Polysemy or monosemy: Interpretation of the imperative and the dative-infinitive construction in Russian
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Citation for published version (APA):

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CHAPTER II

The structure of meaning and the process of concept formation

2.1 Introduction

The main part of this dissertation consists of two data analyses, viz. analysis of the meaning of the Russian imperative and the meaning of the Russian dative-infinitive construction. The general aim of these analyses is to show how the association of form with meaning operates with these expressions. In order to give a picture of the various issues connected with this general theoretical theme, and to present the theoretical framework that I will use in my analyses, in this chapter I will discuss some issues related to meaning and conceptualization. This chapter is therefore primarily intended to provide a theoretical background for my analyses.

Traditionally concepts are conceived as mental representations or as reconstructions of properties, relationships, regularities, and contiguities in the world, experienced or stated in theories. In language, concepts, or meanings, are associated with forms, and serve as intersubjective concepts for communication. Our understanding of meaning and concepts in general may be greatly assisted by investigating the way in which we learn concepts, that is the process of concept formation. In this book I will proceed from the theory of concept formation described by Bartsch (1998) for the analyses of the linguistic data. This theory can be seen as a logico-philosophical theory of concept formation. The theory is foremost developed by trying to give an answer to the question: 'How can we gain insight in the structure of concepts by reconstructing the way in which they are learned?' Rather than looking for empirical evidence concerning how this process might proceed, Bartsch provides a logical philosophical basis for a theory of concept formation based on the available empirical evidence. The model that
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she provides may be seen as a formalization and extension of the work on concept-formation of the Russian psychologist Lev Vygotsky (1986 [1934]), and it also uses insights developed in structuralist approaches to language (e.g. Jakobson, 1960), such as the notions opposition, contrast, similarity, identity, and contiguity.

The basic idea of the theory of concept formation described by Bartsch is that the formation of concepts consists in establishing dynamic set-theoretic structures and contiguity structures on growing sets of data, whereby the sets of data are internally held together by similarity and contiguity relationships established between them. Concept formation can be seen as the structuring of sets of data by ordering relationships based on judgments of similarity (identity) and difference (especially opposition or contrast) under perspectives (points of view under which similarity is measured). In her analysis, Bartsch distinguishes between experiential (quasi-)concepts and theoretical concepts. Experiential concepts are concepts constituted on the basis of sets of experiential data. With a growing amount of data, and restricted by language use, they converge toward socially accepted experiential concepts. Theoretical concepts, and formal concepts based on these, are explicated on the level of linguistic representation of knowledge. I will now very briefly discuss the properties of concept formation, especially that of concept formation on the experiential level, which are relevant for my study. For a detailed analysis of concept formation I would refer the reader to Bartsch (1998).

2.2 Concept formation on the experiential level

In this section I will briefly discuss and summarize the process of concept formation described by Bartsch (1998). This description of concept formation is rather abstract in nature; in section 2.3. I will illustrate the process of concept formation by discussing a specific example, viz. the verb eat.

The process of concept-formation of a word can be described in a quasi-formal way as follows. If there is an expression \( e \) and we construct the concept or concepts that are associated with this expression, we have:

(i) experiences of utterances \( u \),
(ii) experiences of satisfaction situations, or experienced satisfaction situations \( s_e \); a satisfaction situation is that situation which satisfies the use of a word or sentence
(iii) a perspective \( P \), selected by a constraining contextual factor of an utterance, or the point of view under which the extension of a certain subset \( S \) of pairs \(<u,s>\) of utterances and satisfaction situations is constrained; similarity is measured under a perspective, that is, two things are judged to be similar under a particular perspective, or in a particular respect.

Similarity sets of experienced satisfaction situations of expression \( e \) under perspective \( P \) are formed: sets in which each element is similar to all others, and where there are no elements outside this set (in the considered collection of data) which are similar (to the same degree) to all its elements under this perspective.\(^1\) Put differently: a perspective \( P \) selects a subset \( S_{P_e} \) of \( S_e \), namely the set with those members that are seen under this perspective. Such a subset is called a \( P \)-harmonized set of data. A \( P \)-harmonised sequence \( \Sigma \) of \( e \) grows monotonously by adding only satisfaction situations of \( e \) that conform to harmonization under \( P \). The largest member (the case where the largest number of satisfaction situations are added to the set) of a \( P \)-harmonized sequence of similarity sets at a certain point in time is called the quasi-concept of \( e \) with respect to the available set of data under perspective \( P \).

Here, something should be said about the importance of the perspective. The perspective ensures a minimal transitivity of the similarity relationship in the subsets of the experienced satisfaction situations, or put differently: it ensures that the members in this set are identical in at least one respect. Furthermore it ensures that similarity is restricted to relevant identities between satisfaction situations and it creates a meaningful relationship of contrast or opposition. This is because the members of a similarity set for the use of expression \( e \) under a perspective \( P \) have to be more similar

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\(^1\) The principles for forming perspectives must be specified at the beginning of the process of concept formation, otherwise the concept formation may lead to an infinite regress of perspectives taken to view the data, which in turn leads to an infinite regress of concepts. Note for example that languages differ considerably in their conceptualizations, which means that in principle the language learner might be guided by different perspectives in the process of concept formation. In the theory of Bartelsch (1998) the first stage of concept formation does not involve conscious judgments of similarity and contiguity. Basic and direct experiences of the data provide the learner with perspectives. In the first stage of concept formation, so-called chain complexes are formed by the child (Vygotsky, 1986). In this stage, the meaning of a word is not constant for the child, and is not restricted by correction (Ginsburg & Opper, 1988: 79). In this preconceptual stage, the child both overgeneralizes and overspecifies (ibid.: 82). In the process of learning a language, however, the systematization of the language is an important factor from the start of the process of concept formation. Perspectives are therefore not only inferred from basic and direct experiences of similarity and contiguity, but the experience of similarity is partly inferred by the language — that is the unity in form — itself.
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to each other than to members of similarity sets for the use of expressions \( \epsilon' \) under \( P \). This means that the existence of opposition classes plays a considerable part in the process of concept formation.

With the ordering relationship between the growing subsets of data there corresponds a converse ordering relationship between the degrees of internal similarity of these sets. For each member of a speech community, the ordered set of sets of satisfaction situations for \( \epsilon \) forms a sequence \( \sum \) of growing sets which converges to a limit at which further growth of the similarity sets no longer affects their degree of internal similarity (adding a new satisfaction situation does not change the perceived similarity that holds the different cases together). The finitely converging sequence \( F \) results in an equivalence class of growing similarity sets which are equivalent in that they do no longer change in degree of internal similarity under \( P_i \), i.e. when new satisfaction situations are added the degree of similarity remains stable. This is the maximal equivalence class of a sequence \( F \), and all the elements of this class can be seen as a cognitive reconstruction, i.e. concepts of the situational property expressed by \( \epsilon \).

To summarize one can say that a set of satisfaction situations of an expression under a particular perspective \( (S_{n,\iota}) \) in a sequence \( \sum \) is complete with respect to a concept expressed by an expression \( \epsilon \) iff there is

(i) **Stabilization**: Instances of satisfaction situations of \( \epsilon \) under \( i \) no longer change the degree of similarity any longer, or they are not incorporated into the concept, but are considered to be marginal cases. This means that the process of concept formation terminates, i.e. the sequence of quasi-concepts is stabilized and results in a concept.

(ii) **Polysemy**: Different concepts which can be expressed by \( \epsilon \) are distinguished by being concepts under different perspectives.

(iii) **Opposition**: A concept is not overextended under a perspective \( P_i \); this means that \( S_{\epsilon,i} \) is delineated by its oppositions \( S_{\epsilon',i} \) expressed by different \( \epsilon' \) under the same perspective.

An important point in Bartsch's theory of concept formation is that a concept is formed relative to certain contextual factors, which select certain perspectives under which similarity and difference is measured, and that with an expression there corresponds a complex of concepts, each related to a context type or perspective. In the process of concept formation the strategies of metaphor (transfer of use based on similarity under a particular perspective) and metonymy (a transfer based on contiguity under a particular
perspective) play a considerable role; in the sections below I will discuss these strategies in some detail.

Lakoff & Johnson (1980: 113) claim that the notion of similarity can play no part in a theory of concept or metaphor since many instances of metaphor cannot be based on any kind of similarity. They argue, for example, that the metaphor *He is feeling up* cannot be based on some kind of similarity between happiness and the basic spatial concept expressed by *up*. Although Lakoff & Johnson (1980) do not discuss this explicitly, their notion of similarity is basically similarity in substance, form, color, etc. In Bartsch (1998), however, similarity is always similarity under a particular perspective, and these perspectives are not restricted to similarity in substance, form, color, etc., but may also be similarity in goal, function, etc. In the case of the example given by Lakoff & Johnson the similarity may be explained as follows: the concept ‘healthy person’ is similar to the concept ‘up’ from the perspective of posture, since an erect posture usually goes along with a positive emotional state.

It must be noted that the theory of concept formation discussed here in principle allows for different kinds of conceptual association with forms. One possibility is that the complex of concepts is formed under a common perspective. This is the case for example with prototypically organized categories (see Rosch, 1973, 1978), and categories that are organized by family resemblance (for example the concept *Spiel* as discussed by Wittgenstein (1984), where all the instances can be seen as ‘activities’). Another possibility is that the complex of concepts cannot be seen under a common perspective. Note that the existence of a common perspective does not imply that this common perspective defines a necessary and sufficient condition for the use of an expression. To give an example: all games can be seen as activities, but not every activity is a game.

Finally, something should be said about the generation of the polysemous complex. Bartsch (1998) mainly addresses the question of how the existent conceptual structure can be learned by the language learner. Although Bartsch (1998) briefly discusses general principles of generation of the polysemous complex (cf. Bartsch, 1998: 96–117), she does not explicitly discuss regularities in the cultural and physical basis of concept formation. Lakoff & Johnson (1980) make typological claims about the systematic nature of polysemous complexes. In the theory of Lakoff & Johnson (1980: 5), the basic force behind the creation of polysemous complexes is the understanding and experiencing of one kind of thing in terms of another, a principle which they call
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'metaphor'.

They argue that since human beings are grounded both physically and culturally, conceptualization mirrors this specific grounding. An example is the GOOD IS UP metaphor, which according to Lakoff & Johnson (1980) is prevalent in languages across cultures because of the shared physical features of humans. Lakoff & Johnson (1980: 59, 112–113) further claim that one can speak of metaphor if something abstract, or non-physical, is understood in terms of something concrete or physical, and that metaphor theories that are based on similarity cannot have this notion of directionality. In my opinion, this is an incorrect conclusion. The theory of concept formation of Bartsch (1998), which is based on the notions similarity and contiguity, leaves room for understanding an abstract thing in terms of a physical thing. It can be expected that in the process of generation of metaphor, basic experiences, both physically basic and culturally basic, will serve as the starting point of generation of polysemy.

2.3 Linguistic example of concept formation

The treatment of concept formation given in Bartsch (1998) is rather theoretical in nature, and is not illustrated with many linguistic examples. To illuminate the process of concept formation as discussed above, I will briefly discuss a specific example, viz. the possible formation of the concept of the verb *eat*. Note that I do not claim to give an exhaustive analysis of this verb. The analysis must be seen as a means to illustrate the basic mechanisms that can play a part in every instance of concept-formation.

Before giving an analysis of the verb *eat*, I first would like to make some remarks on the status of the analysis, and the status of linguistic analyses in general. The process of concept formation on the experiential level cannot be seen as a process whereby the language learner has to form hypotheses about criteria in some innate mental language in the sense of Fodor (1976). Similarity between experienced situations must be seen as a basic cognitive notion, and must be stated on the basis of identity of causal effects of identical quasi-parts of situations on the individual. These causal effects are purely physiological, i.e. they are bodily reactions, and cannot be seen as concepts themselves (see Bartsch, 1998: 40). Note that this description applies mainly to *perceptual* similarity, viz. similarity from the perspective of form, color, etc. In many cases, however, two objects may be similar from the perspective of *function*. Experiences of interaction with

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2 The importance of the principle of analogy, and the importance of physical grounding is of course explicitly remarked and analyzed by many scholars before Lakoff & Johnson, for example by the psychologist Piaget (see, e.g., Ginsburg & Oppen, 1988).
different objects (e.g. a particular stone, and a piece of wood) may judged to be similar, for example because the different objects all serve a similar purpose (they can be used as tools to hunt animals). As such this perceived identity may be traced back to identity of intention or attitude of the conceptualizer, and consequently to bodily reactions.

The analysis of meaning in terms of features is a linguistically expressed reconstruction of meaning based on the available linguistic data. This reconstruction is not an analysis of the mental processes that take place in the mind of the language user. In effect, it is very unlikely that a reconstruction expressed in language by the linguist might come close to a reconstruction of what actually takes place in the human mind.

It must further be noted that the norms of language users must be seen as norms of *product*, rather than norms of *production*. Norms of product can be seen as norms that define the notion of a correct product of type X, whereas norms of production can be seen as norms that define how a product must be made or generated. The rules stated by linguists often claim to be norms of production, although such a claim can hardly ever be proved by independent evidence (e.g. psychological or neurological evidence). Rules of the kind stated by linguists normally have a very abstract character, that is, they can be seen as abstractions over linguistic data. The abstract character of linguistic rules is often evident from the use of theoretical notions. The rules formulated by the linguist can therefore not be seen as *norms*, rather should be seen as *systematizations* of and behind a set of norms. Such systematizations may be the result of a general principle in a specific language, or may have a more general character, such a general character may point at some shared biological or cognitive background.

The abstractions of the linguist are abstractions made over occurrences of language data of the *linguistic system* and not direct descriptions of the mental processes that underlie language use. Of course, the linguistic system is created by humans, and of course the structure of the linguistic system is restricted by the boundaries of our human capacities. This does not mean, however, that we can ascribe to the individual a knowledge of particular principles governing regularities in the linguistic system. In the process of language learning the language user will try to build new sentences by analogy to sentences that he has already encountered, rather than trying to formulate one abstract rule that can describe the different sentences correctly. As such, the abstractions made by the linguist have no psychological reality as *rules*. Nevertheless the description of the linguist has a relation with human cognition. Linguists describe and postulate relations between linguistic products. Such relations also play a part in the

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3 For the strategy of analogy in concept formation I refer to the works of Piaget (see for references Ginsburg & Opper, 1988) and Vygotsky (1986).
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case of language users, since judgments about the acceptability of a form in context X are based on the use of the same form in context Y. This means that on the level of understandability there is a correspondence between the method of the linguist and that of the language user.

To recapitulate my main point: it must be noted that the analysis I am about to give cannot be seen as an analysis in terms of norms, but must be seen as abstract reconstruction of the linguist. Such a reconstruction cannot be seen as the description in terms of a rule of the mental process that takes place in our heads when we construct a concept. But the reconstruction shows something about the understandability of certain forms, in the light of previous cases of use of this form. This understandability lies on the level of relationships between linguistic products and their use, though not on the level of production itself.

I will now start with the concept formation of *eat*. In the following sentences we find the verb *eat* with different objects and in (e) with a different subject:

Set of data:

a. Jan is *eating* an apple.
b. Jan is *eating* a pear.
c. Jan is *eating* a cookie.
d. Jan is *eating* a toffee.
e. The dog is *eating* a cookie.

The sentences above refer to different satisfaction situations, namely the situation of Jan eating an apple, Jan eating a pear etc. Let us imagine that these satisfaction situations are immediately present while uttering these sentences such that someone utters these sentences while pointing at the different satisfaction situations. This means that we have five pairs of experiences of utterances and the corresponding satisfaction situations. Let us assume furthermore that the language learner has already learned the other concepts in the sentences. It must be noted that in the actual process of language learning this is often not the case: the meaning of *eat* may be reconstructed by reconstructing at the same time the meaning of – for example – *pear*. This does not, however, change the fundamental strategies that underlie the process of concept-formation. How, then, can the process of concept formation be analysed in the case of this example? One can proceed from the assumption that the language learner will try to look for an overarching common perspective. This perspective functions as a
criterion for similarity and contiguity between the different eat situations. Because we are confronted here with a verb, the first perspective will be 'what kind of situation (= action, state, process) do we find in all of these cases? On the basis of unity of form the language user may abstract from all the situations and classify on the basis of phenomena that the linguist can describe and explicate as follows:

'Something is taken into the mouth, and swallowed'

As one feature presupposes the other (e.g. the idea of swallowing presupposes the idea of something that is swallowed, and the idea of a mouth that does the swallowing), the different features given here do not have an independent status but must be seen as interdependent.

The description of eat given here is a case of overgeneralization because oppositional classes are not taken into account: the description also applies to a drink situation. It may be that the interpreter will start to classify by overgeneralizing, but it may also be that he will classify differently by choosing different perspectives under which similarity and contiguity is measured. Such perspectives could be for example 'what kind of food is the object of the action' (fruit versus other eatable things), 'what kind of movements are made with the mouth' (chewing versus sucking), 'what kind of subject is doing the action' (human versus animal). According to these perspectives different subsets can be constructed. In the process of concept formation such different classifications could be viewed as quasi-concepts relative to a particular set of data. They are not concepts yet because addition of new examples may still change their internal stability. Note that such perspectives are chosen only if these differences are relevant to the language user. To give an example, in Dutch the word eten ('eat') can be used for both humans and animals, whereas the human mouth is called mond, and the mouth of animal is called bek. This does not imply that the language user who knows how to use the word eten for humans has to take a new perspective if he learns that it can also be used in relation to

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4 Here we touch upon the question of the extent to which there is a universal cognitive basis for this process, and the extent there are cultural criteria that play a part in this process. Bartsch (1998) does not specifically address this question. The only criteria in her model are provided by the linguistic system (i.e. the existence of oppositional forms). Note that the need for taking such additional perspectives may, in the case of second language learning, also be provided by the linguistic categorization of the learner of the new language. Thus if another language has different verbs for chewing food and sucking food, without an overarching term, the learner will probably classify differently when learning English.
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animals. In the case of *eten* this difference is irrelevant since both *mond* and *bek* can be viewed under one perspective.

As I remarked earlier, the quasi-concept of the verb *eat* given above is a case of overgeneralization, because on the basis of this concept the language user may use the verb *eat* for 'drink' situations. To construct the right concept of *eat*, the following sentences with their satisfaction situations are given:

New set of data:

f. Jan is *drinking* coffee.
g. Jan is *drinking* milk.

The description given of the verb *eat* also applies to these situations: in this case too some food is taken through the mouth. On the assumption that a particular situation falls under one concept and not under another, the language learner may look for another perspective, viz. 'type of object' or 'the way in which the subject prepares the food in his mouth'. One may for example classify as follows: solid versus liquid. One can then define the following (quasi-)concepts:

\[
\text{eat} = \text{df}
\]

'taking into the mouth and swallowing of solid food, prototypically by chewing'
(examples of objects: apple, pear, toffee)

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5 The condition that the correct description of a form may not define oppositional forms is not valid for inclusive forms, but in some cases the difference between *oppositional* forms and *inclusive* forms is not straightforward. I will give an example. A scene where someone is taking food is conceptualized in English by using the word *eat*. It is possible, however, to focus on the specific way the food is taken into the mouth; in such cases one could, in the appropriate context, also use words like *gobble*, *gulp* or *stuff*. One could argue that these concepts are included in the concept *eat*. This means that the relation between *eat* and *gulp* or *stuff* is analogous to the relation between *flower* and *rose*. I do not think, however, that this view is entirely correct. The word *eat* is used not only as a hypernym for different ways in which food is taken, but also to conceptualize the conventional way in which solid food is taken. You can therefore say *I don't call that eating, that's stuffing but not this is not a flower but a rose*. What does this imply for the linguistic description? It means that the description of the word *eat* is 'taking of solid food' whereas the description of the words *eat*, *gobble* and *stuff* may be 'taking of food specified in such and such a manner'.

13
drink = _def_

'taking into the mouth and swallowing of liquid food'
(examples of objects: coffee, tea)

We add to the set: eggs, bananas, orange juice etc., which does not change the internal stability of the set. It seems that the process of concept formation has now terminated; adding new examples no longer changes the degree of similarity and such examples are incorporated into the concept. Examples that would change the internal similarity (i.e. change the stability) are considered to be marginal cases, in other words, the concept has stabilized.

The concept soup exemplifies such a marginal case. Let us imagine that we add the word *soup* with its satisfaction situations:

Jan is *eating* soup
Jan is *drinking* soup

The adding of *soup* to *eat* is problematic because it is liquid; *soup* therefore disturbs the internal stability of the set of satisfaction situations. This necessitates the taking of a new perspective for *soup*, viz. 'way it is put in the mouth': in the case of a mug, one speaks of *drinking* soup, in the case of a bowl and a spoon one speaks of *eating* soup.

In the case of *soup*, it may be argued that there has been *broadening of context of use*. In order to incorporate 'eating soup' into the concept of *eat*, the concept *eat* is broadened such that all the uses of this verb can be seen under the perspective of 'taking food'. Such broadening of context does not occur randomly. The fact that 'soup' when taken with a spoon does not fall under the concept of 'drink' is thus not coincidental. As I mentioned, a possible explanation for this may be that it is typical of liquids like tea, coffee, etc. that they are swallowed by putting the mouth to a container (mug, etc.). This is not the case with 'soup', where we use a spoon, which is typical of many cases of 'eat'. For this reason a 'soup taking' situation is conceptualized as more similar to an 'eat situation' than to a 'drink situation'. A more complicated case would occur if we took coffee from a bowl with a spoon. Is this a case of 'eat' or of 'drink'? If one chooses to see it as a case of 'eat' this means that one emphasizes the fact that the way in which the coffee is taken is typical of solid food. If one conceptualizes it as a case of 'drink', then one emphasizes the fact that coffee is a typical drink, which means that it is
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normally not seen as an instance of food (unlike ‘soup’). Such judgments play a part in deciding under which concept a particular situation falls, and point at the relevance for the linguistic system of taking into account such things as the way that something is eaten. In these marginal cases of transfer of the verb ‘eat’, the transfer can be understood via partial similarity.

Another potential explanation for the possibility of eating soup is that soup usually contains solid parts or can be seen as a more solid type of liquid, which makes it a borderline case between solid food and liquid food. It could be argued that in the case of eating soup the emphasis is on the solid nature of the substance, and the fact that we may have to chew it. In the case of drinking soup, we emphasize on the fact that the substance can be seen as a liquid. Note, however, that this explanation does not account for the fact that we can also eat soup if the soup does not contain solid parts at all.

It is possible that both explanations are to some extent valid. It can be argued that in the case of soup or yoghurt the substance itself must be seen as a borderline case between solid food and liquid food. Because of this borderline character, both substances are taken using a spoon, or directly from a container. If we take the soup directly from a container, we focus on the fact that it is liquid enough to drink, whereas if we take it with a spoon, we focus on the fact that it is not liquid enough to drink. The perspective that we take to view the substance is not based on ‘objective’ ontological information, since the same substance can be viewed differently, depending on the context or situation in which it occurs. Here, it must be noted that we should bear in mind that the different ways of reconstructing the relation between the marginal eat cases and the basic eat cases show that such relations need not be seen as part of the knowledge of the language user. Such relations must rather be seen as systematizations of and behind a set of norms.

The occurrence of eating soup may be evidence for the existence of prototypical effects in the case of eat. It could be argued that the central member of eat is represented by that case where ‘solid food is taken into the mouth and swallowed’. Eating soup can be seen as a marginal case, because it lacks basic features of the central case such as the solidity of the food. It is nevertheless conceptualized as a case of eat

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6 Note that the fact that we perceive this example as very hypothetical points at the inter-subjective normative status of linguistic knowledge. In the case of new examples that are not yet incorporated in the linguistic norm, people find it difficult to make judgments about correct or non-correct use of a word. This implies that people are not equipped with well-defined information for the correct use of form, but follow the norms of language that they have learned.
because it shows more similarity to some central *eat* cases than to oppositional forms; put differently, it shows more similarity to those *eat* cases where a spoon (or a similar instrument) is used, than to *drink* cases, which only occur with liquid substances. Note that the feature of the eat-cases which selects the categorization of taking soup under *eat*, cannot be seen as a basic feature of the central *eat* cases. The basic feature of *eat* is the relative solidity of the food, and consequently the fact that we have to chew or suck the food; the fact that in many cases we use a spoon to eat must be seen as a non-basic feature of the central cases, because many central cases lack this feature (e.g. eating an apple). There is no reason to assume that eating an apple, where one does not use tools, must be seen as a less basic case of the verb *eat* than eating porridge, where one does. It may, however, be seen as a feature that is more typical of *eat* cases of oppositional classes. In other words, for the linguistic system, taking solid food with the use of tools is more typical of *eat* cases, than taking liquid food with the use of tools is of *drink* cases.\(^7\)

I would like to point to the fact that the description given so far may apply to cases that cannot be seen as correct uses of the verb *eat*. I will illustrate this with an example. Following the description of the verb *eat* given above, one would expect that one could use the word *eat* for pills. However, this is not the case: ?*John is eating his pills*. In this case one has to use the verb *take*: *John is taking his pills*. I do not think that such facts can be accounted for in the meaning or meanings of the verb *eat*. That is not to say that no ‘explanation’ can be given for this fact. It is possible that ‘pills’ are not considered to be typical food or nurture, and as such, do not fall under the type of objects that can be applied to the *eat* concept. Furthermore, in many cases pills are taken without chewing them, whereas chewing is a feature typical of many *eat* cases.

The structure of the linguistic system is a conventional structure that results from inter-subjective agreement about the correct use of a word. Agreement about the correct use of a word may be quite unproblematic for central cases, such as the situation of eating an apple, but may be more problematic where marginal cases are concerned. The act of taking pills may from one perspective be seen as similar to the *eat* cases, but from another perspective as less similar. In the linguistic system, on the basis of inter-subjective agreement, conventions may arise as to how the act will be conceptualized in the linguistic system. Such conceptualizations are not the result of a random process, but are based on particular perspectives under which similarity and difference is measured. Similarity or difference is, however, to some extent a subjective

\(^7\) There is also be a relation between solidity and the use of tools on the one hand, and liquidity and the use of a container on the other.
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In principle different people may have different ways of seeing things as similar or different; because of the subjective nature of conceptualization, different languages may differ in the way they conceptualize similar domains. This means that for the language learner it may be possible to understand or to construct the utterance 'eating pills', but it is not possible to predict the norms of the given language; norms are conventional and have to be learned.

The concept formation of the verb *eat* has not yet terminated. Now we add the following sentence (with satisfaction situation) to the considered set of data:

New data:

h. Jealousy was eating him up

In this sentence the verb *eat* occurs with the preposition *up* and the subject *jealousy*. According to the strategy considered above, the language user would try to incorporate the given examples in the sets of equivalence classes considered before. So far two sets have been constructed, viz. 'taking of solid nurture into the mouth to swallow' and 'taking of liquid nurture into the mouth with a spoon to swallow'. The example given above cannot be incorporated in the subsets constructed so far because the subject 'jealousy' is an abstract entity and nothing is consumed by being taking into the mouth. This forces the language user to find a perspective that provides a basis for identity between (h) and the sets constructed so far. In the case of (h) the similarity could be described as follows. If you eat a cake, you gradually take possession of the cake by putting it in your mouth or body; if someone is eaten up by jealousy, the jealousy is gradually taking possession of this person by controlling all his thoughts. The preposition *up*, which expresses the perfective nature of the situation, probably emphasizes the fact that nothing remains of the object of the verb. But there is more to it, if someone is eaten up by jealousy he is destroyed by it, which is not necessarily the case if someone is possessed by jealousy. This specific feature can be motivated by pointing at the basic meaning of *eat* in the case of 'eat' the object of the action gets destroyed, and is mashed up into small pieces.

This particular use of the word *eat* is usually classified in the literature as metaphorical use, in contrast to the word *eat* in sentences like *John ate an apple*. The difference between metaphorical and non-metaphorical use of a form is based on the linguistic intuition that some uses are more 'basic' and 'literal', while others seem to be 'non-literal' and

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8 Of course, there are biological restrictions on the way we perceive similarity and difference.
‘derived from the basic use’. The strategy of concept formation in the case of metaphor can be described in general terms as selecting features under change of perspectives provided by contexts, and enriching the new way of using the expression with additional features originating from the new cases of use. It must be noted that feature clash and elimination of features is not part of meaning extensions such as the one discussed here. I agree with Bartsch (1998: 97), who contends that so-called feature clash is merely the result of the inappropriate application of an otherwise prominent perspective of interpretation in circumstances in which another perspective is at issue. Flexibility of perspectives, and the choice of a perspective by assuming a certain question, or interest implicit or explicit in the situational context, prevents feature clash from the outset.

There may be different reasons for the use of metaphoric extensions in language, for example (i) the understanding of one thing in terms of another, such as the restructuring of complicated, abstract experiences in terms of basic and physical experiences (see Lakoff & Johnson, 1980), (ii) the necessity to express a large quantity of things with a limited set of words; in this sense language can be expected to have a metaphoric structure, because without metaphoric interpretation the stability of the system would be disturbed, and (iii) the need to create new ways of viewing particular things by seeing something under a new perspective, for ‘poetic’ reasons.

Besides metaphor, metonymy plays an important part in the process of concept formation (Bartsch, 1998: 57). Following Jakobson (1960), these two main processes of linguistic extension can be described in terms of ‘transfer by similarity’ and ‘transfer by contiguity’ respectively. An example of the everyday importance of the strategy of contiguity can be illustrated with the understanding of the word salt on a salt cellar. Without any problem we understand that this word does not refer to the salt cellar itself, but to the contents of the salt cellar. The salt cellar and its contents cannot be seen as similar in some way or another, but stand in a relation of contiguity: the salt cellar contains the salt. In the case of metonymy, a word that is used to refer to x, is used to refer to some phenomenon that stands in a contiguity relationship with x, for example, They painted the university white, where white does not refer to the institution but to the building which houses the institution.

I have discussed the possible concept-formation of the word eat here. It must be noted that the process of concept-formation of a word is inherently dynamic, and as such never really ends. This does not mean, however, that there are no restrictions on the process of concept formation of a word. Infinite extensions of meaning would lead to a disturbance of the stability of the linguistic system. In the model of Bartsch (1998)
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The stability of the system is provided by the fact that different concepts which can be expressed by a word are distinguished by being concepts under different perspectives. Furthermore, a concept is not overextended under a perspective because of the existence of oppositional classes.

In Bartsch’s (1998) model, forms are normally associated with different interrelated meanings. Although this opinion about meaning is well accepted in most of the psychological and linguistic literature (see for example Rosch, 1978; Bartsch, 1984; Lakoff, 1990; Sandra & Rice, 1995), there is still discussion as to whether a distinction should be made between (general) meaning and context-dependent meaning or interpretation. In the following section, I will briefly discuss the issue of whether there is something like a literal meaning or general meaning of a form, and whether it is useful to make a distinction between literal meaning and context-dependent meaning.

2.4 General meaning and context-dependent meaning

In language, concepts are associated with forms, which serve as a formal (morphological) criterion to identify concepts. It seems, therefore, that a good starting point for the linguist is to look for a one-to-one correspondence between meaning and form, or put differently, to look for monosemy, rather than polysemy. This is made clear in the following extract from Palmer (1981: 101), where he speaks about the meaning of the word *eat*:

“If we decide, however, that there are two meanings of *eat*, we may then ask whether eating jelly is the same thing as eating toffee (which involves chewing) or eating sweets (which involves sucking). Clearly we eat different types of food in different ways, and, if we are not careful, we shall decide that the verb *eat* has a different meaning with every type of food that we eat. The moral is that we ought not to look for all possible differences of meaning, but to look for sameness of meaning as far as we can, and to accept that there is no clear criterion of either difference or sameness.”

The same can be said in terms of the process of concept formation discussed earlier. If we construct the meaning of *eat* on the basis of ‘eating jelly’, adding new examples like ‘eating toffee’ or ‘eating sweets’ does not disturb the internal stability of the constructed set so far, which implies that all these uses can be viewed under the same perspective.

Although the postulation of the ‘one-meaning-one-form-principle’ may be a good starting point for the linguist, it is very often the case that one form has many different
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'uses' that can be clearly distinguished. This phenomenon is accounted for in monosemous approaches by the postulation of general meanings and context-dependent meanings. Consider the following extract from the Russian structuralist linguist Jakobson (1971: 179) about the meaning of the Russian cases:

"In analysing cases or some other morphological category we face two distinct and interconnected questions: the morphological invariant, 'intension', general meaning of any case within the given declensional system must be distinguished from the contextual, syntactically and/or lexically conditioned variants, 'extension', actual application of the case in question."

If we ignore his rather unfortunate terminology, we see that Jakobson makes a distinction between general meaning and context-dependent meaning. The general meaning is the meaning that 'occurs' in all the different uses of a particular form. Meanings that occur in one use but not in another, can be said to be conditioned by the context, and can therefore be called context-dependent or context-specific. One can say that context-dependent meanings, also called interpretations, are the result of the interaction of the general meaning and the specific linguistic or non-linguistic context in which they occur. Other terms used in the literature are 'use', 'usage', 'sense', and 'variant'. The term 'interpretation' is also used for the process of inference whereby meanings are inferred from uses by abstraction. Meanings must be seen as abstractions from different uses of a form, where the context-specific information is abstracted, that is they must be seen as belonging to that which is a variant. The notion of abstraction used here can be seen as the traditional Aristotelian notion of abstraction, namely the omission of qualities.

The idea that one can distinguish between general meaning and context-dependent meaning can be illustrated by the work of the philosopher Searle (1991 [1983]: 145–

9 Jakobson's use of the terms intension and extension does not accord with their use in philosophy (as defined by Frege). In philosophy the term extension is used to indicate a state of affairs or objects designated by a term in the world or in a possible world to which a word refers.

10 A problem with this description (see Damerow, 1996, for a discussion) is that it seems arbitrary which qualities can be omitted, and which cannot. A second problem is that it is not clear how the discontinuous transition between two qualitatively very dissimilar domains is to be explained by means of a continuous process of omitting qualities of the concrete object. In other words, it is not clear how one can proceed from a concrete object to very abstract notions, such as mathematical notions. Various scholars (e.g. Kant, Hume, Hegel, Piaget, etc) have tried to take account of these problems in their definition and description of the process of abstraction.
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who provides a philosophical background for the idea of general meaning versus context-dependent meaning. Searle discusses the meaning of the verb *open* and claims that it has the same meaning in the following cases:

a. Tom opened a door  
b. Bill opened a restaurant  
c. Sally opened her eyes  
d. The surgeon opened the wound  
e. The chairman opened the meeting  
f. The artillery opened fire

Searle’s point is that although the semantic content contributed by the word *open* is the same in the sentences above, the semantic content that is understood is quite different in each case. According to Searle, understanding language means more than just grasping the meaning of the forms. In the understanding of language our Background, that is the whole of capacities, learned abilities, unquestioned cultural and natural preconditions of everyday conduct, plays an essential role. It is only via the Background that the literal meaning can be interpreted, or put differently, can get a satisfaction situation.

I would like to point out here that Searle uses the term ‘literal meaning’ both for the highest abstraction of the semantics of some form (the invariant), and for the non-metaphoric meaning of some form. In Searle’s theory the general meaning and the literal meaning coincide. I will use the term general meaning for the abstract meaning of some form (the highest abstraction), and the term literal meaning for the basic and non-metaphoric meaning of some form. In my opinion, these two phenomena should be kept separate.

The most important point made by Searle is that in the construction ‘X opens Y’ the information that we have about X and Y is not part of the semantics of the verb *open*. Semantics deals with abstractions from use, and does not have to refer to actual satisfaction situations. Searle makes a sharp distinction between that which is part of semantics (what he calls literal meaning), that which is intentional and therefore conscious knowledge, and that knowledge which is not part of semantics.

The term Background knowledge can partly be identified with what is called in the literature encyclopedic knowledge. Another term used in the literature is pragmatic knowledge. The term ‘pragmatic knowledge’ is somehow confusing, because it is used for different things. It is used both for non-linguistic knowledge in general (including
encyclopedic knowledge), and more specifically for the knowledge of the language user that concerns ‘pragmatics’, a field of research that can be defined as “the study of meaning in relation to speech situations” (Leech, 1989: 6). According to the latter definition, pragmatic knowledge can be seen as the knowledge of the language user of pragmatic principles of communication or conversational implicatures like clarity, cooperativity, economy, etc. Many linguists who distinguish meaning from interpretation, claim that every competent language user has knowledge of these pragmatic rules, and that such rules do not have to be accounted for as part of the semantic description of language. Levinson, for example, argues with respect to the conversational implicatures that “it allows one to claim that natural language expressions do tend to have simple, stable and unitary senses (in many cases anyway), but that this stable semantic core often has an unstable, context-specific pragmatic overlay — namely a set of implicatures” (Levinson, 1983: 99–100).

Searle further distinguishes cases of literal meaning from cases of metaphoric meaning. The latter must be seen as secondary uses, where the sentence meaning does not coincide with the utterance meaning, and where one has to speak of a secondary meaning derived from the literal meaning. In most monosemous approaches a distinction is made between so called literal meaning and derived meaning. Consider for example the following extract from Wierzbicka:

“A word can be adequately defined only if its literal meaning is distinguished from its metaphorical use, ironic use, playful use, euphemistic use, and other similar uses. Dictionaries frequently fail in this respect, and, for example, treat a word’s metaphorical use as a separate lexical meaning.” (1996: 244)

Although this is often not explicitly defined in the linguistic analysis, monosemous approaches use the term ‘interpretation’ for the following two phenomena:

(i) Specification
(ii) Adjusting

In the case of what I will call specification, the interpretation can be seen as a specification of the (relatively) underspecified abstraction by means of the context. This specification is the result of the interaction of the abstraction and the information provided by the context. Put differently: the abstraction can be seen as an abstraction from such interpretations.
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In the case of adjusting, the interpretation does not fall directly under the necessary and sufficient condition for the correct use of a form, which is contained by the abstraction. Under the influence of the context some features of the abstraction are selected while others are backgrounded (in other words, the meaning is adjusted). This means that the abstraction cannot be seen as an abstraction from such adjusted uses, but such uses must be seen as directly derived from the information contained in the abstraction. As the principles of adjustment such as metaphor, metonymy, etc. are thought to be part of the general knowledge of language users, and the basic meaning always plays a part in such cases, adjustments are seen as a category of use, rather than a category of meaning.¹¹

In summary we can say that both the structuralist linguist Jakobson and the language philosopher Searle make the following two different yet interrelated claims:

(i) Meanings can be seen as abstractions from different uses of a form, where the context specific information is abstracted. As such, there is a distinction between semantic information and non-semantic information.

(ii) The general meaning can be seen as the highest abstraction, that is, an abstraction from the whole set of occurrences of the form in the considered set of data. The general meaning can be seen as a necessary and sufficient condition for the correctness of all the uses of a particular form, which means that the general meaning defines all the uses of a form without defining other uses.

It could be argued that an important point of the one-form-one-meaning approach is that it tries to offer a unitary generalization, which can be seen as an aim of scientific analyses in general. Because of this, the semantic analysis does not have to postulate an infinite number of meanings for forms. Although it seems a good starting point to look for unity of meaning as far as possible, discussion can arise about how we should define 'as far as possible'. Furthermore, it is not clear to what extent the need for unification that underlies the research of linguists actually mirrors the structure of the linguistic system, or whether it is actually intended to somehow mirror the way in which language users process meanings. Below I will discuss some of the possible arguments for and against the idea of monosemy.

¹¹ Note that confusion sometimes arises in discussions about polysemy and monosemy because in the case of adjustments some linguists speak of monosemy, whereas others speak of 'polysemy'.
2.5 Case study: The meaning of open

As I have discussed above, monosemous approaches to language make two basic claims, viz. (i) that meanings must be seen as abstractions from different uses, and (ii) that for most forms in language general meanings can be given that can be seen as necessary and sufficient conditions for the correct use of a form. In the literature this view of meaning has been fiercely attacked by various scholars such as Bartsch (1984), Lakoff (1990), Rosch (1973, 1978) and Wittgenstein (1984). In this section I will briefly discuss some of the criticism. I will start by discussing the specific example used by Searle (1991) to illustrate the idea of general meaning, viz. the verb open. Searle made some far-reaching theoretical claims about meaning in general without giving a detailed data-oriented analysis. To remedy this shortcoming, I will try to give more insight into the meaning of open.

In my discussion of this verb open I will focus on the transitive use of the verb open, rather than on the intransitive use (e.g. The door opens) or the adjective use (The door is open). Furthermore, I will not discuss oppositional uses and other semantically related uses such as the verb close. Of course, for a complete analysis of the verb open these uses should also be taken into account. I think, however, that the examples discussed here are sufficient to give greater insight into the structure of the verb open, and to illustrate my more general point about the structure of meaning.

If there is something like a general meaning of the verb open, the physical action that constitutes the act of ‘opening’ cannot be seen as an essential part of this meaning, which is underlined by the different ways in which something can be opened. Compare for example the differences between opening a book, an umbrella, and a meeting. It seems that what these uses have in common is, roughly speaking, the functional act of making something accessible, rather than the physical act that constitutes this functional goal. In order to investigate what this functional goal exactly is, and whether this functional act can be seen as the meaning of the verb open, it is necessary to take a closer look at the different examples of the verb open.

2.5.1 Case 1: Path through Y to contents of Y

The discussion of open can best be introduced by considering a clear or basic example of open Y, for which it is possible to define two features that play an important part in different meaning extensions of the form:
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- Creating of path to Y (‘you want to get to the contents of Y’)
- Removing a barrier blocking the path to Y creating of path through Y (‘you want to get through Y to get to something’)

This basic use of open is exemplified by cases like opening a box, one’s mouth, or a bottle:

(1) Sally is my favorite doll. My mouth dropped to the floor when I opened the box.

(2) I sighed and opened my mouth, put in the ball gag and buckled it tightly behind my head.

(3) The importance of this discovery cannot be underestimated for a wine bottle is not just a container. In Hugh Johnson’s words, “it is a sealed vessel in which the wine, protected from air, holds its complex potencies in readiness for the day when it is drunk. Once the bottle is opened, the wine is exposed to the destructive side effects of oxygen and there is no going back.”

In these cases the object of the action denoted by the verb can be seen as a container that is initially closed. This means that it is not possible to have access to the inner part of the container. By opening the container a path is created through the container to the inner part of the container. The goal of the action may be to reach the content of the container, to put something into the container, to let something out of it, or just to look what is inside. These cases could be described in natural language as follows:

\[ \star \text{opens } Y \ (Y = \text{mouth, bottle, box, etc.}) =_{df} \]
\[ \star \text{x creates a path through } a \text{ to } b \]

where:

‘Y’ can be seen as a container, ‘a’ as part of the exterior of the container, and ‘b’ as what the container contains\(^{12}\)

\(^{12}\)This notion of container does not apply to containers such as \(\alpha \phi \), but must be seen as an abstraction over objects like boxes, bottles, the mouth, etc. As such, the notion of container used here cannot be seen as a preconceptual schema in the sense of Lakoff (1990) and Lakoff & Johnson (1980, 1999).
In these opening cases the path to the contents of the object is initially closed by something which is part of the object itself. By opening it, this barrier is removed, leading to a path to the contents of the object in question.

2.5.2 Case 2: Path to $Y$ (by removing barrier)

The description for $open$ given above in case 1, ‘creating of path through $Y$ to (part of) $Y$’ applies to opening containers such as boxes or bottles, but does not apply equally well to cases of opening things such as books. If we want to use this description for such cases, we cannot interpret the idea of making a path as referring to an act where some kind of hole or opening is made in some container-like object. In the position where the book is closed, it is not possible to see the contents of the book; in other words, no visual contact is possible with the written part of the book. Objects like books are made such that the contents of the book, i.e. the written part, can be uncovered. In contrast to the container cases, this can be done without making a hole in it, for example by unrolling it (in the case of the Torah), or by taking the cover away (in the case of conventional books).

It might be argued that also in these cases one should speak of a ‘container’. A book would then be seen as a container of information (viz. the contents of the book). This means that the term ‘container’ is broadened such that there is abstraction from particular physical properties of objects such as boxes, etc. Indeed, it can be argued that in the case of ‘opening books’ the idea of containment occurs in a weakened form. I find it hard, however, to give a definition for such a broad term that does justice to properties of typical containers such as boxes, which have an interior, into which you can put something. Furthermore, in such a broad definition the resemblance between books and things that are similar to books under particular perspectives, such as umbrellas, is not expressed. Both umbrellas and books can be seen as things that cannot function in a closed position because they are folded, covered, or wrapped up. This is a feature which is shared by both objects, in contrast to the feature of containment, which can be said to be part of the conceptualization of a book in a weakened form, but which is not part of the conceptualization of an umbrella. In the closed position, the umbrella is wrapped up or folded such that parts of the object are not visible. By opening the umbrella, the ‘interior’ of the umbrella is made visible. It seems that the similarity between opening an umbrella and other opening cases such as
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opening a book or opening a box is basically perceptual, since the creation of a path in the case of an umbrella has nothing to do with the idea of containment. In order to take account of such uses, the description of open given above has to be changed, that is made more abstract, such that there is abstraction from some of the specific features of boxes etc. This can be done by backgrounding the feature of ‘making a path through Y’ from the description:

\[ X \text{ opens } Y \ (Y = \text{book (also mouth, box, etc.)}) =_{df} \]
\[ X \text{ creates a path to (part of) } Y \]

where:

There exists a path to Y if some kind of contact (physical, visual) is possible with Y

Note that this description presupposes that in the situation before the object Y is opened, that is when the object is closed, the path to Y is blocked in some way, or does not exist. This blocking may be that the object is covered (in the case of a book, where part of the book itself, viz. the cover, blocks the path to the pages of the book); in other cases the making of a path may have a different character. Consider for example the following sentences where we find that ‘roads’ can be opened or closed to people:

(4) On December 3, 1998, a gas line exploded one mile from Arches National Park in Moab. The road was closed in and out of town, leaving truck drivers stranded in Moab for approximately 48 hours.

(5) On December 14, Israeli forces closed Satter Al-Gharbi road near Ganei Tal settlement after an Israeli soldier was attacked. Israeli soldiers prevented Palestinian citizens and wagons from entering the area. The road has not been opened since then.

Here, opening the road means making the road accessible to the public. In this case the ‘making a path to Y’ occurs without the feature ‘making a path through Y’. Also note that in this case the object that blocks the road cannot be seen as part of the road (in contrast to cases like opening a book, box, bottle, etc., where it is part of the object itself that blocks the pathway).

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13 Note, however, that in terms of the feature ‘making something accessible’ the ‘opening book cases’ show more similarity to the typical ‘opening container cases’ than ‘opening umbrella cases’ do. This points to the fact that it is difficult to give clear-cut categorizations of different uses of open.
2.5.3 Case 3: Path through Y (to Z) or removing Y

Other opening situations to which the description above (for case 2) cannot be applied in a straightforward way are cases of opening objects like curtains, windows, doors, and bridges, but also barriers, as in the following sentence (where the whole situation is interpreted metaphorically):

(6) Currently, the last two barriers are being opened. As in the electric industry, state regulations are allowing open access to the small commercial and residential retail consumer to choose suppliers and the recovery of stranded costs by local utilities.

In the case of these objects the path is not created to the object itself, but through the object to something that is covered or made inaccessible by the object in question (as in the case of opening curtains), or in other cases, a path is created by removing Y (as in the case of opening a door).\(^\text{14}\) These cases can be described in the following way:

\[
\begin{align*}
X \text{ opens } Y \quad (Y = \text{curtain, window, bridge, etc.}) &=_{df} \\
X \text{ creates a path to that which is blocked by } Y \text{ by creating a path through } Y, \text{ or by removing } Y
\end{align*}
\]

Note that in these cases the feature of ‘path through the object Y’, which is part of the container cases is preserved, but the feature of ‘path to the object Y’ is absent: in this case the object Y blocks a path, which becomes unblocked.\(^\text{15}\) It seems to me that uses like opening the curtains must be understood on the basis of cases like opening the box. Note that in this case there is a clear visual similarity between such cases; compare Figure 2.1.

In the case of containers the barrier that blocks the pathway to the contents of the container is part of the container itself. Making a pathway means making a hole or opening in the object in question, or removing the object. In the case of opening the curtains a similar hole is made in the object, but in this case the hole does not create a

\(^{14}\) In the case of ‘doors’ both the hole and that part which covers the hole could be seen as falling under the door concept. In such cases the difference between creating a path through Y, and removing Y is not clear.

\(^{15}\) The goal of the action need not be that the object which is covered by Y is made accessible; it suffices that the creation of a pathway is always a result of the action in question. Take for example ‘opening your arms’. In this case the initial position of the arms is such that the chest is covered by the arms; by opening them the arms are removed from the chest and stretched out in horizontal position. The goal of this act need not be that the chest of a person is made visible (although it is necessarily the result of the action), but may be to facilitate the subject to embrace someone else.

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path to the contents of the object, but to something that was initially blocked by the object.  

Figure 2.1

```
closed curtains

open curtains

closed box

open box
```

2.5.4 Case 4: Metonymy

It is questionable whether the construction ‘open Y’ can be used in a metonymic way. I will, however, briefly mention cases where the process of metonymy plays a part. Consider the following sentence:

(7) In a while, he opened the gas and started cooking a simple dish – fried rice.

This use of open in (7) could be analyzed as a case of metonymy because the creation of a path through the gas pipe by turning on the gas tap stands in a contiguity relation with the gas: by turning the tap some barrier is removed that blocks the gas from flowing. It may be argued that the metonymic transfer is facilitated by the fact that in

16 Also note the visual similarity that can be perceived between opening your arms, opening an umbrella and a flower that opens.

17 Since such sentences are not accepted by all speakers of English, I will give the source: http://scicble.nus.edu.sg/~shingo/shingo_fanfiction3.html
the case of opening the gas a path to the gas is also created: the turning of the gas tap can be seen as the removing of some obstacle such that the gas can come out.

Note that in such cases it is often not clear how a sentence should be analyzed. Consider for example the following sentence:

(8) I drove to Goodings market and bought a bottle of wine, some fruit, muffins, and cookies. As I mentioned earlier, this concept of 'stocking up' which (judging by what I read in guidebooks and the Internet) is frequently used is, in my opinion, not a good idea. We never opened the wine, the fruit wasn't very good, the muffins got squished, and the cookies well, crumbled.

A sentence like this could be analyzed in different ways, viz. (i) as a case of metonymy of open, (ii) as a case of metonymy of wine (with the contiguity relation 'container-content') where open occurs in its basic use, and (iii) as a case of open where open Y means 'create a pathway to Y', without the feature of 'making a path through Y'. In my opinion it is best to say that in these cases open has its basic meaning, but that the object of the verb must be interpreted metonymically.

2.5.5 Case 5: Abstract cases

The verb open also occurs in cases where the object in question is a non-physical entity, and the verb open has a metaphorical character in the sense that the idea of 'path to/through Y' is interpreted metaphorically. This is the case for example with sentences where the object of the verb open is mind or people (ui):

(9) Modern and creative environment opens the mind for fresh new ideas and ensures the success of the seminar.

(10) Reading is the most creative ingredient we can feed our mind. It refreshes, stimulates, and opens us to new ideas and experiences.

Cases like these can be analyzed well using the theory of metaphor outlined by Lakoff & Johnson (1980), where metaphor is described as experiencing and understanding one phenomenon in terms of another. In these cases the abstract entity of the mind is understood in terms of a container such as a box, which can contain things. The mind is seen as a container that can contain ideas, experiences etc. By opening the mind, new ideas are 'let into the container'; that is, by opening the mind new ideas can develop. As Lakoff
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& Johnson (1980) observe, metaphors are often part of a whole network of interrelated metaphors that all convey a particular way of conceptualizing an object or situation. Such is also the case with this metaphor, as can be illustrated with the following sentences, where the mind is conceptualized as a container:

(11) **Open** your mind to faith, and the Lord will swiftly enter.
(12) The most common and pervasive barrier to innovation is 'inside-the-box' (my italics) thinking caused by limited perspectives and mindsets that are closed to new ideas.
(13) A **closed** mind limits us all. It's a prison. No new ideas are allowed in. None find their way out.

It might be argued that the word *open* in these sentences is not different in meaning from the word *open* in container cases such as *open the box* because it is not the verb itself that is used differently but the object with which it is combined.

In other cases the verb *open* (or *closed*) is used with non-physical phenomena where the idea of a path *through* is absent, but the idea of a path *to* is present. These are cases where for example *open* occurs (often with the preposition *up*) with objects like a perspective, idea, or opportunity:

(14) Internet now **opens** new perspectives for cooperative research.
(15) Participation breeds more participation and **opens up** new ideas and new ways of worshipping.
(16) For the adventurous and risk takers, this flexible market **opens up** tremendous opportunities to try new ideas and new business models.
(17) There is no doubt that the ability to present your ideas orally to small groups and larger audiences can create opportunities that would be **closed** to you otherwise.

These uses of the verb *open* with non-physical objects like perspectives can be linked to the more concrete uses discussed earlier, because in both cases the feature 'creating a path *to*' plays a part. That is, in the physical cases the functional goal of making something accessible is related to the physical act of making something accessible, and in the non-physical cases the functional goal of making something accessible occurs without the physical act of making a path. It could be argued that in the case of opening
a perspective, the initial situation is presented as a situation where some ‘mental’ path to these phenomena is closed or blocked; put differently, the subject cannot have the opportunity or idea in question. By opening the object in question, a mental path to the phenomena in question is opened; that is, the subject can have that opportunity or idea.

Note that if one wishes to use the term ‘path’ in these cases, one has to broaden its use, such that it does not just refer to physical cases but also to abstract cases. To account for such cases, it could be argued, the meaning would have to be changed as follows:

\[ X \text{ opens } Y =_{df} X \text{ performs an action directed at } Y, \text{ such that a path is created to (part of) } Y \]

where:

\[ \text{path to } Y = \text{physical, visual or mental contact is possible with } Y \]

A problem with a definition like this is that the feature ‘path’ is unclear. In order to understand this feature one has to refer to scenes from which this feature is abstracted. It seems to me that this feature can only be understood on the basis of the concrete, physical cases; this means that the abstract uses must be seen as secondary.

2.5.6 Case 6: Marking the beginning of phenomenon Y

The verb open is further used to mark the beginning of the existence of a phenomenon. In such cases the verb open can be used because the coming into being of the phenomenon also means creating a path to the phenomenon in question, such that the phenomenon becomes accessible; compare the following sentences:

(18) The man opened the shop, and went in.

(19) Our new shop has been opened to provide a custom designed online shop for line dancers, the profits of which will be used to help us develop this website into a major resource for dancers.

In the first sentence the agent makes a physical path to the shop, by opening the door, such that people can go in. In the second sentence the idea of opening must be
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interpreted in a more general sense as referring to the act of founding or setting up the shop, such that people can have access to the shop; compare:

(20) This site has just been opened (March 24th), and all new members will therefore be able to compete for the available ranks on an equal scale.

In other cases the act of opening has a performative and symbolic character. This is the case in the following sentence for example:

(21) Deaconess of Medical Center Opens Chest Pain Evaluation Unit.

In this case the deaconess performs a symbolic action, as such marking the beginning of the functioning of the object of the opening action. The event referred to here may have been done in a performative way, that is, the deaconess may have said: 'I hereby open the Chest Pain Evaluation Unit'. Note that in many cases the act of marking the beginning of some phenomenon and the physical act of opening may overlap. This is explicitly the case for example in the following Dutch sentence about a fully automatic toilet:

(22) Het stadstoilet op het Zuideindigerpad werd vanmorgen niet geopend, maar opende zichzelf.
    'This morning, the city toilet on the Zuideneindigerpad was not opened, but opened itself.'

In other cases the idea of 'creating a path to Y' occurs in a weakened form. This the case is for example in sentences where the verb *open* can also be used to mark the beginning of an event such as a meeting, score, season, offensive, conversation, etc.:

(23) The chairman opened the meeting.
(24) Jurgen Dirkx opened the score after 26 minutes with a header.
(25) Double sweep as softball opens season with 2–2 mark – Cardinal wins clash with the Titans.
(26) The battle was opened by Reille's division.
(27) A simple friend opens a conversation with a full news bulletin on his life.
The Senior Choir opened the concert by singing ‘Children of the World’ and a Canadian song – ‘Four Strong Winds’.

In the case of these sentences the phenomenon that is opened (concert, score, match, attack, conversation, etc.) has a beginning and often an end. These are all phenomena that can be perceived as taking place in time, or evolving over time. The act of opening constitutes the existence of the object in question, and as such marks the beginning of the phenomenon in question. Such sentences with open often have the following structure: X opened Y with Z, where Z refers to the act that constitutes the beginning of the object of the verb, that is, the instrument of the act. Sentences like these can be linked to the other open cases because the beginning of the object makes mental access to the whole phenomenon in question possible. Thus the opening of a concert means that the rest of the concert can be experienced; the opening of a meeting means that people can participate in the meeting; the opening of the score means that the score can now freely change; the opening of a conversation means that we can participate in the conversation, etc. It seems that in order to use the word open to indicate the beginning of some event, it is necessary that the beginning is marked in some way. In some cases this means that the event referred to is done with a performative act, e.g. I hereby open the meeting. In other cases the performative character is not present, for example in the case of (24). In this case, however, the header can be seen as the act that marks the beginning of the event. The act of marking the beginning of a phenomenon can be seen as the feature ‘making a path to’, or ‘removing obstacles to create a path to’ in a weakened form. Weakening of features means that features are divided into subfeatures, and that some of these features are backgrounded.

2.5.7 Conclusion: The meaning of open

Considering the different ways in which something can be opened, it seems that ‘opening something’ can best be viewed as a complex of different interrelated uses, with basic uses, and uses that can be analyzed in terms of extensions of basic uses. The basic uses are those where a physical path is created to something by removing a barrier that is part of the object in question, prototypically by creating a pathway through the object. In the case of these basic uses the features ‘creation of a path to Y’ and ‘creation of a path through Y, or removing part of Y’ are interdependent since the goal of creating a path to the interior of the container presupposes the existence of obstacles and, as such, the need to create a path through the container. Different uses of the verb
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open can be seen as different extensions of such basic uses by means of strategies based on similarity and contiguity under perspectives such as 'function' and 'form'. In the strategy of extension of use, metaphor and weakening of features play an important part.\textsuperscript{18}

Some of these different uses are represented in Figure 2.2 in a highly simplified manner.

**Figure 2.2**

```
\text{\{score, attack, concert, meeting\}} \quad \text{\{shop\}} \quad \text{\{internet site, shop\}} \\
\quad \downarrow 6 \quad \downarrow 7 \\
\quad \text{\{mouth, box, bottle, \ldots\}} \\
\quad \downarrow 9 \\
\quad \text{gas} \\
\quad \downarrow \quad i \\
\quad \text{hook} \\
\quad \downarrow \quad \text{\{perspective, opportunity\}} \\
\quad \downarrow \quad \text{umbrella} \\
\quad \downarrow \quad \text{\{mind\}} \\
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**Semantic relations**

1. Weakening of feature 'containment'
2. Physical similarity (without feature 'containment')
3. Selection of feature 'pathway through', and physical similarity-relation to feature 'path to'
4. Metaphor
5. Metaphor by selection of feature 'pathway to'
6. Backgrounding of idea of containment, selection of idea 'pathway to', attributing feature 'marking the beginning of Y with Z'

\textsuperscript{18} It must be remarked that some authors, especially Lakoff (1990), Lakoff & Johnson (1980, 1999), use the term metaphor in a much broader way, including any strategy where analogy plays a part.
7. Weakening of feature ‘pathway to’
8. Weakening of feature ‘pathway to’
9. Metonymy (of verb meaning or object meaning)

Presence of features

(i) Feature ‘containment’: {mouth, bottle, etc.}; weakened: {mind, book}
(ii) Feature ‘Path to Y’: {mouth, etc.}, {book}, {shop}, {internet site}; weakened: {perspective, score, etc.}
(iii) Feature ‘Path through Y’: {mouth, etc.}, {bridge, etc.}
(iv) Concrete-physical cases: {mouth, etc.}, {umbrella}, {bridge, etc.}, {book}, {shop}; borderline case: {internet site}
(v) Feature ‘marking the beginning of some phenomenon’: {shop}, {internet site, etc.}, {score, etc.}

Although it is possible to categorize the different uses of open as I have done above, it must be remarked that a categorization into different uses remains principally an idealization, and that other classifications may be possible as well. Firstly, uses can be classified differently, in relation to the criteria that are used in the classification, and the perspectives that are taken to view the different instances of opening something. Secondly, the features that can form the basis for classification of uses such as ‘containment’, ‘pathway’, ‘barrier’, etc., are not discrete and well defined, but have a flexible and subjective character. This implies that a categorization of the different uses of open has, at least to some extent, a subjective character. Note, furthermore, that since abstractness is a gradual phenomenon, it is often hard to draw the line between abstract cases and non-abstract cases. Take for example a situation like opening a computer program. In this case the creation of a path to the program must be identified with clicking on an icon, or typing of a code, to make the program available for use. It is hard to say whether this case must be seen as an abstract or non-abstract case.

Considering what I have said above, it seems that different uses of opening something can be distinguished, but no clear-cut boundaries can be drawn between different cases, and that the decision as to which cases must be seen as part of the same use depends on the perspective taken to view those cases. Furthermore, in the understanding of all uses of opening something, a part is played by features from basic uses, viz. ‘creating a pathway to Y by removing a barrier’.

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2.6 Further arguments for and against general meanings

I have discussed the English verb *open* in some detail as a means to illustrate the structure of meaning in general. I have argued that although all the uses of the verb *open* may be said to have a feature in common, such as 'creation of a pathway', the theoretical interpretation of this feature remains problematic. It is not clear for example whether this description can be seen as the meaning of the verb *open* or not. In this section I will discuss the following (interrelated) counter-arguments to the proposition that there is something like the general meaning of words like *open*, and say something about the status of general meanings in a broader sense:

(i) There is little empirical linguistic and psychological evidence that the highest abstraction can be seen as a necessary and sufficient condition for the correct use of a form.

(ii) Meanings cannot be treated as definitions from which the correct use of a form can be predicted. This view of meaning does not take account of the flexibility that is inherent to conceptualization, and the fact that the different interpretations of a concept such as *open* are conventionally based uses that have to be learned by the language user.

(iii) The general meaning cannot account for the fact that some uses of *open* have a stronger internal similarity than others, and that in some cases different usage types can be distinguished.

(iv) Not all uses of a word can be accounted for by means of abstraction from different uses, because specific features of particular uses that are not part of some abstraction play an important part in meaning extension.

(v) The difference between what is called 'literal' or general meaning and derived meaning is not clear in all cases. It may be that in some cases the relation between the basic uses of a form and the derived meaning is not transparent; in such cases the relation between the derived meaning and the general meaning may be lost.

I will discuss these arguments in more detail below.
2.6.1 Lack of empirical success and psychological evidence

A first objection to the idea of general meanings is that most linguists who advocate the one-form-one-meaning principle have considerable difficulty actually defining the general meaning of a form. This is also the case with Searle, who does not formulate the general meaning of the verb open, although he claims that "we have no difficulty grasping (...) literal meanings" (1991: 147). Another related shortcoming is that normally speaking, if a linguist defines a general meaning, it is usually so abstract that it is not clear how it can be interpreted or used by the language user. In other words, the process of abstraction from different uses and the process of interpreting of the abstract meaning remain unexplained in most monosemous accounts of meaning.

One would expect that if people make use of a general meaning of the verb open, or if this meaning plays a part in the linguistic system, it would not be difficult to define it. Of course, the criticism given here is not fundamental: the fact that it is difficult to define general meanings and the process of interpreting of these meanings cannot be seen as evidence per se that general meanings do not exist. It could be argued that the phenomenon of language is in general a difficult phenomenon that is hard to describe, especially because language is described in terms of language itself.

Another problem with general meanings as postulated by linguists is that they are often so abstract that they describe not only the form in question, but also oppositional forms. Take for example the description for the basic meaning of break given by Goddard (1999: 133), a scholar working within the framework of Wierzbicka: “X broke Y = X did something to Y; because of this, something happened to Y at this time; because of this, after this Y was not one thing any more”.

This description does not tell us the difference between ‘breaking’, ‘cutting’, and ‘tearing apart’. This is problematic if we want to give an adequate description of the different concepts in the linguistic structure. The condition that descriptions of the meaning of a form must apply to this one form only (and not to oppositional forms) needs some further elaboration.

Firstly, it is important to distinguish necessary features from accidental features of forms. In my analysis of the imperative, for example, I will argue that the feature of directivity is a necessary feature of the imperative, and not of oppositional forms such

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19 In the framework advocated by Wierzbicka concepts are described in terms of so-called universal primes, that is, a set of concepts that are basic to human conceptualization in general, and that can be seen as the building blocks of all other concepts. The inherent vagueness of the description, as I see it, is also related to the restriction of the metalanguage to a limited set of universal concepts.
as the infinitive. In the case of the infinitive the feature of directivity is an interpretation or accidental feature conditioned by the context in which the infinitive occurs, and not part of the meaning of the form; in other words, it is an interpretation. As I will explain below, the different status of the feature 'directivity' in these cases also implies that the directive use of the imperative differs in character from the directive use of the infinitive.

Secondly, whether a description of the meaning of some form is underspecified in the sense that it does not differentiate between the use of the form in question, and oppositional forms, also depends on the information provided by the context in which the utterance occurs. As such, underspecification is to some extent a relative concept. In the context of the concept 'stone', Goddard's above description of the word _break_ may suffice, because the normal way in which a stone is made into pieces is normally described with the verb _break_, and not with forms like _cut_ or _tear apart_. This does not mean, however, that the description given by Goddard is sufficient for all cases, since in principle it is possible to say something like _cut the stone_. In order to understand this utterance it is necessary to know that cutting is done with a knife or similar tool, leading to a different way of making the object in question into pieces, whereas breaking is done without such an instrument.

Thirdly, the condition that descriptions of meaning must differentiate between oppositional forms does not mean that there are no features shared by different forms, but rather that the whole of features differs from form to form. I will illustrate this with an example. Let us imagine that we define the meaning of the word _lopen_ ('walk') in Dutch as 'moving by taking steps in such and such a manner'.²⁻ It could be argued that this is not an accurate description since it can also apply to _dansen_ ('dance'): part of a dance is usually that people move in this specific way. I do not, however, think that this is a valid argument. Apart from the fact that it is questionable whether the movement expressed by _lopen_ is a necessary feature of dancing, the movement expressed by _lopen_ always occurs in combination with, and in relation to other features (such as moving on music, moving in patterns, moving for pleasure etc.). As such, the description of _lopen_ may be the description of an isolated satisfaction situation of a dance event, but never of the complex of features associated with the dance event. Consequently, features cannot be treated as individual information units, but always occur in relation to other features, that is, they occur in Gestalts.

²⁻ The correct description must ultimately use descriptions from biology and physiology such that the difference between _lopen_ and _rennen_ ('run') is made clear, but I will neglect this here.
The skepticism concerning the idea that meanings can be seen as necessary and sufficient conditions for the correct use of a form is supported up by evidence from psychology, especially that provided by Rosch (1973, 1978). Rosch showed that in the studied cases similarity to a so-called prototype of a category is sufficient for classification into that category, if and only if similarity to the prototypes of the adjacent categories is lower. The prototype can be defined in terms of necessary and sufficient conditions, whereas the other instances of the category only share some of these features. The occurrence of prototypical effects can be seen as the result of a strategy of humans to group different phenomena together under a limited set of words. As noted by many authors (e.g. Lakoff, 1990; Bartsch, 1998), the occurrence of prototype effects seems to be a natural consequence of the fact that our conceptualization cannot mirror the world in a one-to-one fashion. Note, however, that the evidence provided by Rosch (1973, 1978) cannot be seen as final proof against the idea of general meanings.

Firstly, it is not clear whether, or to what extent these so-called prototype effects play a part in every case of word-meaning, and whether the phenomena grouped under the label 'prototype' are in all respects similar, in the sense that the observed effects actually show that no general meaning exists. The fact that in the case of the category 'birds' prototypical effects play a part, does not imply that prototypes play a part in every case of word-meaning. It can be expected, for example, that in the case of natural kind categories like 'birds', which can be seen as biological, partly scientific categories, the categorization may be different in character than in the case of other concepts, for example in the case of grammatical meaning. Linguists use the term prototypes for both (i) cases where the prototype effect is based on psychological evidence, and where this psychological evidence can be reconstructed on the basis of the presence or absence of particular features of the objects of categorization, and (ii) cases where the prototype effect is based on linguistic reconstruction of features only. It is not clear whether these different phenomena can be seen as similar in all respects.

21 In my view the feature 'feathers' is a feature that occurs only with birds, and with all birds (except when they have just been born). If this feature could be adequately defined, this would mean that a necessary and sufficient condition could be given for the category bird, viz. 'an animal that has feathers'. I think, however, that such a definition does not do justice to the fact that other features play a much more important role in our experience of birds, such as the ability to lay eggs, the presence of wings, and the ability to fly. In the case of the category bird, the prototype theory gives a psychologically adequate description of the way in which human conceptualization works.

22 Some linguists, such as Givón (1995: 113), use the term 'prototype' for theoretical notions that are based on cross-linguistic evidence.
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Secondly, it is not clear how and to what extent the prototype effects actually say something about the structure of the linguistic system. Note that prototype effects also occur in the case of concepts where no prototype structure can be reconstructed on the basis of features (e.g. the discrete concept ‘odd numbers’, where some odd numbers are rated to be more odd than others; Armstrong et al., 1983). This led Armstrong et al. (1983: 284) to conclude that the fact that informant responses are often graded is probably “a fact about something other than the structure of concepts”. It is thus not clear how and to what extent the prototype effects observed in psychological tests actually say something about the structure of the linguistic system. I do not think that prototype organization implies per se that for the conceptualization of the language user there are central and non-central members. Judgments about centrality are judgments about perceived ontological phenomena, but do not always say something about the conceptual status of the concepts about which these judgments are made. Consider for example the use of the perfective aspect in Russian. It can be observed that some uses of the perfective aspect are more basic, whereas others are more peripheral. The basic uses are those where the conceptual status ‘mirrors’ the ontological status. More specifically, the basic uses are those that refer to actions that are clearly bounded. The peripheral uses are those where the conceptual status (‘bounded’) does not ‘mirror’ the ontological status (the same events could also be conceptualized as non-bounded). More specifically, the peripheral uses are those that refer to actions that are not clearly bounded, but which are presented as being bounded. It may be that in the process of concept formation the peripheral uses are constructed by analogy with the basic uses. This does not imply, however, that for the language user the peripheral uses have a different conceptual status than the basic ones. It may be that for the language user or, put differently, for the linguistic system, there are just bounded, and nonbounded actions.

2.6.2 Meanings are not definitions

A second weak point of many monosemous analyses is that general meanings are treated as definitions from which the correct uses of a form can be predicted. This view of meaning, however, does not take account of the inherently flexible nature of the process of conceptualization and interpretation, and the fact that uses of a word are conventional, that is, the meaning of a word like open is an abstraction from different conventionally based uses, that is, uses that have to be learned by the language user at some point in the process of learning the language.
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A weak point of models where meanings are seen as definitions is that abstractions are treated as information units that are totally separated from the contexts in which these meanings occur. It can be argued, however, that the different satisfaction situations that form the basis for a concept always play a part in the case of meanings, since without these situations the abstraction can get no interpretation. Meanings are not like definitions we have in our head, but must be seen as abstractions, formulated by linguists, from the different satisfaction situations on which a concept is based. In order to understand abstract definitions of general meanings, one has to refer to the scenes from which these general meanings are abstracted. The idea that in order to be able to interpret the meaning of some form, one has to know the satisfaction situations on which the meaning was based, implies that it is not necessary for language users to compute what open a door means by applying some abstract general meaning of the verb open to the meaning of a door, every time they are confronted with this expression. The meaning of the verb open is based on all the different experiences of opening something with which the language user is confronted; these experiences remain part of the knowledge of the language user. An example of this was illustrated by the use of the word eat. It is a norm of language that we can say eat soup in particular contexts, but the language user does not have to know the reconstruction made by the linguist as to why it is possible to use eat in the case of soup. For him it suffices to know all the different ways in which a word can be used.

Of course, it may be argued that once the concept has been formed on the basis of clear examples, it can be applied to new cases that are judged to be similar to the known examples. However, whether a scene is perceived as similar to another scene is partly a subjective matter, and it is partly a matter of convention how the linguistic system categorizes different scenes. This can be illustrated with the word ‘open’ in English and Russian. The general meaning of the Russian verb otkryvat’ (‘open’) and the English verb open may very well be the same. Most uses of the two verbs are similar, in both languages the verb can be used with respect to boxes, mouths, windows, books, umbrellas, etc. Nevertheless, in some cases the verb otkryvat’ can be used in contexts where English uses another word. This is the case for example with sentences where the verb otkryvat’ is used in the meaning of ‘uncovering’ or ‘discovering’:

(29) Uvidev Nexljudova, ona podnjala vual’, otkryla ochen’ milovidnoe lico s blestjashchimi glazami i vosprositel’no vzgjanula na nego.

‘After she saw Nexludov, she lifted her voile, uncovering her very pretty face and shining eyes, and looked at him as if she wanted to ask him something.’
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(30) Ty xochesh', chtoby ja otkryla tebe svoju slabost'
   'You want me to show you my weakness!'

The differences in use may be partly due to the different oppositional forms in the different linguistic structures, and also partly due to 'coincidental' conventions. Although regularities can often be perceived in the case of such differences – both (29) and (30) can be described as cases where a cover is taken away – it seems impossible to capture these facts in something like a general meaning. In both the case of otkryvat' and the case of open the general meaning must be something like 'make something accessible'. This meaning, however, is not specific enough to define which uses are correct sentences in the language in question, and which uses are not. On the basis of this description one would expect that it would be possible to say open America (meaning 'discover America'), but in English the conventional way to refer to the situation in question is different. Such facts just have to be learned by the language users. Understanding works with cognitive abilities such as perceiving similarity and analogy, whereas conventions and norms can be seen as restrictions on such perceived similarities. In some cases such conventions can partly be motivated by the different linguistic structures in which the forms occur. The decision to conceptualize a scene with a particular concept may be modeled as the choosing of the optimal concept for the scene in question. The difference in oppositional basic forms implies that the conceptualization of peripheral forms may differ from structure to structure. Although one can try to find systematizations for such norms, it is impossible to predict which situations will satisfy an expression and which not; no 'objective' ontological principles can be given for such different conceptualizations. 23

Langacker (1999) argues against the idea that interpretations have a different status from meanings by pointing to the fact that interpretations inferred by pragmatic inference are conventional and must be learned. Although I agree with Langacker that in some cases no clear boundaries can be drawn between meaning and interpretation, I would like to stress here that the fact that language users have to learn the different possibilities of use of a word does not imply that each of these possibilities must be

23 Another interesting example is the difference between the words run and walk and their Dutch counterparts. In English the word run is used both for the movement of humans ('walk fast') and for the movement of the mechanism of a machine ('function'): The man runs, the machine runs well. The word walk is used for humans only (*The machine walks well). In Dutch we find that rennen ('walk fast') is used for humans only, and not for machines (*De machine rent goed); for machines the word lopen ('walk', 'go') can be used: de machine loopt goed.
seen as a different meaning of a word. I will give an example of this. As I will argue below, the meaning of both the Russian and the Dutch infinitive can be defined as ‘situation type’. This meaning reflects the basic and general capacity to categorize situations as types. Although the meaning of the Dutch and the Russian infinitive may be the same, the specific use of the infinitive differs in the two languages. Such differences can in some cases be attributed to different oppositional forms, but in other cases it seems impossible to give a further explanation for them. Theoretically one could in such a case (i) define different meanings for the different infinitives, or (ii) treat the different uses as meanings. In my opinion, however, it is best to see both infinitives as having the same basic meaning, viz. situation type. This meaning corresponds to a basic strategy, viz. the strategy to see sets of situations of application of a term as types. On the basis of this meaning, it is possible to understand the different uses. Such different uses have to be learned, that is, they are conventional, but the term means the same in all the uses. In contrast to, for example the verb open, understanding the infinitive does not presuppose the capacity to select and background features under contexts. As such, the description ‘situation type’ suffices as the meaning of the infinitive.

2.6.3 The existence of usage types

A third weak point in the assumption of a general meaning of open is that some configurations of use of open seem to have a stronger internal similarity than others. This seems to point at a situation where there is not something like the general meaning of open but rather different related meanings of open that can have more or less similarity to each other, depending on the perspective that is taken to view them. In this respect it is interesting to look at the use of ellipse with conjunction or disjunction:

(a) Tom opened the door and the window.
(b) ? Tom opened his eyes and the door.

Note that the unacceptability of (b) cannot solely be attributed to pragmatic factors, because it is perfectly normal to imagine a situation where one first opens one’s eyes, and then the door. It could be argued then that the unacceptability of (b) is not so much due to a difference in similarity between the two opening events, but more to the fact that for the language user ‘opening doors’ and ‘opening windows’ occur in the same functional-semantic domain. This means that both events can be described as
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'opening parts of the house', whereas finding a hypernym for 'opening doors' and 'opening eyes' is much more difficult. It may be that such factors play a part in the acceptability of ellipse. However, they just show how different these two opening situations are. I think that monosemous approaches often fail to recognize the perceived differences between the different uses of a form.24

The psychological literature also contains evidence that some configurations of use of a word may have a stronger internal similarity than others. Such evidence is provided for example by the tests conducted by Sandra & Rice (1995) on prepositions. Sandra & Rice point out that analyses which come up with polysemous networks are characterized by a number of weaknesses: (i) a lack of clear methodological principles for the identification of distinct usage types; (ii) an overly wide range of representational variants of network models; (iii) a vagueness about whether the usage types correspond to semantic distinctions or to referential distinctions (different contextualizations of a single meaning); and (iv) an uncertainty about what the correct cognitive interpretation of the network should be.

In their article they present a number of experiments that address the relationship between the linguistic distinctions in lexical networks and the distinctions in the mental representation of native speakers. In their experiments native speakers of English are asked to do different tasks, among them sorting prepositions and making judgments of similarity about these prepositions. Sandra & Rice state that the outcomes of these tests show that the strong monosemous position is untenable, because language users clearly distinguish between fairly general usage types and because there is evidence that they even make distinctions at a more specific level as well.

The assumption underlying the tests of Sandra & Rice is that the subjects are guided in their sorting behavior by the distinctions that are made on the level of mental representation. They claim that if the strong monosemous thesis were true, the subjects would not be able to do the sorting experiment, for the simple reasons that they are being asked to make distinctions that they do not make at the level of mental representation. Although the conclusion that they draw may be valid, there are in my opinion a number of reasons for regarding the validity of the assumption as questionable.

Firstly, it may be that language users are able to make distinctions on the level of interpretation (meaning embedded in a particular context) as well as being able to

24 See also my criticism on Ebeling (1956) in section 3.1. Ebeling's description of the Russian imperative fails to explain why language users tend to see more similarity between the directive imperative and the necessitive imperative, than between the directive imperative and the conditional imperative.
abstract from these different uses. Language users may for example perceive physical similarities between opening a door and opening the window, but still perceive functional similarity between different opening events such as opening doors, windows and meetings.

Secondly, norms are not the same as systematizations of and behind the norm. This means that the reconstruction of the linguist does not have to be the same as the intuition of the language user. Furthermore, in the case of grammatical meaning such as the imperative or the infinitive, judgments of language users about the meaning of forms are in fact very often judgments about the functions of forms. Two forms share (part of) the same function if they share their closest hypernym, in other words, they can be seen as having the same function when they can be seen as oppositional forms. This implies that one form may have different functions, because the different uses of the form may be paraphrased with different oppositional forms. Meanings, however, must be seen as abstractions from such different functions of one word. Such meanings mostly have a very abstract character, and must be seen as reconstructions of the linguist. As such, they are not part of the knowledge of the language user. Sorting tests (e.g. Muravickaja, 1973, for the Russian imperative), seem to imply that language users tend to sort on the basis of function rather than on the basis of meaning. This means that different forms with similar functions are more similar for the language user than the different uses of one and the same form. The way in which language users group uses of a form does not imply per se that this is also the way in which the meanings of uses of this form are related to one another. For language users it is important to know what you can do with words, and not how it is possible that you can do things with words. The abstract nature of meanings is such that they can often not be seen as part of the norms of language users.

Thirdly, the fact that there is nothing like the highest abstraction that can be seen as a necessary and sufficient condition for the correct use of a form does not mean that there is something like distinctive usage types. In many cases the different uses of a form cannot be strictly classified into different usage types, because the borders between the different types are fluid. This means that some uses can fall under two different usage types. The existence of fuzzy borders between usage types points at the flexibility of taking perspectives in the case of conceptualization, and refutes the idea that concepts can be seen as definitions.

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25 Note that this criticism does not directly concern the test of Sandra & Rice (1995); it must be seen as a more general criticism on the hypothesis that meaning directly reflects the mental processes of language users.
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2.6.4 General meanings abstract from features that play a part in meaning extension

A fourth weak point in the argumentation for the general meaning of some word is that marginal cases of a word sometimes cannot be seen as derived from some highest abstraction, but must be seen as derived from a lower abstractive level.

An important point made by Searle is that language users have the ability to abstract from uses. This ability enables them to group different phenomena together on the basis of some shared feature. It is, however, questionable whether such abstractions always contain all the information relevant for the understanding of certain uses of a concept. This is exemplified by the verb eat given above. If one wishes to explain the occurrence of eat soup, one has to take account of features that occur in the case of particular eat cases, viz. those cases where tools are used to eat. This feature cannot, however, be part of some highest abstraction, because in many eat cases no such tools are used, for example eat an apple. Put differently: if we only proceed from some highest abstraction, we lose some important information that we need in order to explain some specific uses of a form. Note that this is not an argument for rejecting general meanings per se. It only means that also in the case of general meanings, the information contained on lower abstractive levels may remain relevant.

2.6.5 Metaphor and metonymy

A fifth weak point in the idea of the general meaning of open is that metaphoric and metonymic extensions of meaning create polysemy, such that no necessary and sufficient conditions can be given for a word. Searle accounts for this by saying that such uses in fact have the same meaning as literal cases, but that they are used in a different way. It is, however, often not clear which uses must be seen as ‘adjustments’, which uses must be seen as ‘specifications’, and which uses must be seen as separate meanings (see section 2.4). Furthermore, many linguists have argued and demonstrated that family resemblance structures disturb the transitivity relation between meanings in the polysemous complex.

The idea of metaphoric and metonymic extensions creating polysemy can be exemplified by the use of the word eat in Jealousy was eating him up. This particular use of the word eat is usually classified in the literature as metaphorical use, in contrast to the use of the word eat in sentences like John ate an apple, where eat is said to function in its literal sense. The
difference between literal and non-literal use of a form is based on the linguistic intuition that some uses are more ‘basic’ and ‘literal’ whereas others seem to be ‘non-literal’ and ‘derived from the basic use’. This intuition is the basis for Searle’s description of metaphor as a case where the speaker’s utterance meaning and the sentence meaning do not coincide.

Although the notion of metaphor is based on linguistic intuition, and plays an important part in many descriptions of language and concept formation, most scholars fail to provide a description of metaphor that allows metaphorical use to be distinguished from non-metaphorical use. The difficulty in describing what constitutes metaphorical use and what constitutes literal use seems to result from the fact that the distinction itself is not a clear-cut phenomenon. That it is often hard to draw a line between metaphorical use and non-metaphorical use can also be illustrated with the example used by Searle himself, viz. the verb to open:

a. John opened the bottle.
b. John opened the book.
c. John opened the Torah.
d. The surgeon opened the heart of the patient.
e. John opened the computer program.
f. John opened the meeting.
g. The soldiers opened fire.
h. John opened her cold heart by saying ‘I love you’.
i. John opened the umbrella.

Which uses of the word open must be seen as metaphorical and why?

If we follow Searle’s line of thought, there must be something like a literal meaning of the verb open, and there can be non-literal uses, such as metaphorical uses, that are derived from this literal meaning. As I mentioned before, Searle describes metaphorical use as that use where the sentence meaning cannot be equated with the utterance meaning. If this description is taken literally, it is difficult to apply because it presupposes that the sentence meaning, or literal meaning is clear. According to Searle, the literal meaning is that meaning which defines all cases of open, except the derived cases such as the metaphorical uses. This, of course, is a circular strategy, because it helps us to find the metaphorical meaning by means of the literal meaning, whereas the
literal meaning can only be defined if one knows what the literal meaning is. So what must be seen as the literal meaning of the verb *open*?  

If the literal meaning must be identified with the general meaning (invariant, highest abstraction), the physical action that constitutes the act of ‘opening’ cannot be seen as an essential part of this meaning, which is underlined by the different ways in which something can be opened. It seems that what these uses have in common is the functional act of making something accessible, that is, making physical, visual or mental contact possible. It is precisely the way in which something is made accessible that differs from case to case. In (a–d) the activity is directed at some physical object, which is not the case in (f–h), where the activity is directed at a mental or social object; (e) can be seen as a borderline case because a computer program can be seen both as physical object and as a non-physical object. Note that there is also a difference between (f,g) and (h) because (h) in principle allows for an interpretation where some surgeon-magician physically opens the heart of the patient by saying the magic words ‘I love you’; such an interpretation is not available for (f) because ‘a meeting’ cannot be conceptualized as a physical object. This explains why the discrepancy between the ‘physical’ interpretation and the non-physical meaning is more clearly felt in (h) than in (f). It is precisely this feeling of ‘discrepancy’ that (h) is felt as metaphorical, but (f) less so, or not at all, although both are abstract cases.

As I said, Searle describes metaphorical use as a use where the sentence meaning cannot be equated with the utterance meaning. This description means that metaphor always implies some kind of semantic discrepancy between a basic or literal meaning and a derived meaning. Note that this description only applies to non-conventionalized metaphorical use of *open* and not to conventional metaphorical use. It could be argued that this description of metaphor is problematic because it implies that the new conventionalised metaphorical use falls under the literal meaning of the concept *open*; but if the metaphorical use does not fall under the core of all the *open* cases, how can it be possible that conventionalization changes the meaning to such an extent that it becomes part of the semantic core of the verb? Searle cannot account for cases where the relation between some basic use of a word and a derived use is no longer transparent. This is the case for example with the narrative use of the Russian

26 Take for example Wierzbicka (1996: 158–159), who claims that Wittgenstein’s analysis of the word *game* in terms of family resemblances is wrong, and offers her own analysis of the word *game*. Wierzbicka, however, runs into the same problems as Searle, as she claims that her description only accounts for the basic uses of *game*, without showing us a way to distinguish playful extensions from the basic meaning of a word, other than that playful extensions do not fall under the basic concept.
imperative. Although a relation between this use and the other imperative uses can be reconstructed, this relation is not transparent anymore to the extent that the relation plays no part in the meaning of the narrative imperative. Such a phenomenon can be seen as diachronic change that influences the synchronic linguistic system.

Furthermore, it is not clear how Searle accounts for cases with a so-called family resemblance structure. Polysemous complexes with a family resemblance structure are cases where we have a metaphoric extension from a use that was already the result of a metaphoric extension, such that use A shares features with use B, and use B with use C, but uses A and C have no features in common that they do not share with oppositional uses. Such family resemblance structures arise by changing subperspectives change, while retaining the main perspective. Of course, it could be argued that it is an empirical issue whether such cases actually exist. There is no a priori reason why family resemblance structures should exist or not exist in language. Different linguists have, however, pointed at such family resemblance structures in language (e.g. Wittgenstein for the word *Spiel* (1984), Bartsch for the word *run* (1984)).

I would like to note, however, that in my opinion such structures are probably the exception, rather than the rule in language studied as a synchronic system. This can be motivated pragmatically by the fact that they weaken the communicative stability of the linguistic system: infinite regression of meaning transfer is of no use for communication. To express an experience, the optimal concept is chosen from the range of available concepts in the linguistic structure. This means that similarity of the scene expressed by X to (one of) the other concepts expressed by X is bigger than the similarity to (one of) the concepts expressed by oppositional form Y. Optimality can therefore often be defined in terms of the specific semantic distribution of a term (see Bartsch, 1998). A restriction on the extension of the range of uses of a word is that the selection made by the new perspective has to be part of the specific semantic characteristic distribution of a term, that is, the specific features of the referent which distinguishes it from others. To give a specific example: the metaphor *John is a wolf* does not refer to the fact that John has fur, since fur is not a characteristic of wolves that distinguishes them from other animals. As such, *wolf* is not the optimal concept to express that John has fur. It must be remarked, however, that optimality is not a clearly defined notion. In some cases it is therefore difficult to motivate why a particular convention is the case.

Optimality must further be defined in terms of avoidance of ambiguity. If differences in scene are relevant for the language user, the context must differentiate between such uses. This is the case for example with *John runs*, and *the machine runs*,
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where the context, the subject of the verb, provides enough information to choose the right interpretation. Note also that in order to understand a meaning, it does not have to contain a necessary feature that stands in opposition to other uses. To give an example, I think it is quite possible to understand the machine runs, the river runs, the arrow runs, the road runs, etc. on the basis of John runs, where the feature of 'ongoing movement' plays a part in some way or another, notwithstanding the fact that a feature like 'ongoing movement' is rather underspecified since it does not specify what kind of movement is at issue (movement with legs, movement of a machine, etc.). However, on the basis of our knowledge of rivers, machines, roads, and general principles of metonymy, metaphor, and resultative perception (see Matsumoto, 1996), all these uses can be interpreted. As such, it may be that the feature 'ongoing movement' is necessary to understand the word run; it ensures a minimal transitivity between the different uses. This does not mean that in all cases of the word run the subject of run itself moves: it may also be that the use is understood on the basis of the idea of movement (for example in the case of metonymy). The relevance of the feature of ongoing movement can be illustrated with the following example:

a. The machine runs well. → 'functions'
b. The factory runs well. → 'functions'
c. ?The door runs well. → 'functions'
d. ?The boomerang runs well → 'functions'

For (a): The machine (or its internal mechanism) functions by moving. For (b): the factory can be seen as a machine that moves (things are going on), by moving it functions. For (c): the functioning of the door is in regular cases not conceptualized as based on ongoing movement. For (d): The functioning of the boomerang is not conceptualized as based on ongoing movement. Polysemic-based analyses often fail to point at such shared features, and regularities. This is sometimes because they do not make an adequate distinction between the actual extension of words, and the way we conceptualize things.

Even in models where family resemblance structures or diachronic changes effecting the synchronic system are accepted, it seems that whether one experiences a difference between the literal meaning, that is the meaning based on the basic uses of a concept, and the utterance meaning is at least partially subjective. For some language

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27 This also accounts for the fence runs from A to B, since this use can be understood on the basis of resultative perception.
28 Cf. Wierzbicka (1996), who convincingly argues against the existence of family resemblances in language.
users, open in opening a meeting may be understood and experienced in terms of open as it occurs in sentences such as open the book, for others the two uses may be considered to be of the same kind, while others may treat them as separate concepts. Searle does not take such issues into account.

For my description of the linguistic data I would like to draw the conclusion that the general meaning and literal meaning must be kept apart. The general meaning can be seen as the highest abstraction or invariant, which may stand in opposition to other forms used for similar purposes, but which, in most cases, cannot be seen as a necessary and sufficient condition for the correct use of a form. The general meaning can also apply to clearly metaphorical cases (e.g. in the case of open someone's heart or open the ranks the notion of making something accessible plays a part in the metaphorical interpretation) but this is not necessarily the case (e.g. in the case of jealousy is eating him up, the feature of 'taking nurture' does not play a part in any literal sense). I will use the term 'literal meaning' for that meaning from which a metaphorical meaning is derived. This meaning is not an abstraction from all the different uses, but can be seen as a specific type of use. To give an example, the phrases opening someone's heart and opening the ranks can, in principle, be understood in two different ways, namely in the literal sense (as in the surgeon opens someone's heart, the general opens the ranks) or in a metaphorical way (as in he opened her cold heart by saying I love you, the ranks were opened for new members). Note that the pragmatic description that Searle gives for metaphor is in my view correct; the incorrect element of his viewpoint is that he equates literal meaning with general meaning.

2.7 Conclusion

In this chapter I have set out the theoretical framework that I will use for the analyses to be presented in the following chapters, and I have informally touched upon some of the issues that play a part in the semantic analysis.

I have argued that meanings stated by linguists cannot be seen as definition-like representations from which the correct uses of a form can be predicted. Meanings are intersubjective mental reconstructions of properties and regularities in the world, expressed by forms occurring in the structure of oppositions. Meaning formation can be seen as structuring of sets of data by ordering relationships based on judgements of similarity (identity) and difference, especially opposition or contrast, under perspectives. As similarity is to some extent a subjective notion, the meaning (definition) of an expression e can never predict which situations satisfy e. From a set of examples stability
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can be predicted. But this prediction only accounts for the understanding of an expression, and not for the correct way in which a word can be used. Although one can try to find systematizations for such norms, and point at optimality of the conceptualization, it is impossible to predict which situations satisfy and which do not. Owing to additional conventional boundaries, the prediction can fail for the correct use of a word.

I have illustrated above the pitfalls of the semantic analysis with an analysis of the verb open. I have given some arguments against the idea that there exists exactly one meaning of the verb open. Instead, I have argued that the form is associated with the whole set of experiences of opening something, which may be ordered into subsets, each having a stronger internal similarity value than the whole set can have. I have argued that basic uses can be defined for the verb open; on these other uses can be based by transferring features of the basic uses. The basic uses provide a minimal transitivity for the different uses of open, and contain all the relevant features that are needed to understand non-basic uses of open. The general meaning of a word, for example open, can be seen as an abstraction from the basic use of open, stating the features that are necessary to understand different uses of open. The definition of such features must be flexible in character, mirroring our conceptualization and consequently the way in which the linguistic system is set up. This means that the central feature of the verb open, viz. 'creation of a path', has an inherent 'fuzzy' character, mirroring our capacity to perceive similarity and contiguity between things under perspectives. As such, the common feature of the verb open refers both to cases where the path is physical, for example in the case of 'opening a door', and to cases where it must be understood in a more abstract sense, for example in the case of 'opening a perspective'. The existence of borderline cases such as 'opening a computer program' shows that the difference between a path in a physical and concrete sense, and a path in an abstract sense is not clear-cut or well-defined.

In my opinion the general meaning can best be seen as a frame within which the different uses of an expression may occur. Such a frame cannot be seen as a definition, as it does not predict the possible uses of a word, but rather defines the common features of a word, which may stand in opposition to other uses. The notion of 'frame' points to two things: (i) it can be seen as a restriction on the use of a particular form, or put differently, it can be seen as a restriction on the extensions of a particular form; and

29 In exceptional cases family resemblance structures occur. Furthermore, in some cases the context may attribute additional features.
(ii) it is within the possibilities provided by the frame that different uses can be distinguished.

Firstly, in the linguistic system two opposite tendencies occur, viz. (i) the creation of polysemy to maintain relative stability in the linguistic system, and (ii) the development of basic or prototypical uses of an expression, which hold these different uses of an expression together. This means that basic uses can be seen as restrictions on meaning extension.

Secondly, for the language user some uses of an expression show more similarity to each other, than they show to other subsets. To give an example, for the language user opening a window and opening a door may form a subset within the polysemous complex. Yet, polysemy does not imply that with every new case of, for example, open or eat, a new meaning must be posited. Abstraction of form-meaning associations can be performed under different perspectives. This means that on the basis of different perspectives we can form different configurations of form-meaning associations. Furthermore, abstractions can be performed from different sets of data. If we make a taxonomic categorization of a set of form meaning associations, we can abstract first from the whole set, and then we can abstract from subsets of this set etc.

Although different usage types can be distinguished in the polysemous complex, the different subsets in the complex cannot always be seen as clearly defined usage types. It occurs often that no clear boundaries can be drawn for the different subsets of the set of all uses of a form. As such, the different ‘senses’ in the polysemous complex can therefore not be seen as classical concepts or definitions. New cases of use of a form do not have to be inferred either from clearly delineated concepts within the polysemous complex, or from well-defined general meanings. New uses can be inferred from different levels of abstraction. In a way, then, it does not make sense to speak about one meaning or different meanings in the case of words like open, since such a view of meaning treats meanings as definitions.