3.3. Referential class and semantic relation: A double test for polysemy

The last four examples have emphasized that we need criteria that work exclusively in synchrony. A typology based on the features of referential class and semantic relation fulfills this claim and separates homonymy from polysemy and the latter from mere contextual variation:

Table 2.

	word form	**referential class**	**semantic relation A – G**
contextual variation ("vagueness")	identical	identical	no (below the level of semantic relation)
polysemy	identical	different	yes
homonymy ("ambiguity")	identical	different	no (beyond the level of semantic relation)

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[10] Cf. for further examples Ullmann 1962: 164-179; Widlak 1992; Blank 1997: 430-433; Fritz 1998: 58.

Contextual variation describes the semantic range of one lexicalized sense; thus, if there is a semantic difference, it is below the level of the semantic relations introduced in section 2. Polysemy is a property of the semantic status of a word and describes a network of related senses of this word, as exemplified above with E *man* and F *parler*. Homonymy means that two words are identical only phonetically; we are beyond the level of semantic relation.[11] The decision whether there exists a semantic link or not, is by no means fortuitous – as it sometimes may appear – but can be, in most cases, defined in terms of the semantic relations we have elaborated above. This typology may in fact result from diachronic processes but it is essentially a description of synchronic relations.

Considering finally the terms "vagueness" and "ambiguity", I'd like to insist on the point that not the senses of a word are vague, but that sometimes contexts are vague, when they allow different readings, and that often referents are vague insofar as they are difficult to attribute to an extensional category. Once, however, we decide to attribute the "poor little thing on one's stomach" to the class of human arms, the word becomes fully linked to the corresponding concept and linguistic content. Prototypicality thus is a property of extensional classes and not of concepts or senses.

4. Discourse rules, idiosyncrasy and lexicalization: levels of polysemy

4.1. Typical recurrent polysemies

Until now, we kept Bréal's dogma that polysemy is the synchronic side of semantic change. A great number of lexicalized semantic changes supports this view. It is, however, challenged by typically recurrent polysemies in different languages, as e.g. E *school* which, according to the context in which it is used, means 'building' (9a), 'a period of education' (9b), 'the body of pupils and of teachers' (9c), 'a course or a couple of courses' (9d) and 'department of a university' (9e):

(9)   a. The children are now at the *school*.
        b. *School* starts at the age of six.
        c. The entire *school* rose when the headmaster entered the auditorium.
        d. After *school* the children rush home.
        e. John now teaches at Harvard Medical *School*.

Even more universally anchored are the CONTAINER-CONTENT- and the CAUSE-RESULT-metonymies in (10) and (11):

(10)   a. I just bought Chomsky's latest *book.* (= CONTAINER)
        b. Chomsky's latest *book* is awful. (= CONTENT)
(11)   a. Mary is *sad.* (= STATE [AS RESULTING FROM STH.])
        d. Mary brings *sad* news. (= CAUSE)

Polysemy of this kind is a quite common phenomenon: the CONTAINER-CONTENT-metonymy can be applied to all sorts of containers (cf. the semantic description in

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[11] The same set of criteria can be used to define other lexical relations such as *paronymy* (word form: similar; referential class: different; semantic relation: no), *synonymy* (word form: different; referential class: identical; semantic relation: no, but senses differ only on the connotational level), *hyponymy* (word form: different; referential class: indifferent; semantic relation: yes).

Copestake/Briscoe 1996: 30s.), the CAUSE-RESULT-relation is generally found with emotional adjectives and the different metonymies in (9) are common to a couple of words referring to institutions with members in a building or similar (e.g. *parliament*, *police-station*, *church*, *country club* etc.) and are therefore highly predictable (cf. Bierwisch 1983: 82). To explain this kind of somehow "regular" relation, two ways are open: monosemy (cf. secrtion 4.2.) or a special type of polysemy which I will call "rule-based polysemy" (cf. section 4.3.)

4.2. Two-level-semantics and polysemy

Let us first investigate the best-known monosemous approach to (9) and (10): In his "two-level-semantics", Bierwisch treats examples as E *school* as conceptual shifts from an abstract semantic representation, as a kind of world-knowledge guided semantic expansion of a core-sense in specific contexts (Bierwisch 1983: 85-88).[12] Bierwisch's basically monosemous interpretation leads to very complex or very abstract lexical entries (cf. his formalized notation): this is a problem at the level of metalanguage, but does not contradict monosemy as such. The "hard" problem with monosemy is that if we really had a core-sense that is expanded by conceptual information, the expansion should function in all similar cases in one language and it should even function universally. This is not the case, as e.g. (9e) would not be possible in German, and (9d) would not allow insertion of E *police-station* meaning 'duty hours':

(12) a. G *Hans lehrt jetzt an der Medizinischen *Schule* der Harvard-Universität.
        b.   *After *police-station* the policemen rushed home.

A case where universality does not work at all is transitivation:[13]

(13) a. E John *sleeps* in this hotel. – This hotel *sleeps* 100 guests.
        b. F Jean *dort* dans cet hôtel. – *Cet hôtel *dort* 100 clients.
        c. G Hans *schläft* in diesem Hotel.– *Dieses Hotel *schläft* 100 Gäste.
(14) a. F Marie *sort* de la maison. – Marie *sort* un pistolet de son sac.
        b. E Mary *comes* out of the house. – *Mary *comes* a pistol out of her hand-bag.
        c. G Maria *kommt* aus dem Haus.– [???]Maria *kommt* eine Pistole aus der Handtasche.

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[12] More details to (newer) issues on monosemy in Koch (1998: 126-130). Other possibilities used in structural approaches are maximizing homonymy, which would override the semantic relations between the sense, or the shift of polysemy from the level of the "system" to the level of the "norm", as defined by Coseriu (cf. Coseriu 1967). This direction is chosen by Dietrich (1997). In this case however, the language's semantic system degrades from a network of lexicalized word meanings to a mere "semantic potential". This systematic semantic potential would not really contain language-specific semantic knowledge but encyclopedic knowledge, conceptual frames, rules of presuppositions etc. which allow to deploy this semantic potential on the level of lexicalized meanings. Such a "minimalist program of semantics" is suggested by Schlieben-Lange 1997: 244ff. (cf. the critique in Koch 1998). To a general critique of the monosemous view of word meaning in structural semantics as developed by Eugenio Coseriu and his disciples cf. Taylor: in press.

[13] For further examples cf. Schwarze/Schepping 1995.

(13) and (14) show that transitivation is a general conceptual process, but nevertheless it is highly idiosyncratic: e.g., in French, intransitive verbs for DIRECTION OF MOVEMENT (*sortir*, *entrer*, *monter*, *descendre* etc.) generally have developed a causative sense (less commonly used with *entrer* however), which is not the case in English and German. And even within one and the same language, a rule is not always transferrable but is submitted to idiosyncrasy, as show the following examples taken from Pustejovsky/Boguraev (1996: 3s.):[14]

> (15)   a. Sam enjoyed the *lamb*.
>   b. The *lamb* is running out in the field.
> (16)   a. *We ordered *cow* for dinner.
>   b. *The *frog* here is excellent.

While E *lamb* admits the polysemy of 'animal' and 'meat prepared for cooking/eating', this is not allowed with *cow/beef*, whereas in (16b) a reference to the whole animal is excluded, since usually only hind legs of frogs are eaten. If all these words had, on the intralinguistic level, a rather abstract core-sense which allowed semantic expansion induced by encyclopedic, extralinguistic knowledge, the different idiosyncrasies would be very hard, if not impossible to explain. Monosemy, thus, rises severe methodological problems and is to be excluded.

   We can conclude that, first of all, the types of polysemy described in (9) – (15) result from the profiling against a cognitive background, which is transferable to similarly construed domains, but that, nevertheless, these culture-specific rules are realized on the level of one language and thus have to be learned one by one (Schwarze/Schepping 1995) or, rather, their specific restrictions and, so to speak, their individual "areas of non-application".

4.3. Discourse rules and polysemy

Against this background, it becomes evident why polysemy in Bréal's sense does not provide a satisfying explanation to this kind of polysemy, as it is indeed difficult to explain the apparent regularities with a great number of parallel semantic changes. Here again, an interesting distinction is found in Deane (1988): Deane calls the non-predictable, idiosyncratic polysemy (the "Bréal-type") "lexical polysemy", while typical semantic relations, as discussed throughout the present section, are labelled "regular polysemy" (1988: 349s.). Deane's distinction in itself is ingenious, his terminology however is problematic, as all polysemies treated here are "lexical" by nature.

   Despite of this imprecision, Deane was going into the right direction, as indeed his "lexical polysemy" is, as defined above in section 2, a synchronic

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[14] Examples of this kind do not only challenge monosemous approaches to word meaning but also the decidedly polysemous approach of Pustejovsky (1995) itself: He has developed a complex semantic theory whose core is built by four types of semantic features called qualia, which are designed according to the four types of causes as defined by Aristoteles (cf. *Organon* IV, 2: ch. 11). These qualia do in fact explain very well regular metonymic and taxonomic polysemy, but they do not account for exceptions as in (15), and they seem not to offer at all an explanation for metaphoric polysemy, as this type would require qualia or argument-structure mapping. Indeed, as Pustejovsky/Boguraev (1996, 4) admit, "the polysemy [in the case of *cow* or *frog*; A. B.] is the result of lexical rules rather than of alternations within the qualia of a single lexical item, such as with *door* [...]." An interpretation of these cases as "semi-productive polysemy" is given by Copestake/Briscoe (1996).

consequence of *lexicalized semantic change*, while "regular polysemy" is obviously different. The first type is characterized by examples as E *mouse* 'small rodent', 'computer mouse' or G *Schirm* 'shelter', 'umbrella' and will henceforth be called *idiosyncratic polysemy*. The second type is characterized, e.g., by E *book* 'printed work', 'contents of this work' and will be called *rule-based polysemy*, as the polysemy of *book* arises from the rule that metonymic transfers from the CONTAINER to the CONTENT are widely admitted in discourse. According to the term "conceptual metaphor" introduced two decades ago by Lakoff/Johnson (1980), we can call the CONTAINER–CONTENT–relation a "conceptual metonymy" or a "contiguity-schema" (cf. Blank 1999b). In fact, all examples cited in this section, are instances of different conceptual metonymies as, e.g., BUILDING – FUNCTION/GOAL (9b), BUILDING – AFFECTED PERSONS (9c), CAUSE – RESULT (11), CONTAINER – CONTENT (10; 13a), OBJECT – ACTOR (14a), ANIMAL – MEAT OF THIS ANIMAL (15).

  Insofar, we can insert our typology of polysemy in the greater context of cognitive semantics and we can state immediately that not only conceptual metonymies lead to rule-based polysemy but that, of course, conceptual metaphors as well constitute such as shows the "extension" of the BUILDING–THEORY–metaphor in (17b):

(17) a. Is that the *foundation* of your theory?
   b. His theory has thousands of little rooms and long, winding corridors.
    (ex. cf. Lakoff/Johnson 1980: 46, 53)

The central tenet of *Metaphors we live by*, viz. that "our ordinary conceptual system, in terms of which we both think and act, is fundamentally metaphorical in nature" (Lakoff/Johnson 1980: 3), does not lose its charm when extended to metonymy. Conceptual metaphors are one way of structuring the world via language; conceptual metonymies represent another, maybe even more important way. Less often, so it seems, do we use taxonomic relations deriving from the relation between a prototypical instance of a category and the category itself.[15] It is fully convincing that our reflecting upon the world uses all major strategies, metaphor, metoynmy and hyponymy. On the level of discourse, this fact is mirrored by the use of conventional metaphors, metonymies (and taxonomies) as well as by innovations based on conventional conceptual metaphors and metonymies and on prototype-category-relations. It is also rather uncontroversial that metonymies rely on fundamental contiguities – often anchored in frames and scenarios – and that metaphors result from perceptual or functional similarities between not directly related concepts or domains (cf. Croft 1993; Koch 1995; Blank 1997).

  What remains unclear however is the question on which level of knowledge these conceptual metaphors and metonymies are stored in our mind and why there are language-specific restrictions for the use of some words, while others don't have these restrictions, although showing the same conceptual background (see the examples cited above). It obviously not suffices to say that the former is encyclopedic knowledge and that the latter is somehow idiosyncratic. At this point, it is necessary to add two further levels of linguistically relevant rules, i.e. the level of rules of so-called "discourse types" or "discourse traditions" and the level of language rules that are specific for one language. Discourse traditions are sets of rules for the correct

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[15] Cf. Nerlich/Clarke (in press) who describe typical discourse types where taxonomic strategies are exploited.

production of a specific discourse as, e.g., the set of metaphors and clichés of Renaissance poetry or the typical phrases and strategies used when buying a used car or presenting a paper at a conference (cf. for details Koch 1997). Although realized, of course, in a concrete language, a discourse rule is not language-specific: it characterizes a type of discourse and thus is common to speakers of all languages who use a discourse type in a determined way (e.g., the typical Petrarchian metaphors were known all over Europe during the 16th century, but only within a small group of connoisseurs). Language rules, on the other hand, are idiosyncratic to a whole speech community or to a geographically or socially defined group.

These two levels interact with the encyclopedic or conceptual knowledge, on one side, and with the actual discourse, on the other side, as is represented in Fig. 3:

Fig. 3: Interaction of conceptual rules, language-specific rules, discourse rules and discourse
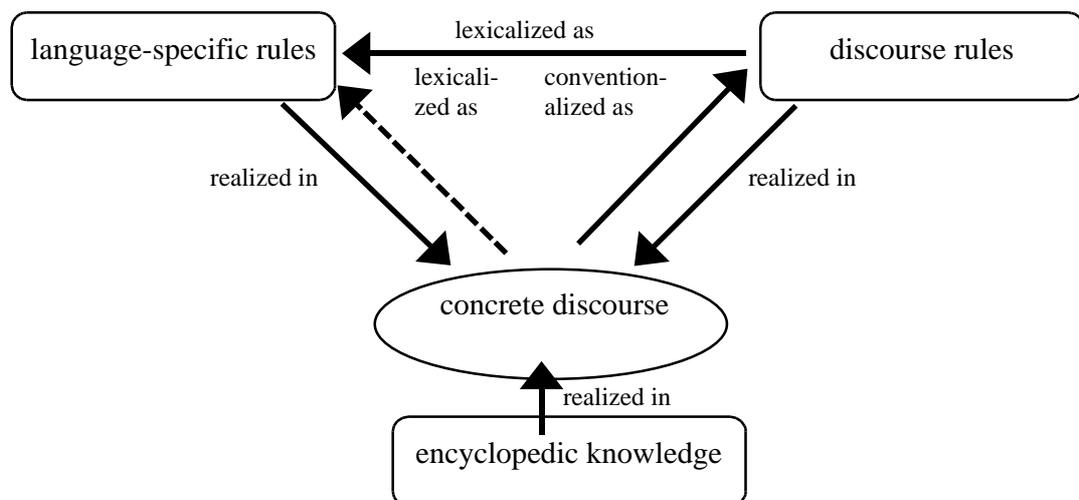
According to this model, innovations are either realized on prominent encyclopedic knowledge with the psychological basis of salient associations (as, e.g., salient similarity, contiguity or contrast), or speakers derive them by analogy to already existing conceptual metaphors, metonymies or taxonomies, which, of course, have themselves cognitively pregnant foundations. Innovations can be lexicalized directly as a specific language rule – an idiosyncratic metaphor, metonymy etc. (represented by the broken arrow) – or, and this seems to be more common, as a rule of the specific discourse type in which the innovation was first used. This innovation later may get lexicalized as a proper language rule.

In the case of metonymy, for instance, several conceptual contiguities are permanently highlighted and allow analogous metonymies to words that access the same or a parallel construed frame or the same discourse type. As we probably have not learned all these potential metonymies before, we must have learned the *rules* that underlie them and their specific restrictions. Waltereit (1998: 14-19, 26ff.) has clearly pointed out that these rules are mainly *discourse rules*: every discourse type activates a set of "conceptual metonymies" that can be filled with concrete lexical metonymies. This explains why, e.g., (10) and (11) are very wide-spread types of contiguity corresponding to a rule in a large number of discourse types. The range of a conceptual metonymy thus is limited by the range of its discourse type(s), as shows (18):

(18) a. The *ham sandwich* is waiting for his check.
         (ORDERED DISH – CUSTOMER in waiters' discourse)
      b. G *Ich* werde verlängert
         (EMPLOYEE – CONTRACT in discourses concerning work)

In this new perspective, we can now understand why (12b) was odd: the contiguity-schema PLACE OF WORK – TIME OF WORK is not a usual discourse-rule, although being fully understandable. The conceptual metonymy can be used creatively to produce analogous metonymies, but only on the grounds of the activated discourse type. The same holds true for typical conceptual metaphors: once a similarity scheme is anchored in the mind as a rule of discourse-types it can be productively filled with analogous metaphors, as exemplified in (19).[16]

(19) a. E The trigger word opens a *mental space.*
         (CONCEPTS – CONTAINERS in linguistics)
      b. F Je paragonne à ta jeune beaulté, Qui toujours dure en son printemps nouvelle, Ce moys *d'Avril*, qui ses fleurs renouvelle [...]
         (Ronsard, *Les amours* CIII [1552])
      c. Thou art thy mother's glass and she in thee
         Calls back the lovely *April* of her prime.
         (Shakespeare, *Sonnets* III)

The use of F *avril*, E *april* in the sense of 'youth' is a metaphor restricted to Renaissance poetry, but here again, analogous transfers were possible:

(19) d. For since mad *March* great promise made of me; If now the *May* of my years much decline, What can be hoped my harvest time will be?
         (Sidney, *Astrophel and Stella* [~ 1580]; cited after: Shakespeare, *Sonnets*, ed. by C. Knox, London: Methuen 1918: 6fn.)

Restrictions based on a specific discourse type work also for typical taxonomies, but here the situation remains less marked than in the case of metaphor or metoynymy and needed further investigation:

(20) I apprehended a *vehicle* on the *premises.*
      (BASIC LEVEL CONCEPT – SUPERORDINATE LEVEL CONCEPT in "police-speak"; ex. cf. Nerlich/Clarke, in press)

Concrete metaphors, metonymies or taxonomies are rules of specific discourses and exactly the same holds true for the conceptual metaphors, metonymies and taxonomies that stand behind them. They can be very narrowly restricted to a "small" discourse type or may function as a rule in a larger set of discourse types. The specifity of the discourse type to which a conceptual metaphor or metonymy is submitted determines also the transferability of this conceptual metaphor or metonymy to other words: one cannot extend a conceptual metaphor or metonymy to a word that would not be used in discourses where this rule is operative. The range of

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[16]   There is however a greater number of very open conceptual metaphors (as e.g. "orientational metaphors"; cf. Lakoff/Johnson 1980: 14ss.).

these metonymies and metaphors is specifically limited by culturally induced frames and the discourse rules themselves and can therefore vary from society to society.

Furthermore, it is possible for a metonymy, metaphor or a new hyponymous or hyperonymous sense to become lexicalized as a specific language rule on the level of a determined language.[17] At this point, we have an idiosyncratic lexicalization of a discourse rule (itself originally profiled against a cognitive background). Parallel *lexicalized* metaphors and metonymies deriving from such rules can then be interpreted as instances of *analogous semantic change* (see section 1).

4.4. Four levels of polysemy

To sum up, we can now revisit our examples for polysemy (9) to (20) and, according to the model we have developed, determine their specific character. This leads to a fourfold typology of *different levels of polysemy*:

1. Rule-based, non-lexicalized polysemy:
   Ham sandwich 'customer who has ordered a ham sandwich' follows a discourse rule which is restricted to a very specific discourse type and which is only appliable to a limited number of contexts (Fauconnier 1984 speaks of a "closed connector"). Within the framework of this discourse type however, it is fully transferrable to other dishes. There seems to be no further lexicalization of this discourse rule or of one single instance of this metonymy on the level of a specific language. It is nothing more or less than a discourse rule in waiter's discourse, probably all over the world. Roughly the same holds true for (18b) and (19a) - (19d).

2. Rule based and lexicalized polysemy with no or few idiosyncratic restrictions.
   The polysemies of E *book* and *sad* derive from an encyclopedic (maybe universal) cognitive background and are instances of rather unspecific discourse rules, as referring to the content via the container or to the cause via the effect is allowed in many contexts. The examples are also lexicalized as language rules in their specific languages but, in contrast with the following types, they show almost no idiosyncratic restrictions of use and of transferability to analogous concepts.

3. Rule-based and lexicalized polysemy with idiosyncratic restrictions:
   a. The different polysemies of E *school*, *to sleep*, *lamb*, *to operate* as well as F *sortir* all derive from from a rather universal cognitive background and, just as the examples in 2, they are instances of very wide discourse rules and are lexicalized as rules of the English lexicon. Furthermore however, they are submitted to more or less strong idiosyncratic restrictions. This inhibits full transfer to analogous cases, which, in case, would be considered by native speakers as a violation of the language's norm, although being completely systematic and understandable.
   b. E *mental space*, *vehicle* and maybe also *school* in (9e) belong to the same type as described in 3a, but show furthermore a restriction to a specific stylistic or socio-linguistic level.

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[17]   According to Schwarze/Schepping (1995) this is even a necessary development.

4. Idiosyncratic lexicalized polysemy:

   The last type covers cases of polysemy which have developed without the overt application of a conventional pattern, i.e. a conceptual metaphor, metonymy or taxonomy. Instances of this type cited in section 1 are It *rat* 'mouse', 'rat'; Sp *coche* 'coach', 'car'; Sp *sueño* 'dream', 'sleep'; F *hôte* 'host', 'guest' or Sard *masetu* 'gentle', 'irascible'. An intermediate stage of conventionalization as a discourse rule however cannot be excluded. Idiosyncratic polysemy of this type seems to occur especially as a consequence of absorption, semantic extension, popular etymology, auto-converse change and contrast-based semantic change, i.e. types of semantic change that are due to general language-relevant rules (as, e.g., expressivity or efficiency; cf. Blank, in press d), but which usually do not apply conceptual patterns as do metaphor, metonymy and – less marked – semantic restriction.

These different levels of conventionalization and idiosyncratic restrictions mark, to a certain extent, the speaker's awareness of a polysemy: Type 1 is completely normal in its context, but is easy to amuse or scandalize people when used in a non-appropriate discourse situation.[18] Type 3b is applicable to many discourse types but may be the inappropriate register. Type 3a is usually "inconspicuous", but can give rise to astonishment or reproval when transferred productively to non-lexicalized items. In this effect relies the innovating speakers' chances for conveying a communicative effect. The chances for a communicative effect are less good in case of type 2 which is open to transfers. There is also evidence that with type 2 speakers actually seem to have difficulties in distinguishing polysemous senses.[19] Type 4 is too heterogenous for generalizations: here everything depends on the individual instance of polysemy.

5. Conclusion

As has been demonstrated in the last section, polysemy is not fully derivable from semantic change. In this point, we had to modify Bréal's view. Polysemy as the *directly* lexicalized consequence of semantic innovation has revealed to be merely one way in a set of possibilities. Indeed, speakers obviously prefer to apply conceptual patterns anchored in discourse traditions and thus innovations are often created on the basis of these patterns. Innovations can become conventional on the level of a discourse type and can further be submitted to lexicalization as a language rule with or without specific idiosyncratic restrictions of both use and transferability.

While even laymen can decide whether there is a semantic relation or not, polysemy for a long time has been puzzling the specialists. This paper has developed a referential and semantic test for distinguishing polysemy from contextual variation and homonymy and has laid bare seven types of semantic relations between lexicalized senses of a word. As a theoretical concept of semantics, lexical polysemy

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[18]   Imagine someone talking about a restaurant where he/she has been for dinner saying: "And then this ham sandwich sitting next to us went off without paying."

[19]   This can at least be drawn from the results of the empirical approach of Soares da Silva (1992): his Portuguese subjects had to classify the semantic relation of marked words in pairs of sentences from "0" (no relation) to "4" (identical). The highest score in his test actually was given to Pg *livro* 'book (CONTAINER-CONTENT)' (3,92) and *triste* 'sad (RESULT-CAUSE)' (3,62), which means that many test persons weren't fully aware of the polysemy, i.e. of the semantic difference. Instances of type 3 were usually better classified as being polysemous (score between 1,5 and 3,5). Cf. also Blank 1997: 418s.

has now become defined in positive terms and, as a tool of semantic and lexicographic description, we can now use it with much more precision. Both, the seven types of semantic relations and the distinction from vagueness and ambiguity are submitted to intersubjective judgment, and it is therefore self-evident that they will not succeed to explain unanimously all concrete cases. This is, in fact, due to the "interpretative nature of linguistic semantics" (Geeraerts 1993: 263).

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