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## MEANING POTENTIALS AND CONTEXT: SOME CONSEQUENCES FOR THE ANALYSIS OF VARIATION IN MEANING

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#### **Abstract**

The purpose of this paper is to suggest a view of word meaning on the type level based on "meaning potentials" rather than on reified type meanings founded on either of the two traditional approaches of abstract generalization (*Gesamtbedeutung*) and typical or basic meaning (*Grundbedeutung*). It is suggested that actual meaning on the occurrence level is produced by context sensitive operations of meaning activation and meaning determination which combine meaning potentials with each other and with contextually given information rather than by some simple compositionality operations yielding phrase and sentence meaning from simple type meanings of one of the two traditional kinds. To establish this goal, I first present the traditional notions and discuss some problems which arise when trying to handle variation in meaning. I then specifically discuss the relation of homonymy and polysemy to the traditional notions. In section 3, I introduce the notion of "meaning potentials" as an alternative to the traditional notions and then discuss in section 4 how this notion might be used to handle problems of meaning variation, focusing especially on homonymy and polysemy.

*Keywords*: determination of meaning; *Gesamtbedeutung*; *Grundbedeutung*; homonymy; meaning activation; meaning potential; meaning variation; polysemy; reification.

### 1. Background

## 1.1. Approaches to lexical meaning

The nature of word meanings has been discussed since antiquity. The classical answers of realism, conceptualism, and nominalism (cf. Quine 1953a) derive from the ancient and medieval debate on the nature of universals. Realism is traditionally associated with the view that universals, and by extension word meanings, are abstract, independently existing essences which can be captured by stating the necessary and sufficient conditions for something to be what it is. Nominalism is a reaction to this view which instead claims that universals (word meanings) should be viewed purely extensionally as the set of things denoted by a particular word. On this view there is no such entity as "redness", but only a multitude of things that are called 'red'. Conceptualism, proposed by Abelard (cf. Gilby 1967) building on Aristotle [1938], is a reaction to both of the preceding ideas, and claims that universals (word meanings) are concepts – mental or cognitive constructs created in confrontation with experience. Most linguists, if not philosophers, have since the days of Abelard probably been conceptualists in the sense that they have believed that word meanings are mental or cognitive constructs. The precise nature of the mental constructs corresponding to word meanings has, however, been controversial. Generally speaking, the following two positions can be discerned:

(i) The *Gesamtbedeutung* or "intersection" approach. A word meanings is the largest common semantic denominator for all uses of the word (or for all the things denoted by the word). This approach, in fact, is often equivalent to essentialism. The essence or common denominator of a word's uses is then characterized in terms of the necessary and sufficient conditions for whatever the word denotes. This is the view most often assumed in formal semantics and, if combined with conceptual realism, the classical view of Plato.

(ii) The Grundbedeutung or "basic example" approach. A word meaning is associated with some concrete instance of the meaning. Mostly this instance is chosen because it is special in some sense. It could, for example, be the first instance of a meaning that a person encounters. This was the position of John Locke [1960]. It could also be somehow functionally or biologically primary. This is the position of the proponents of "prototype" theory (Rosch 1977; Lakoff 1987). Another possibility is that it is the product of an idealization intended to bring out a particular theoretical perspective. This is the idea behind the "ideal types" of Max Weber (Weber 1951; Runciman 1972). Finally, it could be the instance of meaning that is most commonly associated with the word. This could be called the "stereotype" (cf. Putnam 1975). In this chapter, I will use the term "Grundbedeutung" for all approaches that regard "basic" or "typical" examples as the most important ingredient in their account of word meaning, irrespective of whether these "basic" examples are historically primary or whether they number more than one.

### 1.2. The problem of variation in meaning

Let us now see how the different approaches briefly described above deal with the problem of variation in word meaning. In order to do this, we will consider a few examples of variation in word meaning.

### 1.2.1. Nature and democracy

In philosophy, conceptual analysis has often been based on an attempt to define "concepts" (in effect "meaning" in the sense of *Gesamtbedeutung*) through the use of necessary and sufficient conditions. An example can be found in the work of the American philosopher Arthur Lovejoy (1936), who distinguished 60 or more meanings of the word *nature*. Similarly, political philosophers have

distinguished ten or more meanings of the word *democracy*. We may well ask whether this is a reasonable analysis from the perspective of a general approach to word meaning.

Whether or not we think the analysis is reasonable depends very much on our view of lexical meaning. Given an approach in which meanings are identified with necessary and sufficient conditions, results like the ones proposed by Lovejoy are more or less inevitable if the words and concepts which are studied are to retain a substantial empirical content and still be sharply distinguishable from other words and concepts. It may however be questioned whether these goals, taken one by one or in conjunction, are reasonable. If we abandon the goals and try to derive a common meaning for all uses, we instead face the problem of very abstract or almost empty meanings for words such as *nature* and *democracy*.

What the *Grundbedeutung* approach would lead to in this case is a little unclear since it depends on what type of Grundbedeutung is assumed. The kind of democracy which is ontogenetically or historically primary might not be prototypical democracy, ideal democracy, or even stereotypical democracy. Whichever kind of democracy is chosen as the Grundbedeutung, it is clear that some types of democracy will have to be left out if only one *Grundbedeutung* is assumed. The next step would therefore be to assume several Grundbedeutungs. A problem here is that Grundbedeutung implies that there exists one single basic meaning more strongly than prototype, ideal type, and stereotype. It might therefore be easier to use one of the latter three notions (cf. Lakoff 1987). The question is, however, how many meanings should be allowed and on what grounds? It is likely that if this question is pursued vigorously enough, the final answer will not be very different from that provided by those who believe in necessary and sufficient conditions. There will be many prototypical, ideal, and stereotypical democracies.

#### 1 2 2 Intention and result

Most action verbs can be associated with an intention and a result and, very often, only one of the two need be present to justify the use of an action verb to describe a particular action (Allwood 1980). Consider the following examples:

- (1) a. *I warned him but he did not hear me* (intentional warning), "to notify"
  - b. *I warned him without intending to do so* (resultative warning), "to make someone aware of, e.g. by doing something
- (2) a. I flattered him but he did not notice (intentional flattery)
  - b. I flattered him unintentionally (resultative flattery), e.g. It flattered him that we still knew him.

We may now ask whether intentional warnings and resultative warnings, or intentional flattery and resultative flattery, constitute two different meanings of the verbs to warn and to flatter? Our answer will probably again depend on our view of meaning. If our criterion is necessary and sufficient conditions (i.e., Gesamtbedeutung), our answer will probably be yes, since it seems difficult if not impossible to define warnings without taking either intention or result into account; it is equally clear that the appropriate intention and result are not always present. Again, having only one meaning for warn or flatter runs the risk of being too abstract, even vacuous.

If we instead believe in *Grundbedeutungs*, we may choose one of the two cases or a combination of both as the basic meaning and then try to derive the other cases in some principled manner from the basic meaning. Another option would be to say that we have two *Grundbedeutungs*, which would diminish the difference between the *Gesamtbedeutung* and the *Grundbedeutung* approaches.

## 1.2.3. The meanings of the verb $g\mathring{a}$ in Swedish

As a third example we will consider the Swedish verb  $g\mathring{a}$ , 'to walk or to go'. Here are some of the very many uses of the verb (cf. Voionmaa 1993):

- (3) (i) *Pelle går till skolan*. 'Pelle walks to the school.'
  - (ii) Pelle går i skolan.

    'Pelle goes to (attends) school.'
  - (iii) Bilen går bra. 'The car runs smoothly.'
  - (iv) *Motorn går inte*. 'The motor does not function.'
  - (v) *Motorn går att laga*. 'The motor can be mended.'
  - (vi) Det går inte att röka här. 'It's not possible to smoke here.'
  - (vii) Det går inte an att röka här.'It's not socially acceptable to smoke here.'
  - (viii) *Han går ofta på nitar*. 'He often runs into problems.'
  - (ix) Han går ofta på bluffar. 'He is often fooled.'
  - (x) *Han går på alla så där*. 'He attacks everyone that way.'
  - (xi) Vägen går från Göteborg till Borås. 'The road leads from Göteborg to Borås.'
  - (xii) Han går på bussen. 'He enters the bus.'
  - (xiii) Det går bra. 'That will be OK.'
  - (xiv) Det går jag inte med på. 'I don't accept that.'
  - (xv) Han går ut med henne. 'He dates her.'

(xvi) Inget går upp mot sol.
'Nothing is better than sun.'
(xvii) När går du upp på morgonen?
'When do you get up in the morning?'
(xviii) Vad går det ut på?
'What is it about?'

How many meanings of  $g\mathring{a}$  should we assume? Is the word homonymous or polysemous? Even if the problem can be somewhat reduced in complexity by regarding some phrases as separate verb particle constructions, the question arises as to whether there are in fact a finite number of meanings for  $g\mathring{a}$  or whether, as seems more likely, we can expect the number to vary with new meanings being continuously added, which would imply that any approach based on a fixed set of meanings, whether it be based on generalizations or basic examples, would be inadequate.

### 1.2.4. Words that can function as several parts of speech

Yet another problem concerns words that can be assigned to several parts of speech.

In English it is very common for some words to be used both as verbs and nouns, e.g., to run (verb) and a run (noun), or a book (noun) and to book (verb). Other words can have verbal (be singing), adjectival (a singing child), and nominal uses (this singing). In Swedish there is a similar variation between adjectival and nominal functions, e.g., unga plantor 'young plants'(adjective) and de unga 'the young ones' (noun). Are we to say that words such as book, singing, or unga are homonymous or polysemous, i.e., are they different words which just happen to coincide in form, or are we dealing with one word with several meanings associated with different parts of speech? If we want neither homonymy nor polysemy for such words, what would be involved in claiming that they are monosemous?

## 1.3. Meanings of different types of linguistic expression

Linguistic expressions are not all of the same semantic type. Some, like nouns, pronouns, adjectives, and verbs, can be associated with denotations. Some, like verbs, pronouns, and some adverbs, help to deictically anchor what is said in the speech situation. Some, like other adverbs, prepositions, conjunctions, and quantifiers, are more difficult to associate with denotations and are more functional in character. Still others, like interjections, feedback words, and "communication management words" (hesitation sounds, etc.), are expressive rather than denotative. In addition, several types of expression such as *you know* are polyfunctional, in that they can have more than one of the above mentioned functions.

It is not clear that the two approaches to meaning discussed above fit these different types of expression equally well. Which of the following alternatives is the best characterization of the meaning of the preposition *in*? (see also Vandeloise, This volume.)

- (i) An abstract relation of inclusion (*Gesamtbedeutung*). This would be neutral as to whether we are talking about inclusion in a mathematical proof or inclusion in a bottle.
- (ii) A concrete spatial relation of inclusion (*Grundbedeutung*). This would claim that inclusion in a bottle is more basic than inclusion in a mathematical proof, and would perhaps try to derive the latter from the former.

Whatever solution we adopt for *in*, it is not clear that we necessarily want to adopt the same solution for all other types of expression.

## 2. Monosemy, polysemy and homonymy

### 2.1. Criteria for polysemy and homonymy

Linguists have long distinguished between polysemy and homonymy (e.g., Lyons 1977: 22, 235). Usually, an account like the following is

given. Homonymy obtains when two words accidentally have the same form, such as *bank* ('land bordering on a river') and *bank* ('financial institution'). Polysemy obtains where one word has several similar meanings, such as the *may* of permission (*may I go now*) and the *may* of possibility (*it may never happen*). Since it is not easy to say when two meanings are totally different or unrelated (as in homonymy) or when they are just a little different or related (as in polysemy), it has been customary to adduce additional, more easily decidable criteria such as one or more of the following:

- (i) If two linguistically distinct forms have historically coalesced we have homonymy, otherwise polysemy.
- (ii) If the meanings can be associated with two different parts of speech, we have homonymy, otherwise polysemy. This would mean that many if not most English concrete nouns are homonymous since by the process of coversion they can usually also be verbs, e.g. a chair to chair, a table to table, a fork, to fork, a telephone to telephone, etc. Since most of these cases do not derive from different historical origins, we must either adopt a wider notion of homonymy and reject the historical criterion, or reject the part of speech criterion and say that part of speech variation is a case of polysemy.
- (iii) If the meanings, although associated with the same part of speech, can be associated with two different inflectional paradigms, we have homonymy, otherwise polysemy, as with the French-based Swedish loanword *en våg flera vågor* ('a wave many waves'), and the Germanic word *en våg flera vågar* ('a scale many scales').

The trouble is that, although helpful, these criteria are not totally compatible and do not go all the way. There are cases where we may think that the meanings are clearly distinct and that we therefore have homonymy but which cannot be distinguished by the given criteria, e.g., *charm* (a kind of interpersonal attraction) and the term used in physics, i.e., *charm* (a kind of physical energy). Not even the word

bank, usually given in most textbooks as the archetypical example of homonymy, is clear-cut. Both the 'financial bank' and the 'river bank' meanings derive by a process of metaphor from old French banc 'bench'. Since we are dealing with the same part of speech and there are no differences in inflectional paradigm, the meanings of bank are not a case of homonymy by any of the above criteria! The criteria also separate many things we perhaps feel are not so distinct, such as Swedish en öl 'a glass or bottle of beer' and ett öl 'a kind of beer', or the already discussed switch between verbs and nouns in English. It seems that, in the last analysis, we have to rely on our intuition that clearly distinct meanings should be classified as homonyms and that less clearly distinct meanings should be classified as linguistic criteria Traditional for distinguishing homonymy from polysemy, although no doubt helpful, in the end turn out to be insufficient.

Let us now consider whether the examples given above of *nature*, *democracy*, *warn*, *flatter*, and the Swedish verb ga are to be considered as cases of homonymy or polysemy. Guided by formal criteria, most linguists would probably say they should all be seen as cases of polysemy. But if we are to be guided by intuitions of distinctness of meaning, perhaps reinforced by an analysis of necessary and sufficient conditions for distinct meanings, the answer is less clear. What does the meaning of *nature* in *the nature of this equation is unclear* have in common with the meaning of the word in *our family enjoys life in nature*, and what does a *democracy* which is a dictatorship for the "good of the people" (as in the people's democracies of the former Soviet Union or China) have in common with so-called "direct democracy". Concerning Swedish ga, we may ask what the meaning of 'possibility' has in common with the meaning of 'walking'. Perhaps, after all, these words should be regarded as homonymous ...

# 2.2. Monosemous accounts related to Gesamtbedeutung and Grundbedeutung

We may now more explicitly relate the three notions of monosemy, homonymy, and polysemy to the two classical conceptualist approaches to word meaning discussed above. We will first discuss what would be involved in giving a monosemous account using the *Gesamtbedeutung* and *Grundbedeutung* approaches, we then turn to a consideration of homonymous and polysemous accounts.

On the Gesamtbedeutung approach, a monosemous account would involve trying to find the largest common denominator for all the meaning variants of a word. After having excluded 'government by the people', because of the above mentioned people's democracies, this might result in something like: democracy equals 'some form of leadership involving people' (which of course would not distinguish democracy from any other form of leadership), nature 'something existing' (which would not distinguish nature very well from anything else), warning 'behavior with causal potential to intentionally alert another person' (which really includes most behaviors), gå 'possible process' (i.e., any process). The meanings are clearly too abstract and general. The attendant loss of information would be so great that one would probably feel dissatisfied with a Gesamtbedeutung approach and suggest instead that the words are homonymous or polysemous.

On the *Grundbedeutung* approach, we might try to determine a prototypical sense of *democracy*, *nature*, *warning*, and *gå*. However, as already discussed, it is not entirely clear how this would be achieved. It is especially not clear that the same criteria for prototypicality could be used in order to determine a prototype in all four cases. It also remains unclear whether any of the examples need more than one prototype (i.e., whether they are homonymous and/or polysemous) to do justice to the conceptual material involved. If we turn from prototypes to the other candidates for how to construct a

Grundbedeutung, e.g. "the original case", "the ideal case" or "the most popular case", it remains an open question whether any of these would actually in all cases correspond to what one might feel should be the basic meaning of a word.

### 2.3. Monosemous accounts and context

We will now discuss the problem of relating word meaning to context. In a sense, most of the problems of meaning variation disappear if context is taken into account. The problems are to a large extent artificial, in the sense that they exist on an abstract type level but not, for the most part, on the level of concrete tokens and occurrences in context. It is when we attempt to give a general account of the meaning of a word that the problem of how to harmonize very different shades of meaning (or different senses) arises; it is then that we have to decide whether to abandon monosemy and declare homonymy or polysemy.

Let us now consider how the two approaches given a monosemous account in principle can be adapted to handle variation in meaning and contextual determination of meaning.

Gesamtbedeutung: If we believe in common meanings, these will almost always turn out to be more abstract and general than meanings in context. What is needed will therefore be some process of "information addition". For example, if we analyze the meaning of the word I ('ego') as 'the current speaker', we need procedures for supplying information about the identity of this person. Such procedures, in ordinary talk, are available through processing a combination of linguistic and non-linguistic information given by hearing and sight.

*Grundbedeutung*: If we believe in basic meanings, we will instead need procedures of "information change" or transformation. For example, if the basic meaning of *friend* includes such components as "a personal relationship", "feelings of affection", "mutual obligations",

and "common interest", in order to account for a sentence like *Churchill and Stalin were friends during the war* we might have to make use of an operator of metaphorical extension which would delete most of the above given requirements on friendship.

Neither of the two described procedures is unproblematic. "Information addition" brings the problem of where the additional information comes from, and the criteria by which it is identified. In the case of deictic words like *I*, mentioned above, there is a fairly clear answer to these questions. The information can be obtained by direct perception in the speech situation. But the answer is not equally clear for words like *nature* or *democracy*.

To some extent, "information change" involves the same problems as "information addition", since some types of change involve addition of information. Very often, however, what is involved is the opposite, i.e., information loss. This is, for example, one of the essential ingredients of metaphorical extension which operates on the basis of similarity abstraction. This can be described as a selection of one or more properties which are similar to or compatible with other elements in the linguistic or extralinguistic context, while leaving out those properties which are not similar or compatible.

## 2.4. Homonymous and polysemous accounts

As we have seen, it is very likely that attempts to give a monosemous account of word meaning on a *Gesamtbedeutung* or *Grundbedeutung* approach will not be possible in all cases. Instead, in addition, one or both of the notions of homonymy and polysemy will have to be introduced. On the *Gesamtbedeutung* approach, words will be associated with a more or less structured set of necessary and sufficient conditions, and on the *Grundbedeutung* approach with a more or less structured set of prototypes. However, the introduction of several reified meanings does not really solve the problem of how to handle meaning variation and contextual determination, since it introduces the problem of "information selection", i.e., the problem of how to

select the contextually appropriate meaning variant in a particular circumstance.

"Information selection" is a process which, on the basis of context, selects the relevant meaning of a homonymous or polysemous word. Added to the problem of how and on what basis to determine the multiple meanings, we have the problem of providing criteria of selectional relevance. A popular suggestion is to analyze selectional relevance in a similar way to metaphorical extensions, i.e., in terms of compatibility of semantic features. Each meaning will thus have to be analyzed in terms of features, and that meaning is chosen which is most compatible with features of the preceding or possibly succeeding words. Some problems with this approach are that it is not clear that all meanings can be successfully decomposed into features and that, even if such decomposition were possible, it is often too coarse a procedure for describing the resulting contextual meaning. Another problem is that the word meaning must often be compatible with more than just with features of the words in the local context.

In addition, it would probably not be correct to assume that the problem of "selection" would entirely replace the problems of "addition" and "change". It is more likely that however many meaning variants are chosen, they will remain contextually insufficient (see the discussion of gå), and that a *Gesamtbedeutung* approach will have to cope with both "information addition" and "selection", while a *Grundbedeutung* approach will have to cope with both "information change" and "selection".

### 3. Word meanings as meaning potentials

To attempt to remedy, or at least give a new perspective on the problems discussed above, I would now like to suggest a slightly different approach to the problem of word meaning. In addition to the two alternatives discussed above, i.e., (i) intersection (*Gesamtbedeutung* or common meaning) and (ii) basic examples (*Grundbedeutung* or basic meaning), a third approach is proposed, namely (iii) the union or "meaning potential" approach. The inspiration for this way of viewing lexical meaning comes from Wittgenstein's ideas of "meaning as use" and "family resemblance" (Wittgenstein 1952), as well as from Rommetveit's observations on the role of context for meaning (Rommetveit 1974) and the ideas of Naess on "intentional depth" (Naess 1966). The notion is also very close to that of "meaning potential" as used by Halliday (1976) and in some ways to the notion of "polysemy" employed by Bréal (cf. Nerlich & Clarke 1997).

In brief, the proposal is that the basic unit of word meaning is the "meaning potential" of the word. The meaning potential is all the information that the word has been used to convey either by a single individual or, on the social level, by the language community. The meaning potential, then, does not result from trying to find a generally valid type meaning for a word. Rather, it is the union of individually or collectively remembered uses. The union of uses may serve as a basis for attempting to find a common meaning in terms of necessary and sufficient conditions, or a basic meaning in terms of some criterion of typicality. The meaning potential is a unit on a more basic level than the two classical candidates for an analysis of word meaning and is therefore potentially compatible with both.

A consequence of this approach is that there is no attempt to make any distinction between lexical and encyclopedic information in terms of the kind of information that is contained in the meaning potential. Meaning potentials contain both kinds of information -- information deriving from use of language and information deriving from other experience with the world. (For arguments concerning the arbitrariness and difficulties of drawing a line between lexicon and encyclopedia, see Quine 1953b, Haiman 1980, Allwood 1981 and 1989, Langacker 1987, and Geeraerts 1993.)

Meaning potentials are activated through various cognitive operations. Some of these are triggered through language use. Others can be activated independently of language. Whether or not linguistically triggered, the activation of a meaning potential always takes place in a context which creates certain conditions for the activation. These conditions determine the way in which the potential is activated. The result of an activation is normally a structured partial activation of the potential. I will refer to such a structured partial activation of a

meaning potential as a "determination of meaning". The various kinds of typification discussed in connection with *Grundbedeutung* above are all examples of activation operations. From the meaning potential of *horse*, we can, through different kinds of typification operations, produce a "prototypical horse", an "ideal horse", or a "stereotypical horse". The three cases of typification are all examples of operations that can be triggered by a single word. Another example of such an operation might be what we could call "abstraction of essence", which would activate the necessary and sufficient criteria for being a horse.

Normally, however, we are not concerned with activation of information through the use of single words but through the use of words constrained by other words and by extralinguistic context in such a way that the expression as a whole must make relevant sense in the situation at hand. A *heavy question* is, thus, a question which requires cognitive effort to understand and answer, while a *heavy stone* is a stone which requires physical effort to lift. The meaning potentials of *heavy* and *question* are activated more or less simultaneously in such a way that the head word of the constituent (*question*) sets up criteria for what parts of the meaning potential for *heavy* can be activated if *heavy* is to serve as a meaningful and relevant property of *question*. The same kind of conditions on the activation of the meaning of *heavy* would come into play if the word were to be uttered as an elliptical comment on the difficulty of a previously posed question, as in the philosophical dialog in (4) below:

# (4) A: What is the being of being? B: Heavy.

Another factor which comes into play is the memory of past activations. Once activated in a particular situation to meet certain contextual requirements, a meaning potential is probably much easier to activate again in the same or a similar way.

The notion of meaning potential provides a way of handling what has been called the "underspecificity of meaning", i.e., the fact that the full lexical and structural potential of a linguistic expression is normally not made actual use of. Only what is necessary and/or sufficient for the needs of a particular communicative situation is activated. For example, we probably activate less information about "carburetors" when we interpret (5) than (6).

- (5) A carburetor is a part of a car.
- (6) A car need not have a carburetor since gasoline can be directly injected.

In order to understand (5), the meaning of *carburetor* needs to be less specified than in order to understand (6). It follows that the activation of meaning potentials needs to be related to individual communicators, since different individuals do not share the same elaboration of all meaning potentials and therefore cannot always activate the same information. The same kind of reasoning would apply to the interpretation of so called PP attachments, a case of which is (7):

### (7) The boy saw the girl on the street.

Here a particular speaker or listener might not need to know whether both the girl and the boy, or only one of them, was on the street. For yet another person, this might be essential.

Thus, the notion of meaning potential provides a way of conceptualizing "underspecificity of meaning", as well as other related notions such as the Norwegian philosopher Arne Naess's notion of "intentional depth" (Naess 1966) and the notion of "depth of understanding" discussed in Allwood (1976, 1986).

### 4. Meaning potentials and the problems of word meaning

Let us now consider how the proposal of contextually determined cognitive activation of meaning potentials can deal with the examples and problems previously discussed.

### 4.1. Democracy and nature

On a meaning potential approach, *democracy* and *nature* would both be assigned only one meaning potential. In principle, then, we have monosemy. Operations of essence abstraction or typification (yielding prototypes, ideal types, or stereotypes) could then in particular contexts be applied to the meaning potential to give less rich but more structured and determinate meanings.

A consequence of having only one meaning potential is that the two words would not be homonymous. The question whether they would be polysemous requires somewhat more careful consideration. One answer is that they would not be, since each word has only one meaning potential. Another answer is that they potentially would be, since it is possible to partially activate the meaning potential in such a way that the activated information would correspond to each of the distinct meanings postulated by a reifying polysemy approach. However, a difference between a reifying polysemy approach and the meaning potential approach would be that the different meanings are not seen as a constant feature of a particular word. The fact that Arthur Lovejoy could identify 60 meanings of nature, while a lexicographer might distinguish only five or six, is not a cause for concern. It simply means that they have activated the meaning potential in different ways. In due course, someone else will probably activate the potential in a different way and find a different number of meanings. Another difference, which follows from the first, is that there is no assumption that the different meanings are disjoint. Activation differences may be very gradual in response to different contextual requirements.

A third difference emerges in relation to the determination of meaning in context. On the *Gesamtbedeutung* or common meaning approach, this has to be accomplished by combining the addition and selection of information. On the *Grundbedeutung* or basic meaning approach, it has to be accomplished through a combination of change and selection. In the present approach, addition and change are not needed since the meaning constructs that necessitate these operations are not viewed as fundamental but are themselves merely examples

of ways in which information in a meaning potential can be acti-

When it comes to the question of whether selection operations are needed, one answer would be that there is no selection since there is no set of reified meanings to select from. Another answer would be that, even if there is no selection, there is a process of activation which functionally resembles selection in that it only highlights certain parts of the information that is available in the meaning potential. (For other suggestions, using the "floodlight metaphor" of activation, see Geeraerts 1993 and Tuggy 1993, and for the related "aspect metaphor" see Allwood 1980.) However, a difference as compared to the preceding approach would be that activation is not merely seen as a passive selection of already available meanings or semantic features but also as an active construal or shaping of the activated information. We will see below how this construal or shaping is very often triggered by so-called syncategorematic features.

### 4.2. Intention and result

Warn and flatter, like democracy and nature, would be associated with only one meaning potential. The differences between intentional and resultative warnings and acts of flattery would be seen as differences in activation triggered by differing contextual requirements on sense making. If a person does not hear a warning, aspects of the meaning potential of warn which are connected with results cannot be activated. Likewise, if an action of warning is explicitly stated to be unintentional, the aspects connected with intention cannot be activated.

There is therefore no assumption of reified polysemy either on the type level or on the contextual token level. The type level is characterized only as meaning potential, i.e., as unactivated potential information which, as a consequence, is not polysemous. The token level will be characterized only by actualized activated information which normally will be nonambiguous, i.e., nonpolysemous. It should, however, be pointed out that the above observations do not

exclude the possibility that meaning potentials can be structured by habitual uses in set phrases or collocations or by encyclopedic facts. For example, the contrast between intention and result can, in appropriate circumstances, become a potential or more permanent structuring feature of many verbs.

### 4.3. The verb gå

As in the previous examples,  $g\mathring{a}$  would only be assigned one meaning potential. It would thus be neither polysemous nor homonymous. The different determinations of its meaning would be triggered by the requirement that the information which is activated is capable of constituting a relevant and meaningful unit in association with information activated by the other linguistic expressions with which it is constructed and by the extralinguistic context.

Consider some of the expressions involving gå. Bilen går 'the car runs' cannot be construed in terms of walking since cars, as we know, cannot walk. Consequently, that part of the meaning potential of gå related to walking is not activated. Instead the notion of "functioning activity", which originally was probably derived from "walking" by abstraction and implication, is activated, giving the meaning 'the car functions' or 'the car is working'. Note that the present approach does not force us to assume that abstraction and implication take place ab novo each time we hear an expression like bilen går. Since, most likely, we have experienced similar uses many times before, the readiness for this kind of abstraction is part of the meaning potential. Note also that we are not here making a covert assumption of polysemy since, even if the meaning potential contains a readiness for uses which could be seen as fixed and extablished meanings, it is assumed that these meanings could also be produced ab novo. if the need arises.

Let us consider one more use of  $g\mathring{a}$ , in the expression  $g\mathring{a}$  ut ' $g\mathring{a}$  + out'. It might be thought that this should be treated as a separate lexical item, since in Germanic languages like Swedish, verb+particle expressions often replace what in other languages (e.g. Romance) are

a single word. The following examples make clear that the situation is not so simple:

- (8) *Pelle går ut genom dörren* Pelle walks out through the door
- (9) Pelle går ut med a trevlig flicka 'Pelle dates a nice girl'
- (10) Pelles prenumeration går ut 'Pelle's subscription expires'
- (11) Pelle går ut med ett meddelande om konkurs 'Pelle sends out a notice of bankruptcy'

The examples show that the meaning of  $g\mathring{a}r$  ut shifts between 'walks out', 'dates', 'expires' and 'sends out' as a function of the lexical and grammatical context of the phrase. Each time the meaning potentials of  $g\mathring{a}$  (first anchored temporally by the present tense ending -r) and ut are activated and determined in such a way that the resulting meaning makes sense given the grammatical construction and the meaning potentials of subject, particle, preposition, and object. The cognitive operations which produce this result can be used ab novo but they can also be facilitated by the fact that the meaning potential contains traces of past activations of a similar type.

It might here be worth pointibng out another feature of the notion of meaning potential. It involves both expression and meaning and is thus not a purely semantic notion. It is the word ga which has a meaning potential rather than any of its possibilities of meaning determination. The verb *promenera* ('to walk', 'to take a walk') has a meaning potential which overlaps with that of ga. Both can mean 'to walk' but the other possible determinations of meaning for ga are normally not available for *promenera*. For example, an expression like *motorn promenerar* would, if comprehensible, receive as its primary interpretation 'the motor walks' rather than 'the motor is running/working', which would be the primary interpretation of *motorn gar*. This shows that ga is conventionally associated with a set of meaning determinations which are not normally available for *promenera*. However, we might contextually force *promenera* to

acquire such a meaning determination by assuming that *motorn promenerar* was uttered by a person who did not fully know the language. Meaning potentials are thus a result of conventionalizations of semantic operations meeting contextual requirements.

### 4.4. Parts of speech

In classical linguistic approaches, the question whether two meanings of a word can be associated with different parts of speech has often been taken as a decisive criterion for determining whether a word is homonymous or polysemous. In the present approach this criterion does not have a privileged status. The view can again best be discussed in relation to an example. Let us compare cases like a house to house, a bike - to bike. Rather than postulating two different words, a noun and a verb, it is assumed that there is one root form (house and bike) with one meaning potential. This root meaning potential has some structure and among other things contains the factual information that houses and bikes are independent material entities which can be used in certain ways. In the first case, the meaning potential is activated through the indefinite article a (which semantically is an entity operator), producing the entity expressions (or nominals) a house and a bike; in the second case, it is through the use of the infinitival to, a process abstraction operator which produces the non-temporally anchored process expressions (or verbs) to house and to bike. Since houses and bikes denote independent material entities, the process abstraction activated by use of the infinitival to takes "house" or "bike" as arguments, in this case as instruments, yielding to house 'process which uses house as instrument' and to bike 'process which uses bike as instrument'. If we instead consider the root meaning of a process oriented root like run, its meaning potential would contain no information that run is an independent material object, but rather that it can be "a process of intentional quick leg movement". An entity expression like a run must therefore derive an entity from this process. One way of doing this is by "holistic process reification", i.e., by regarding the process as a whole as a reified entity. Another way is by resultative reification, e.g., a wash for the result of washing some particular entity.

Returning to process abstraction, another role than instrument might be preferred depending on the nature of the process and of the entities involved, but the most common role in process abstraction from entity is that of instrument. In some cases, history and social convention have given the activated meanings a special status. For example, to book is not just instrumental in the sense of "to use a book", but also locative in the sense of "to record something in a book, often to record a commitment to participation in a future event". Over time, as the media have changed, this recording no longer has to be in a book. So today, to book has a meaning which is close to that of to order. The special sense of to book which, in this case and in many similar cases, is compatible with the effects of the original infinitival abstraction, are part of the meaning potential. However, it seems likely that even though we retain the ability to derive to book (in the sense of 'to use a book') by use of the infinitival to on the root book, we also store a kind of phrasal meaning potential for to book.

The need to assume meaning potentials not only for roots but also for derived forms and phrases can be seen if we compare English with Swedish, where the definite article and infinitival form are marked as suffixes on the root. The example just discussed would, in Swedish, be as follows: root form bok 'book', bok-en 'the book', att bok-a 'to book', where only the a-suffix is needed to show the infinitival form. In Swedish, there would therefore be a meaning potential for bok which could be operated on through use of the definite and infinitival suffixes. Besides this basic pattern there would also be derived complex meaning potentials for boken 'the book' and boka 'to book'. The extent to which such derived complex meaning potentials are mentally stored will probably depend on how often they are used and how irregular the meaning of the complex is in relation to its constituents.

### 4.5. Meanings of different types of linguistic expressions

As has been noted above, different types of linguistic expressions, such as different parts of speech, often have different functions. The consequence for the present approach is that meaning potentials must be able to contain many types of semantic-pragmatic information. For nouns, verbs, adjectives, prepositions, and conjunctions, there must be information about entities, properties, processes, and relations as well as about states, events, and course of events. There must also be information about emotions and attitudes and about ways of managing communication. The latter type of information is especially important for interjections, feedback words, and hesitation words. The information must further clarify whether use of the word is to "express", as in the normal use of the interjection *wow* or hesitation word *eh*, to "denote", as in the normal use of words such as *car* and *red*, or to "anchor in the speech situation", as in the normal use of pronouns, tense affixes, and definite articles.

### 4.6. Contextual determination

Contextual determination of meaning is a crucial feature of the present proposal. Activated actual meaning only exists in context. Outside of context, there is only potential meaning. Contextually determined meaning is normally fairly unambiguous, even if there are exceptions. Ambiguities are mostly unactualized potentials which are allowed by the linguistic structure and can be observed by not taking all contextually given restrictions into account.

In accordance with what has been suggested above, all linguistic expressions (morphemes, words, idioms, phrases, etc.) are associated with meaning potentials. Meaning potentials connect an expression both to encyclopedic information and to more specifically linguistic information concerning its use. When used, a linguistic expression activates its meaning potential through cognitive operations whose function is to achieve compatibility between the meaning potential of a particular expression, the meaning potentials of other expressions, and the extralinguistic context. Contextually determined meanings thus result from partial activation of the meaning potentials of the

expressions guided by cognitive operations. A subset of these operations can be characterized as semantic-epistemic operations (Allwood 1989, 1998); the operations are connected with a linguistic expression or structural configuration and with a conceptual-epistemic effect. The basis for the operations are basic cognitive operations like discrimination, similarity abstraction, typification, and reification, which exist independently of language but are expanded and elaborated by being connected with language.

Given this outlook, a crucial task is to show how different contextual requirements together contribute to activating linguistic meaning. Since this is a fairly complex task, all the present paper allows is a brief consideration of some of the main linguistic and extralinguistic requirements.

### 4.6.1. Linguistic requirements

One way to approach the linguistic requirements on meaning activation is to divide the vocabulary into "categorematic" and "syncategorematic" expressions. Syncategorematic expressions consist of conjunctions, prepositions, pronouns, quantifiers, some adverbs, some interjections and derivational and inflectional suffixes, as well as "construction types" like predication, attribution, etc. The use of these expressions, as an important part of their meaning potentials, allows activation of the semantic-epistemic operations mentioned above. Another part of the vocabulary is made up of "categorematic" roots and stems, i.e., roots and stems which normally are used as nouns, verbs, and adjectives (as well as, in some cases, adverbs and interjections). The meaning potentials of such roots are claimed to be subject to both syncategorematic and categorematic contextual determination yielding actual, more complex contextually determined meanings. Thus, the categorematic root run combined with the syncategorematic determiner a and the construction type "determinerhead" yields as a result the nominal a run with a reified process meaning. Another example is given by the compound glass house, which requires a slightly different kind of activation than house glass, since in the first case, glass has to be activated as a property of the head house and, in the second case, house has to be activated as a property of the head glass. Thus, syncategorematic requirements often determine the way categorematic terms should be related, i.e., the two ways of relating glass and house discussed above are syncategorematically different. The categorematic restrictions are given by the encyclopedic information connected with the meaning potentials of the root forms glass and house themselves.

Syncategorematic restrictions operate through the semantic requirements of different grammatical constructions like modifier-head or subject-predicate. This idea is similar to the concepts of "tagmeme" (Pike 1967) and "constructional meaning" (Goldberg 1995). They also operate, in general, through the use of inflectional and derivational morphology as well as through the use of syncategorematic or functional parts of speech like prepositions, conjunctions, some adverbs, numerals, interjections, feedback words, and "own communication management" words. The combination of categorematic and syncategorematic requirements constitutes the most important part of the linguistic requirements on the activation of a word meaning.

### 4.6.2. Extralinguistic requirements

Meaning is also determined through extralinguistic contextual conditions and requirements. The most important of these are: (i) perceptually available information in the speech situation, (ii) requirements imposed by whatever activity the speaker and listener are pursuing, and (iii) other activated information.

Perceptually available information in the speech situation is required to help determine the meaning of deictically used pronouns and adverbs. But it is also used to spatially and temporally anchor what is being talked about, by use of tense markers and adverbs. Information concerning the activity is needed, for example, to help determine the function of what is being said. The function of the word *ice cream* will, for example, vary depending on whether it is

uttered by an ice cream sales person as an offer of ice cream or uttered by a child as a response to a question like *What do I have in the bag?* or *What would you like for dessert?*. In the first case, it would here be a guess rather than an offer and, in the second, an assertion of a desire. Activity may also determine denotative meaning. *Morphology* means one thing when doing linguistics and another when doing cellular biology. *Force* means one thing in physics and many other things in everyday life.

Finally, "other activated information" includes other types of activated information which perhaps extend outside of the immediate situation or the current activity. If I say *Everyone came*, the universe of quantification must be implicitly available if a meaningful predication is to result. If I say *He is small*, the universe of comparison must be implicitly available for a meaningful predication to be made. This type of information is necessary but does not need to be given by perception of a joint activity.

## 4.7. Homonymy and polysemy

What conclusions can be drawn with regard to the problems of homonymy and polysemy? As we have seen, the approach suggested tries to make use of "reified polysemy" as little as possible. Words on the type level have meaning potentials which, depending on context, allow for many different determinations. Some of these might be frequently occurring, and traces of their activation can be stored as part of the meaning potential. They can, however, always be constructed again if they are products of regular processes for determining lexical meaning. In the case where such processes have been combined with idiosyncratic conventional features, like in the case of to book, these are separately stored. The present approach predicts that there is potentially a continuum of meanings (determinations of meaning) rather than a small set of meanings. It also leads to an expectation and a readiness for ever new shades of meaning. The meanings which are actually constructed are always the products of memings which are actually constructed are always the products of mem-

ory activation and the application of contextually sensitive cognitive and/or linguistic operations on meaning potentials.

The approach, thus, does not assume that we either only store or only generate new meanings, but rather that we often do both, as is also claimed by Langacker (1987). We have mechanisms for partially activating meaning potentials in a context sensitive way which can always be used *ab novo* but, once an activation has taken place, we can store a trace of the activation and are, therefore, in a position to activate many meanings both productively and as a result of reactivation of a stored trace. Since the trigger for a particular activation of a meaning potential is a contextually given requirement of sense making, mostly involving compatibility with the meaning potential of other words constrained semantically by a particular grammatical construction as well as by extralinguistic context, the traces of activation often involve storage of collocational relationships to other morphemes or words as well as to stored information about extralinguistic context. It is the complex of all this information which constitutes the meaning potential of a word.

Returning to the notions of homonymy and polysemy, we have noted that traditional linguistic criteria are not in the end sufficient to distinguish the two notions. Let us now try to push the analysis further by considering whether we should allow for reification of variation in meaning in some sense. The most radical approach answers this negatively and points out that, since very little actual ambiguity (except, perhaps, in jokes and word play) exists in word use on the occurrence level, homonymy and polysemy in a reified sense on the type level really only come into existence through the work of lexicographers or other linguistic analysts who try to summarize the actual uses of a word.

A less radical and perhaps more reasonable approach allows for reification of meaning variation also in ways which are more directly dependent on ordinary language users. We may here distinguish reification on an individual and a collective level. On the individual level, we could talk of variation in type meaning which is reified in the sense of being stored in memory because of:

- (i) being so different that separate meaning potentials have developed,
- (ii) irregularity in derivation,
- (iii) habitual occurrence in a specific collocation,
- (iv) study of dictionaries, or
- (v) remembered explicit stipulations.

For example, we might stipulate the polysemy of *crawling* by abstracting over and reifying its meanings in examples such as the following (cf. Fillmore and Atkins 2000, from whom the examples are taken):

- (12) a. A small baby crawled out on its hands and knees.
  - b. The two hedgehogs crawled from the nest.
  - c. A beetle began to crawl up his leg.
  - d. She felt his hand crawling up her thigh.
  - e. A cloud of steam crawled slowly upwards from the chimney.
  - f. I crawled into my sleeping bag.

On the collective level we could talk of reification in at least three senses:

- (i) Similarities between language users with regard to criteria (i) (v) above. The greater the degrees of similarity, the more individual reification will be established.
- (ii) The existence of norms and normative sanctions supporting the similarities between users.
- (iii) The existence of artifacts (like dictionaries) externally reifying and supporting certain patterns of meaning differentiation.

We can use these five individual and three collective criteria of reification to define more or less restrictive notions of polysemy and homonymy. In fact, we face what is basically a terminological choice, and different authors might want to define polysemy in different ways depending on their theoretical interests or goals. We

might note, however, if we want to make use of both the terms homonymy and polysemy, a restrictive use of polysemy will force us to make an even more restrictive use of homonymy. Since this might be inconvenient, a proposal which gives both terms a clear domain of application and allows a fairly clear way of distinguishing them is probably to be preferred over one which does not. A suggestion in this direction using the first three criteria on the individual level is the following. Homonymy could be used when actual variation in meaning is felt to necessitate the assumption of two or more disjoint meaning potentials on the type level. A somewhat broader notion would also include cases when a particular determination of meaning can not be produced by regular context sensitive meaning activation operations from a meaning potential. When it can be produced in a regular way, we speak of 'polysemy'. This suggestion would make polysemy the general case for word meaning on the type level and thus, perhaps, come close to Bréal's conception of polysemy of 1897 (Nerlich and Clarke 1997). The fact that bike has a potential for both an object and a process determination is not sufficient to say that the root is homonymous, since both processes are regular. The expression to bike is regularly derived as a process involving a bike as an instrument or object and, following this suggestion, we would regard both as part of the regular polysemy of bike.

However, the case would be different if we turn to the expression to book since here the derivation is not regular. To book does not normally mean a process involving a book as an instrument or object. But, as we have mentioned above, for historical reasons, a very specific use was conventionalized, whose function is such that it requires no books at all today. In this case, it would, therefore, be possible to speak of homonymy. The discontinuity between the two meaning determinations is also strengthened by the fact that they are associated with different parts of speech, but this is an auxiliary rather than a decisive criterion.

The suggestion is therefore to associate polysemy with regular variation in meaning and homonymy with disjoint meaning potentials as well as with the lack of existence of regular processes of context sensitive activation. This leads to the question what a regular

activation is. I will first give a few examples of polysemy here (for further examples, see Allwood 1989, 1998; Pustejovsky 1991).

1. The relation between instance and type in Swedish

(i) **instance** Där kommer en bil

'A car is coming'

(ii) **type** Volvo är en bil jag gillar

'Volvo is a car I like'

2. Activity dependent focus shifts

- (i) **object** -> **process** a bike to bike
- (ii) **process -> object** John is washing Take your washing
- (iii) **object -> event** The film -> During the film
- (iv) **event -> object** During dinner -> Eat your dinner
- (v)**intention** I warned him but he did not hear me
- (vi) **result** I warned him without intending to
- 3. The relation between individual and substance in Swedish
  - (i) **individual** Där kommer en bil

'A car is coming'

(ii) **substance** Här får du inte mycket bil för

pengarna

'Here you don't get much car for the oney'

Homonymy is involved when no regular derivation of this type can be found or when there are a number of special restrictions on the derivation. This treatment of homonymy means that we have a fairly broad notion and that the meanings covered by a single word form, in fact, can be more or less disjoint. If a word has two meanings that are very different, like the two meanings of *bank*, a joint integrated meaning potential could hardly exist. Even if a child misled by the similarity tried to build one up, it would sooner or later probably develop into two different potentials. In other cases like *book*, the historical connection is more recent, so that for some historically oriented persons the variation in meaning would tend toward *polysemy* rather than *homonymy*.

As regards the linguistic criteria for homonymy, they also play a role in the present approach. If two meanings are really disjoint, the fact that different syncategorematic operations can be applied to the different meanings tends to reinforce the impression that there are several meaning potentials rather than one. Differences in inflectional paradigms are therefore also in this approach a reason to declare homonymy. But it is not a foolproof reason. If two meanings have much in common, as in the case of *a bike* and *to bike*, the differences might rather be attributable to a set of regular meaning determining syncategorematic operations which have activated the difference than to irregularity and an inherent disjoint structure in the meaning potential itself.

The suggestion is thus to use "polysemy", on the type level, for all variation of meaning supported by regular derivational processes. Some parts of this variation will be reified in the sense of being stored in memory supported by often used collocations. It might also be reified by individual stipulations or by being recorded by lexicographers. "Homonymy" is reserved for variation in meaning which is connected with disjoint meaning potentials or which cannot be produced by regular processes. This is, however, a terminological choice and nothing much in the arguments presented above for meaning potentials and contextual determination would depend on it.

### 5. Summary and conclusion

In this chapter, I have attempted to show that traditional theories of word meaning often lead to a very large number of reified meanings combined with procedures for selecting the contextually appropriate meaning. If instead only one or a small number of meanings is assumed, these theories are forced also to assume a number of meaning-adding and meaning-changing operations which are difficult to justify. Sometimes these two difficulties are combined, as when each word becomes associated with a multiplicity of reified meanings, which forces the assumption of selection mechanisms as well as of

operations of addition or change in order to produce contextually appropriate meanings.

As an alternative to these approaches a suggestion is made where words on the occurrence level are seen as, in general, monosemous. On the type level, these words are also, as often as possible, seen as monosemous and associated with a meaning potential. The meaning potential is an activation potential for all the information (linguistic and encyclopedic) connected with a word. It can be structured in various ways, for example by being connected with a basic epistemic or ontological orientation such as entity, process, or property. So, for example, bike has an entity orientation while wash has a process orientation. The meaning potential also contains traces of meaning determinations through coactivation with other linguistic expressions. These traces can be freshly produced if the process of meaning determination is of a regular type. If this regular type occurs frequently, it can be stored and merely reactivated rathern than freshly produced. If it is of an irregular type, as in the case of deriving to book from book, the collocation probably acquires a permanent meaning potential of its own with new information which can be more or less connected with the regularly activated information. If the processes of activation are regular and based on a common underlying meaning potential, it is suggested that the term *polysemy* be used. If they are irregular, leading to disjoint meaning potentials, the term homonymy can be used.

The contextually determined meaning of words on the occurrence level is, thus, usually monosemous and is the result of an imposition of a number of linguistically and situationally given requirements on the activation of a meaning potential. Ambiguity and polysemy are seen as non-actual structural possibilities which exist only when we, as analysts or speakers, ignore some of the contextual restrictions on meaning. Since the degree to which a meaning potential needs to be activated also varies with context, the phenomenon of underspecificity turns out to be an expectable feature of the contextual determination of meaning. The approach thus allows for homonymy when meanings are conceptually disjoint, but appeals to this notion as seldom as possible. Homonymy is involved, only when an explanation

in terms of a linguistically and extralinguistically conditioned activation of two or more meanings from a joint meaning potential fails. We also pointed to the continuum which exists from regular context sensitive activation of a meaning potential to polysemy and homonymy. This continuum, to be sure, still leaves open the question, how to delimit polysemy in relation to variation in word meaning on a type and occurrence level. If a greater degree of specification is desired, this could be obtained by talking of "type polysemy" and "occurrence polysemy".

Finally, it is worth pointing out that the meaning potential approach in relation to traditional approaches is, in a sense, a case of trying both to eat your cake and to keep it too. This is so because the meaning potential approach allows both generalizations (*Gesamtbedeutungs*) and typical examples (*Grundbedeutungs*) to be produced from the meaning potential, when needed. However, both approaches are seen as making use of processes available for the contextual determination of meaning rather than as descriptions of the ultimate nature of meaning.

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