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## **Lexical semantics meets pragmatics\***

### **Abstract**

The present paper outlines a conception of lexical pragmatics which deals with mutual connections of the lexicon and pragmatics and has the following characteristics. Besides lexical stereotypes, three types of encoded encyclopaedic information are differentiated: prototypes which are 1) added to and 2) built into the predicate decomposition of lexical-semantic representations as well as 3) those that constitute the main part of lexical-semantic representations. Since a number of words do not encode full-fledged concepts, lexical pragmatics cannot do without underspecified meaning representations. Words reach their full meanings in corresponding contexts through a number of different ways of considerable pragmatic inference, depending on various types of underspecificity.

*Keywords:* underspecificity, encyclopaedic information, pragmatic inference, lexical pragmatics

### **1 Introduction**

The present paper aims to investigate the mechanisms by which word meanings stored in the lexicon are modified when they are used in utterances. These mechanisms belong to the realm of lexical pragmatics. There are several conceptions of lexical pragmatics: while some of them are neo-Gricean (Horn 2008, Huang 2009, Levinson 2000), Blutner's (2010) is based on optimality-theory pragmatics, which is also neo-Gricean in the sense that two countervailing principles determining the interpretation, namely, the Q-principle and R-principle, are assumed. The third major approach is relevance-theoretic lexical pragmatics (Wilson & Carston 2007). My primary concern in the present paper lies in examining the types of information included in word meanings and their role with respect to developing the logical form underlying an utterance into an explicit meaning of a proposition. Therefore, the further discussion of issues relevant for making up a lexical pragmatics conception is biased more towards the relevance-theoretic one than the neo-Gricean models. My version of lexical pragmatics (Bibok 2004, 2010) integrates ideas not only from Relevance Theory (Sperber &

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Wilson 1995) but also from Two-level Conceptual Semantics (cf. Lang & Maienborn 2011) and Generative Lexicon Theory (Pustejovsky 1995), and here it will be supplemented with new insights. Nevertheless, I admit that it is at variance with some relevance-theoretic assumptions, at least with some of the standards with respect to word meanings and interpretation mechanisms. In what follows I propose my approach to point out how lexically stored word meanings contribute to the explicit propositional content of utterances, and how they get their actual interpretations in the construal of utterance meanings.

## 2 Theses to be maintained by lexical pragmatics

To begin with, let us take as a starting point **the contextualist stance**, according to which the explicit content of an utterance is underspecified by the linguistically encoded meaning and a substantial element of pragmatic inference is crucial for determining not only what is implicated but also what is said (cf. Recanati 2012). Moreover, as Sperber and Wilson (2012) state, a **concept** a word is used to convey in an utterance has to be **contextually worked out**. All words behave this way independently of whether or not a word encodes a full concept. The latter type of cases, when **words do not encode full-fledged concepts**, has not been subjected to a thorough examination yet. However, it would deserve special attention because the underspecificity coming from the lexicon raises the following two questions. First, how can one treat a word meaning as a not full-fledged concept and, second, how does such a concept become a contextually full one depending on various types of underspecificity but again through considerable pragmatic knowledge? Sperber and Wilson's examples include words *my*, *have*, *near* and *long*, but one may think this category of words is very common. Taking into account such views on word meanings in utterances as Two-level Conceptual Semantics (cf. Lang & Maienborn 2011) and Generative Lexicon Theory (Pustejovsky 1995), we can list a great number of words which do not encode full-fledged concepts. Before showing my analyses of words of the given kind, I have to present my answer to the question how to treat a word meaning as a not full-fledged concept.

### 2.1 Types of information encoded in word meanings

Now it is clear that even if one ignores polysemy, homonymy and synonymy as well as procedural meanings, **the equivalence between concepts and word meanings** does not hold. On the one hand, there are a great many concepts which are not encoded by any lexical item, and, on the other, there are words which do not encode full concepts. But what constitutes the meaning of a word in the latter case if one maintains – as in Relevance Theory (Sperber & Wilson 1995: 86-93, Carston 2002: 322) – that concepts are atomic? Relying on arguments in Groefsema (2007) and in Bibok (2004), I reject the atomistic view of concepts and, consequently, of the conceptual meanings of words. Instead, I favour the **Common-Stock-of-Features Framework**, the core idea of which is that “both conceptual knowledge and lexical-semantic knowledge involve a common stock of **featural** [emphasis added – K.B.] atomic representations but combine them into complex structures in a [partly – K.B.] different way” (Kelter & Kaup 2012: 2796). What features does then a word encode in its meaning (and, consequently, what features does a concept include in its content)?

Detached from their contexts, some pieces of contextual information can become context-independent. Furthermore, such kind of encyclopaedic information and information

concerning the use of language can be encoded as an integral part of lexical-semantic representations (Németh T. & Bibok 2010). Therefore, like Groefsema (2007), who recasts logical and encyclopaedic pieces of information as ingredients of the content of a concept, I also assume **two types of information in word meanings**. Besides meaning representations composed by means of **primitive predicates**, lexical pragmatics (Bibok 2004, 2010) applies encyclopaedic meaning descriptions. In doing so, a significant role is given to **prototype semantics and lexical stereotypes**.

It is well-known that according to the prototype view (Kelter & Kaup 2012, cf. also Lewandowska-Tomaszczyk 2007 and Taylor 2011), category membership is a function of an item's similarity to the prototype which is an assemblage of all possible features (in accordance with one of the conceptions of being a prototype). Features can be weighted by a measure of their importance and between them there can be causal and other relations. However, it has to be admitted without delay that degree of membership is only a prototypical feature of prototypes because prototypicality effects also occur when clear category boundaries are present (something is or is not a bird, but some birds may be "birdier" than others) or even when a category (e.g. *odd number*) has a clear definition (Geeraerts 1989, Kelter & Kaup 2012).

Lexical stereotypes prescribe the corresponding – perhaps culture-dependent – manner and goal (if any) of the events to be expressed by single lexemes and not periphrastic (causative) constructions (Gergely & Bever 1986). Although encyclopaedic, lexical stereotypes differ from prototypes, because there may be prototypical causative events not expressible by single lexical items (*\*The psychiatrist reminded the aphasic of his mother's birthday by giving him an electric shock* vs. *The psychiatrist caused the aphasic to remember his mother's birthday by giving him an electric shock*). Moreover, the information encoded by lexical stereotypes does not have to be treated as conversational implicatures (McCawley 1978) if one argues along the lines of Groefsema (2007).

Thus, the present paper does not only take for granted that both semantic predicates and world knowledge are indispensable parts of lexical-semantic representations but also that there should be a division of labour between them (cf. Engelberg 2011a). So, according to Levin and Rappaport Hovav's (1995: 20-30) highly influential approach to the issue, verb meaning is represented in the form of predicate composition and, in addition to the primitive predicates, there is another kind of meaning element, namely, what has been called constants. Combinations of predicates constitute grammatically relevant aspects of verb meanings, and constants encode their idiosyncratic elements. At the same time, because of enriched meaning representations argued for in order to account for syntactic alternations (Iwata 2002, Bibok 2010), such a characterization of the distinction between the knowledge of language and that of the world is questionable (cf. also Engelberg 2011b: 135). Therefore, I assume another distinction between **necessary (logical or metaphysical) constituents and prototypical/stereotypical encyclopaedic knowledge** in word meanings.<sup>1</sup>

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<sup>1</sup> This is fairly similar to what Allan (2012: 234) says, if we read it in the sense of decomposition (rather than in an atomistic, or holistic, way): "a lexicon entry can be constructed to indicate the necessary components of meaning for the entry and also the most probable additional components of meaning that obtain for most occasions of use but which may be canceled as a function of contextual constraints. These can be seen as prototype effects".

## 2.2 *Types of encoded encyclopaedic information*

Now we can turn to some examples whose lexical-semantic analysis illustrates not only the above distinction but also various types of the storage of encyclopaedic information in representations of word meanings.

### 2.2.1 *Prototypes and lexical stereotypes added to predicate decomposition*

The analytic description in (1a) shows the meaning core of the Russian verb *rezat'* 'cut through pressing' expressed periphrastically and then in (1b) it is translated into a formalized metalanguage of semantic predicates:

- (1) a. 'using Z such that Z presses Y, X causes Y to become not a whole';  
 b. [[[x USE z] : [z PRESS y]] CAUSE [BECOME [not WHOLE y]]].

However, let us imagine the following situation: John puts the edge of a knife on the bread and then a heavy stone on the knife, causing the distortion of bread, i.e. causing bread to become not a whole. This event could hardly be designated by means of the single lexeme *rezat'* 'cut through pressing' as in (2).

- (2) Džon rešet xleb nožom.  
 John.NOM cuts bread.ACC knife.INS  
 'John is cutting bread with a knife.'

Instead, the above-mentioned event would be expressed with an analytic construction: *Doing this and this, he causes that...*

Even though someone uses instruments with a sharp edge in standard ways, typical and non-typical situations of *rezat'* 'cut through pressing' can appear. For instance, cutting bread into two or several pieces with a knife seems to be more typical than cutting it in such a way that it is distorted but is not divided into separate pieces. Even less typical is an event when we try to cut a board into pieces with a knife. In addition, it is not untypical for the verb *rezat'* 'cut through pressing' to denote cutting events carried out with another kind of sharp-edged instruments called in Russian *nožnicy* 'scissors'. For example:

- (3) Džon rešet list bumagi nožnicami.  
 John.NOM cuts sheet.ACC paper.GEN scissors.INS  
 'John is cutting a sheet of paper with scissors.'

Consequently, we need to supplement the core meaning in (1) with the indication of the lexical stereotype in (4), containing the following encyclopaedic information, perhaps, not propositional, but procedural in its nature:

- (4) 'standard ways of using Z, which X can cut Y with through pressing',

and with the indication of the prototype in (5):

- (5) ‘using sharp-edged instruments such as a knife, a slicing machine or a pair of scissors to cause the distortion of, e.g., bread, meat or paper through pressing<sup>2</sup> and dividing it into pieces’.

Now consider further examples in (6) and (7).

- (6) Džon režet kusočki (mjasa).  
 John.NOM cuts pieces.ACC meat.GEN  
 ‘John is cutting up pieces (of meat).’

- (7) Džon režet poloski (bumagi).  
 John.NOM cuts stripes.ACC paper.GEN  
 ‘John is cutting up stripes (of paper).’

In contrast with (2) and (3), what is cut (and expressed by syntactic objects) in (6) and (7) is not an existing object, but it is coming into being through that activity. In other words, the events under consideration result in pieces of meat and stripes of paper. One can cope with such a use of the verb in (6) and (7) as follows. When cutting Y does not only cause Y to become not a whole, some parts W (of Y) also come to exist. Therefore, instead of (1), the meaning of *rezat* ‘cut through pressing’ can be given in more detail as (8):

- (8) [[[x USE z] : [z PRESS y]] CAUSE [[BECOME [not WHOLE y]] (: [BECOME [EXIST w]])]],  
 where 1.  $w = \text{parts of } y$ , i.e. [w PARTS\_OF y],  
 2. the parentheses express optionality.

Finally, one should realize that prototypicality conditions given in (5), and also possible deviations from those, play a crucial role in the identification of denotation of the verb *rezat* ‘cut through pressing’. Such a character of denotation of this verb should be strongly emphasized as a novelty in comparison with previous analyses (for details, see Bibok 2009: 11-15). In contrast, in the case of verbs of communication such as Hungarian *hív* ‘call’ and *küld* ‘send’, the predicate decomposition establishes denotational limits (cf. Bibok 1998). Therefore, prototypes added to their predicate decomposition only differentiate between typical and atypical cases inside the same, though fairly underspecified, conceptual domains.

### 2.2.2 Prototypes built into predicate decomposition

For instance, such prototypes account for the occurrence of directional phrases which Russian and Hungarian verbs of cutting did not originally possess. Consider the Russian examples in (9) and (10).

<sup>2</sup> As to the typical use of a knife, one can mention another feature, namely, that it does not only press Y but also moves back and forth.

- (9) Prodavščica narezala kolbasu tonkimi kuskami na voščenuju  
 salesgirl.NOM PRF.cut.PST.SG.FEM salami.ACC thin pieces.INS on wax  
 bumagu.  
 paper.ACC  
 ‘The salesgirl sliced the salami into thin pieces onto the wax paper.’
- (10) Mama naterla syr na gotovye makarony.  
 mother.NOM PRF.grated.SG.FEM cheese.ACC on prepared macaroni.PL.ACC  
 ‘The mother grated the cheese onto the macaroni.’

How can adverbial directional phrases appear with these Russian (prefixed) verbs expressing cutting and similar actions, if they had not had them before? To get an answer, let us develop the lexical-semantic representation in (8) one step further and take into consideration the following: parts *w* coming into being by cutting **typically** – as world knowledge dictates – move and occupy a spatial position while *y* becomes not a whole. Instead of adding this piece of typical, encyclopaedic information to the core meaning representation in (8) as a separate prototype description (see (5)), it should be built into (8) as its optional part in parentheses, like the fragment [BECOME [EXIST *w*]], which is also optional and specified by the piece of information on motion. Now one gets a modified representation for the core meaning of *rezat* ‘cut through pressing’:

- (11) [[[x USE z] : [z PRESS y]] CAUSE [[[BECOME [not WHOLE y]] (:[[BECOME [EXIST *w*]] (: [w MOVE\_TO v]])]]],  
 where 1. *w* = parts of *y*, i.e. [w PARTS\_OF y],  
 2. the parentheses express optionality.

There are two remarks in order concerning (11). First, since the component of motion in parentheses figures in a wider scope of other parentheses, the former can play a role together with the latter. Thus, (11) allows the appearance of the motion sense only in case cutting results in not only becoming not a whole but also being divided into parts, which is in full accordance with our every-day knowledge. Second, the fact that the relational formula in (11) composed out of semantic predicates encodes some encyclopaedic information clearly shows grammatical relevance of the latter with respect to the presence of directional phrases in a construction.

### 2.2.3 Prototypes as main constituents of lexical-semantic representations

The **third** type of encoded encyclopaedic information includes prototypical characteristics which, in addition to some general classifying features given as semantic predicates, constitute the main part of lexical-semantic representations. Consider natural kind terms, e.g. *tiger*. Besides being an ANIMAL, a tiger – prototypically – is a fierce big feline with yellow fur and black stripes and, perhaps, lives in a jungle. Although nouns of artefacts, usable in accordance with appropriate functions, have somewhat more relational meanings because of the GOAL component, their shape, material and correspondence between GOAL and actual usability or use are subject to prototype semantics. It is worth noting that possible lack of coincidence between GOAL and actual usability/use indicates the need of a somewhat more precise

formulation of the GOAL. What is certain is that an artefact is made **in accordance with** a goal. However, whether that function is always realized when the artefact is used or whether that function can be fulfilled at all are issues different from what goal the artefact has been made in accordance with. For instance, in the case of *boat* one can assume (12):

- (12) [x MADE\_IN\_ACCORDANCE\_WITH\_GOAL y],  
 where y = MOVING\_ACROSS\_WATER.

On the basis of section 2.2, the following two theses may be formulated for lexical pragmatics.

First, besides lexical stereotypes, at least **three types of encoded encyclopaedic information** can be differentiated: prototypical characteristics which are **added to** or **built into** the predicate decomposition of lexical-semantic representations as well as which **constitute the main part** of lexical-semantic representations.

Second, since a number of words do not encode full-fledged concepts, lexical pragmatics cannot do without **underspecified meaning representations**. Of the various forms of underspecification, above we have only encountered **prototypes and the bracketing of the optional (prototypical) parts**. However, they also include the double interpretation of a lexical-semantic structure, or focusing on one part of a representation, the components abstracted from concrete instantiations, the use of variables for components to be differentiated or shifted and, maybe, other procedures (cf. Bibok 2004, 2010).

### 2.3 Construction of utterance meanings

Underspecified word meaning representations embracing two types of information, encoded both in primitive predicates of necessity of some kind and prototypical or stereotypical structures of context-independent pragmatic knowledge, are **semantically and pragmatically rich enough to serve as a basis for full-fledged, non-metaphorical actual pragmatic senses** emerging contextually (or even constructionally) in utterances. This is illustrated by a brief case study of contextual uses of a verb with prototype added to the predicate decomposition, namely, of the Russian verb *rezat'* 'cut through pressing'.

To begin with, consider (13):

- (13) rezat' xleb  
 cut bread.ACC  
 'cut bread'

In the immediate context of *xleb* 'bread', the verb *rezat'* 'cut through pressing' is differentiated within the scope of its prototype in (5) above, which encodes some encyclopaedic knowledge. Such a differentiation proceeds further in (14) because the cutting instrument is specified as one of the typical instruments of cutting bread.

- (14) rezat' xleb            nožom  
 cut bread.ACC knife.INS  
 'cut bread with a knife'

However, if there is a deviation from the prototype but not from the lexical stereotype of using an instrument in a standard way to cut something (through pressing), one has to extend the immediate context to get a relevant interpretation.

- (15) *rezat'* *dosku*        *nožom*  
 cut    board.ACC   knife.INS  
 'cut a board with a knife'

The object to be cut with a knife (through pressing) in (15), i.e. a board, does not fit the prototype of the verb *rezat'* 'cut through pressing'. But we can access respective – not encoded – encyclopaedic information as a kind of extended context (cf. Sperber & Wilson 1995) since we all know, on the basis of our general world knowledge, that it is possible to use a knife to cut a board (through pressing) if it is necessary. Despite non-prototypicality of such a way of cutting, this information is in accordance with the prototype of the verb because the event at stake is fairly similar to prototypical ones. Therefore, one can reach a suitable interpretation: 'causing a board to become not a whole with a knife (through pressing)', although it needs strenuous efforts and a long time, let alone 'causing a board to be divided into parts with a knife (through pressing)'. In other words, the meaning construction of expression (15) is done through pragmatic inference on the basis of **encyclopaedic information not encoded by and even not associated with any lexical items** in a(n immediate) context of *rezat'* 'cut through pressing' but coming from our general world knowledge.

The interpretation mechanism proposed for (15) is valid for another deviation from the prototype.

- (16) *rezat'* *xleb*        *toporom*  
 cut    bread.ACC   axe.INS  
 'cut bread with an axe'

The instrument indicated in (16) does not match the prototype of the verb *rezat'* 'cut through pressing', either. But once again on the basis of our general world knowledge, we have a further piece of encyclopaedic information that it is possible to use an axe as a knife if it is necessary or purposeful, or simply if one wants to. This piece of information makes (16) similar enough to the prototype of the verb, and one can get a relevant interpretation in an encyclopaedically extended context: 'cut bread with an axe (through pressing), i.e. using an axe in a way we use a knife'.

Furthermore, there are uses of *rezat'* 'cut through pressing' which are quite obviously even more different from the typical cases in (13) and (14) than (15) and (16). Consider (17) and (18) below. They are fully acceptable because they do not contradict the core lexical-semantic representation in (8), because – as we recall – it does not specify the object used to cut with as an instrument with a sharp edge.

- (17) *rezat'* *mjaso*        *kameškom*  
 cut    meat.ACC   small.rock.INS  
 'cut meat with a small rock'



- (18) *rezat'* *rogovicu lazernym lučom*  
 cut cornea.ACC laser beam.INS  
 'cut the cornea with laser'

As to (17), it can be interpreted with the help of our general world knowledge as follows. Although in spite of a requirement of the prototype in (5), a small rock is not an instrument, a flat one probably has a sharp edge and may occasionally be used to cut meat in a way we cut with a knife (which might not have been an atypical case in prehistoric age). It is important to notice that this event is similar to the one in (16), the difference being the lack of use of an instrument. Let us recall that (16) has in turn been considered to resemble the prototype of *rezat'* 'cut through pressing'.

In (18), the object to cut with (through pressing) does not have any sharp edge at all. Nonetheless, cutting can take place because, according to our general knowledge about the world, the result of causing deliberate distortion comes into being in a way similar to non-prototypical and prototypical cases of using sharp-edged instruments or objects.

Finally, it is worth mentioning that the differentiation of the given verb within the scope of the prototype in an immediate context as in (13) is only the typical case for lack of any specific context. If we gain, from an extended context, e.g. from the physically observable environment, information about using an atypical instrument, say an axe, to cut bread (through pressing), then **the typical interpretation available in an immediate context** does not emerge. Instead, we interpret (13) **in an extended context** under consideration as (16), i.e. 'cut bread with an axe (through pressing)'.

On the basis of section 2.3, we may add the following three points, characteristic of the present conception of lexical pragmatics, to the two theses formulated at the end of the preceding section.

First, having underspecified meaning representations (see the second thesis in 2.2), words reach their full meanings **in corresponding contexts** through considerable pragmatic inference. Likewise, the contexts may help to find lexically required predicates (and also arguments) which are, however, unrealized in utterances (for details, see Németh T. & Bibok 2010).

Second, inspired by Relevance Theory, my version of lexical pragmatics distinguishes between **immediate** and (discursively, perceptually and encyclopaedically) **extended contexts**.

Third, in addition to the three types of lexically encoded encyclopaedic knowledge (see the first thesis in 2.2), **not encoded** pieces of such information may be established in connection with encyclopaedically extended contexts.

### 3 Conclusion

To sum up, what has been outlined in this paper is a conception of lexical pragmatics which deals with mutual connections of grammar and pragmatics in a subfield of broadly conceived grammar, i.e. in the lexicon. Lexical pragmatics contributes to our knowledge about utterance meaning "ingredients" both from inside the utterance and from outside of it. Although the underspecified character of word meanings is unequivocal, there is no single way that matches all the above mentioned pragmatic factors in utterance meaning construction. However, one should assume a radical form of this underspecificity together with a number of different ways to get pragmatically relevant interpretations.

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