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Enam Al-Wer

Understanding Semantics

Sebastian Löhnér

Professor of General Linguistics, University of Düsseldorf



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Preface

For a long time this book was to be co-authored with Bernd Kortmann (University of Freiburg, Germany). Bernd was the one who wrote the book proposal for the publishers, the sample chapter, first versions of two more chapters and, not least importantly, who asked me to join him as a co-author. Even when it turned out that, for a number of reasons, Bernd had to resign from this project, he continued to serve as a critical reader of the various stages through which the chapters in this book went. If it were not for Bernd's initiative and the original plan of writing it together, I probably would not have written this book.

The title of the book, *Understanding Semantics*, is taken seriously. This textbook is not only meant to be an introduction to the major fields of the discipline, but also to the dominant approaches that shape semantics in its current state of the art. I have been striving to open the view on linguistic meaning from different perspectives. These include the language-internal level of meaning relations, the cognitive level of meanings as concepts in our minds and the 'objective' level of truth and reference. As for the phenomena discussed, the book offers a balanced treatment of lexical meaning and sentence meaning. To a certain extent, it also opens the dimension of language comparison. In addition, I have tried to widen the view by including subjects like non-descriptive meaning and processes of interpretation beyond compositional meaning.

The result is not an introduction to Löbner semantics. If you work your way through the book, you will be able to continue your studies in various directions. I have done my best to give a correct and balanced account of the phenomena and theories presented. Whenever possible, standard terminology has been used. The way in which the complex matter is organized and presented is, however, certainly my particular way. When reading through the second part, you will find me rather critical in places of each of the approaches described. On the one hand, my criticisms were the natural result of the attempt to present a consistent and comprehensive picture: different theories cover different aspects of the whole and neglect others; sometimes they contradict each other in central points. On the other hand, a critical approach to scientific matters is essential from the very

beginning. Therefore, transparency of notions and argumentation was one of my primary objectives. If you are my ideal reader, you will read the book carefully and completely and thereby gain a complex and coherent view of meaning in language; you will get an idea of what kind of a communicational instrument language is; you will acquire the background for going deeper into the matter by reading more advanced semantic literature and you will develop a critical eye for judging, and maybe some day participating in, the scientific discussion. You need not know much about linguistics in order to understand this introduction. All you need is an interest in language and scientific thinking.

There is a web page for this book (<http://www.phil-fak.uni-duesseldorf.de/~loebner/und-sem/>) with useful information: correction of errors, answers to frequently asked questions, comments, reviews, etc. My email address is given there. Any feedback is welcome!

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There are quite a few people to whom I want to express my sincere gratitude for their help and support. Bernd's role has already been mentioned. He and two members of his department, Verena Haser and Lieselotte Anderwald, provided detailed comments on the greater part of the book. Four persons accompanied the manuscript from the first to the last line, not only commenting on it in detail but, much more importantly, constantly encouraging me. These were the editors, Bernard Comrie and Greville Corbett, my Berlin colleague Ewald Lang and my partner Ruth Ropertz. Further thanks go to Volker Beeh for commenting on Chapter 4, and to Tünde Vallyon for providing the Hungarian and Russian data. My daughter Saskia Löbner volunteered as a test reader. Finally, I want to thank Nick Quaintmere for helping with my English, and the Düsseldorf Department for General Linguistics for paying him.

*Sebastian Löbner
Düsseldorf
August 2001*

Part

BASIC CONCEPTS AND PHENOMENA

This book consists of two parts: Part I introduces basic concepts and central phenomena investigated in semantics. On this basis, Part II treats the essentials of three major theoretical approaches: structuralist semantics, cognitive semantics and logical ('formal') semantics.

The first step is to mark out what semantics is about. Being the theory of linguistic meaning, the discipline does not concern meaning in the widest sense of the word, but the meaning of linguistic expressions. Chapter 1 will help to delineate the relevant notion of meaning and the major fields of semantics. In Chapter 2, the notion of meaning is further refined: descriptive meaning (responsible for factual information) is distinguished from social meaning and expressive meaning. We will see how descriptive meaning is connected to truth and reference. Chapter 3 addresses the ubiquitous phenomenon of ambiguity from two perspectives: as a phenomenon related to lexical meaning, and as the result of meaning manipulations that occur when utterances are interpreted in context. Chapter 4 describes the basics of the logical approach to meaning; notions such as entailment, equivalence and incompatibility are defined on the basis of truth and reference and their relevance is discussed for the analysis of meaning. A short Chapter 5 follows, which deals with common meaning relations such as hyponymy and oppositions. Chapter 6 on predication concludes the first part. It explores the essentials of sentence meaning by addressing the way in which the different words in a sentence contribute to its meaning.

Meaning and semantics

1

Semantics is the part of linguistics that is concerned with meaning. While this is the kind of definition which may satisfy, say, your friend who happens to see you with this book in your hands and asks what it is about, the author is of course faced with the task of explaining to you more precisely what the object of semantic study is. 'Meaning' is a notion with a wide range of applications, some of which belong to the field of semantics while others lie beyond it. Meaning is always the meaning *of* something. Words have meanings, as do phrases and sentences. But deeds may have meaning too. If a government pursues a certain policy, we may ask what the meaning is of doing so. The 'meaning' of an action or a policy is what sense it makes or what purpose it serves or what it is good for. More generally, we apply the notion of meaning to all sorts of phenomena that we try to make sense of, asking what is the 'meaning' of it all.

The first thing to be stated is that semantics is exclusively concerned with the meanings of linguistic entities such as words, phrases, grammatical forms and sentences, but not with the meanings of actions or phenomena. Given that semantics is treated here as a part of linguistics, this is a trivial restriction. One exception to the exclusion of actions is verbal actions, i.e. utterances of linguistic material, ranging from phrases and sentences to dialogues and texts. The meanings of words and sentences cannot be studied independently of how they are actually used in speech.¹ After all, it is language use that provides the data for semantics. Therefore the meanings of linguistic utterances also matter to semantics.

1.1 Levels of meaning

Even if we restrict the study of meaning to words and sentences, the notion of meaning has to be further broken down into different levels at which we interpret words and sentences.

1.1.1 Expression meaning

Let us get started by looking at a simple example that will illustrate what semantics is about:

(1) *I don't need your bicycle.*

This is an ordinary English sentence. Without even noticing, you have already recognized it as such, you have interpreted it and you are probably imagining a situation where you would say it or someone would say it to you. A characteristic semantic question is: what is the meaning of this sentence? Since you understand the sentence, you know what it means. But knowing what the sentence means is one thing, describing its meaning is another. The situation is similar with almost all our knowledge. We may exactly know how to get from one place to another, yet be unable to tell the way to someone else. We may be able to sing a song by heart, but unable to describe its melody. We are able to recognize tens of thousands of words when we hear them but the knowledge that enables us to do so is unconscious. Uncovering the knowledge of the meanings of words and sentences and revealing its nature are the central objectives of semantics.

Let us now try to determine the meaning of the sentence in (1). A plausible procedure is to start from the meanings of the words it contains. The main verb in a sentence occupies a key role in its meaning. So, what is the meaning of the verb *need*? Actually, there are two verbs *need*: an auxiliary verb (as in *I need not go*) and a full verb. In (1) we have the full verb. It is used with a direct object (*your bicycle*) and roughly means 'require'.² We 'need' something if it is for some reason or purpose necessary or very important for us. In our example, what is needed is described as 'your bicycle', i.e. by an expression composed of the possessive pronoun *your* and the noun *bicycle*. The noun means some sort of vehicle, with two wheels and without a motor – we need not take the trouble of attempting a precise definition. The two words *need* and *bicycle* are the main carriers of information in the sentence, so-called **content words**. *To need* is one of thousands of other verbs that could fill this position in the sentence. It differs semantically from all the others and is thus a very specific item. Even more nouns could be inserted in *I don't need your ____*. In this sense, the noun *bicycle* too is a very specific word with a meaning that distinguishes it from a very great number of other nouns.

All the other elements in our sentence are different in that they represent items from a very limited choice of expressions of the same kind. Such words are called **function words** and include articles, pronouns, prepositions, conjunctions and other 'small' words. The subject expression *I* is one of seven personal pronouns in English (*I, you, he, she, it, we* and *they*).³ The pronoun has three case forms (*I, me, mine*). The form *I* is the nominative case

and is required by the rules of standard English grammar if the pronoun fills the subject position, as it does in (1). What is the meaning of *I*? If Mary says the sentence in (1), it is Mary who is said not to need the bicycle. If John says (1), it is John. In other words, *I* is used for the one who says it, more technically: for the one who produces a token of this pronoun. The technical term for using an expression for something is **reference**. The function of the pronoun *I* is reference to the speaker of the sentence: when people use *I*, they refer to themselves. The entity referred to by an expression is called its **referent**. So the referent of *I* is always the speaker. The meaning of the pronoun can thus be described as follows: *I* indicates reference to the speaker. Similarly, the pronoun *you* indicates reference to one or more addressees.

For each personal pronoun there is a corresponding possessive pronoun: *I–my, you–your*, etc. *Your* in (1) indicates that the bicycle referred to is that of the addressee(s). If we think about the kind of relation that links the bicycle to the addressee(s), we realize that a broad variety of relations is possible. Possession in the sense of ownership is only one option: *your bicycle* may refer to the bicycle that belongs to the addressee(s), but also to the bicycle they are just riding, or cleaning, or repairing, or even the bicycle they have been talking about for the last ten minutes. Possessive pronouns, and other possessive constructions, indicate some sort of relation that allows us to identify the 'possessed' entity (here: the *bicycle*) by linking it to the 'possessor' (here: the addressee(s)). So the meaning of *your* can roughly be described as 'linked to the addressee(s)'.⁴

The form *don't* is a contraction of the auxiliary verb *do* and the negation particle *not*. *Don't* contributes two things to the meaning of the sentence. First, it negates the verb *need* and thereby turns what the verb means into its contrary (roughly speaking). Second, it contributes present tense. *Didn't* or *won't* would instead contribute past or future tense. What is tense? It is the indication that the situation the sentence describes is related to a particular time. This too is covered by the term **reference**. The time actually referred to depends on when the sentence is used. Due to the present tense in (1), we will relate the situation described to the 'present' time, i.e. the time when the sentence is being uttered.⁴ If (1) is uttered on 31 July 2002, 3 p.m., it conveys that the bicycle is not needed at that particular time. Combining these two components of *don't*, we may say: the meaning of *don't* is an indication of reference to the time when the sentence is said and it turns the situation expressed by the main verb into the contrary.

So far this has been an attempt to determine the meaning of each word in the sentence *I don't need your bicycle*. This is typical work of a semanticist. As you will have noticed, it is far from trivial. For a content word, the description of its meaning must be specific enough to distinguish it from all other words with different meanings. For example, it would not suffice to describe the meaning of *bicycle* merely as 'vehicle with two wheels'. At the same time, the description must be general enough to cover all cases in

which this word could be used. Since one usually imagines a particular context when one tries to think of a word and its meaning, one tends to take the meaning too specifically, disregarding other cases in which the word can also be used. As for function words like pronouns and auxiliaries, their meanings may seem at first view elusive but it is possible to account for their meanings too, as our little discussion may have illustrated.

If we put all the pieces together, we can describe the meaning of the sentence as a whole. It can be roughly formulated as: >for the speaker, the two-wheeled vehicle of the addressee(s) is not necessary, or very important, at the time when this is being uttered.<

It is very important to realize that the sentence as such, as well as the words in it, leaves open who the speaker and the addressee(s) are, what particular time is referred to and which bicycle. This is not part of the sentence's meaning. Such questions can only be settled if the sentence is actually used on a concrete occasion. What is, however, determined by the meaning of the sentence is the way how the answers to these questions depend on the occasion when the sentence is used. First, if it is actually used, it is necessarily used by someone who produces the sentence (speaks it, writes it, signs it, etc.). With *I* in subject position, the sentence 'tells' us that it is the speaker who does not need the bicycle. The use of *I* functions like an instruction: find out who produced this sentence, this is the referent of *I*. Second, the use of *your* presupposes that there are one or more addressees of the utterance. The meaning of the sentence describes the bicycle as linked to them. Third, if a sentence is used, it is necessarily used at a certain time. This time serves as the reference time for determining what is present, past or future. The present tense part of the meaning of the sentence conveys the instruction: attribute the situation described to the time when the sentence is said. Thus the meaning of the sentence specifies the way in which its reference is determined *if and when* it is used at some occasion.

The meanings of words, phrases and sentences, taken as such, i.e. out of any particular context, in their general sense, constitute the level of meaning which will henceforth be called **expression meaning**. *Expression* is just a general term for words, phrases and sentences. The term *expression meaning* covers, in particular, word meaning and sentence meaning. The level of expression meaning constitutes the central subject of linguistic semantics. It studies the material, or equipment, as it were, that languages provide for communication. As you have noticed, the determination of expression meaning requires an abstraction from the use of the expressions in concrete contexts. Rather, what one tries to capture is the *potential* of the expressions. Expressions such as *I* illustrate the point: due to its meaning, it has the potential of referring to whoever is the speaker of an utterance. Similarly, the noun *bicycle* has the potential of referring to whatever exhibits those characteristic properties that make up the meaning of the word. In

this sense, the notion of expression meaning itself is an abstraction and a theoretical construct. But it is justified in the way language is conceptualized not only in linguistics but likewise in common thinking: we do talk about the meanings of words and complex expressions as such, i.e. we do address this level of meaning. In the following, occasionally the subscript 'e' will be used in order to indicate that *meaning* is meant in the sense of *expression meaning*.

1.1.2 Utterance meaning

Let us now examine what happens when the sentence in (1) is actually used. We will consider two scenarios:

Scenario 1

1 August 1996, morning. Mary has been planning a trip to town that afternoon. Two days before, she talked with her neighbour John about the trip and asked him to lend her his bike for the trip. She had lent her car to her daughter and did not know if she would get it back in time. Meanwhile her daughter is back and has returned Mary's car. Mary is talking with John on her mobile, telling him, embedded within the usual small talk: 'I don't need your bicycle.'

Used in this context, the sentence acquires a concrete meaning. References are fixed: the personal pronoun *I* refers to Mary, the possessive pronoun *your* establishes a relation to her neighbour John and time reference is fixed, too: in the given context, the present tense verb will be taken to refer not to the time when Mary utters the sentence, but to the afternoon of 1 August 1996. This is clear from the fact that Mary could have said: 'I don't need your bicycle this afternoon', without changing the meaning of her utterance. Furthermore, the reference of the grammatical object *your bicycle* is fixed: it is the bicycle Mary asked John to lend her, two days before.

This is a different level of meaning which will be called **utterance meaning**, or *meaning_e*, for short. It comes about when a sentence with its *meaning_e* is actually used in a concrete context. First of all, utterance meaning involves reference. In addition to, and in connection with, reference another central notion comes into play, the notion of **truth**. If Mary says (1) in scenario 1, the sentence is true. But in a slightly different scenario it might be false. As long as the sentence (1) is not actually used with concrete reference, it fails to be true or false. The question of truth primarily concerns 'declarative' sentences such as the one under review. Only such sentences, when uttered, are true or false. But it matters also for interrogative and other types of sentences. For example, if John asked Mary 'Do you need my bicycle?', the use of the question form would convey that he wants to know from his addressee whether, from her perspective, *I need your bicycle* is true or false.

Scenario 2

Same time and place. John's five-year-old daughter Maggie is playing at home with her five-year-old friend Titus. They are playing with a game of cards that display all kinds of vehicles. Titus is in the possession of a card that shows a snowmobile. Maggie is eager to exchange this card for one of hers and offers Titus a card with a bicycle. Titus rejects the exchange: 'I don't need your bicycle.'

In this scenario, references of *I*, *your* and the present tense are fixed accordingly. What is interesting is that in such a context the word *bicycle* can be naturally interpreted as referring not to a bicycle but to a card carrying the picture of a bicycle. Are we to draw the consequence that the meaning_e of the word *bicycle* must be taken as covering not only bicycles but also pictures of this kind of vehicle and things that carry such a picture? The answer is 'No'. What happens in such cases is that the word meaning_e is shifted to fit the given context. Such shifts are quite common. The phenomenon will be discussed in 3.4 and 6.7.2. For current purposes it suffices to emphasize that expression meaning may be subject to certain kinds of meaning shifts which bear on reference and truth.

In the literature, the notion of utterance meaning is not used in a uniform way. In order to fix it here, we need a notion for what above was called *occasion*, *context* or *scenario*. The technical term for this is **context of utterance**. Roughly speaking, the context of utterance, or CoU for short, is the sum of circumstances that bear on reference and truth. The most important ones are the following aspects:

- the **speaker** (or producer) of the utterance;
- the **addressee(s)** (or recipients) of the utterance;
- the **time** at which the utterance is produced and/or received;
- the **place** where the utterance is produced and/or received;
- the **facts** given when the utterance is produced and/or received.

In certain cases, e.g. communication by mail, the time, place and facts may differ for the production of an utterance and its reception. For, example, if John writes in a letter to Mary *I will be with you tomorrow night*, Mary will have to figure out which day *tomorrow* refers to. In the following it is assumed, for the sake of simplicity, that production and reception are simultaneous.

As we have seen in connection with (1), it may matter for reference (e.g. of personal pronouns) who the speaker and the addressees are in a given CoU. The place where an utterance is made matters for the reference of expressions such as *here*, *there*, *upstairs*, *downtown*, etc. as well as for the truth of sentences like *It's raining*. Facts matter principally for truth as well as for reference. For example, Mary can only refer to John's bicycle in such CoUs where John, in fact, has a bicycle. CoUs may be real or fictitious. For

example, if we read a work of fiction, the relevant facts and figures are those of the story.

Given this background **utterance meaning** can be defined as the meaning that results from using an expression in a given CoU. Utterance meaning derives from expression meaning on the basis of the particulars provided by the CoU. The only aspects of the CoU that matter are those that immediately bear on reference and truth of the expression.

When someone produces an utterance, the addressees usually make all kinds of inferences. For example, in scenario 1, John may infer that Mary is still planning to make the trip; that she would have asked him to lend her his bicycle if she could not have used her car; that, however, her daughter is back with the car and that Mary is not going to lend her the car again on that afternoon; he will infer that Mary will take the car for her trip; that she considers herself able to drive, etc. All this is not explicitly said with that sentence, and it need not be true under different circumstances. In the given scenario, these inferences can be considered to be communicated because Mary can rely upon John's understanding all this.

Although these inferences are somehow triggered in the addressee's mind when he interprets Mary's utterance, it is important to separate what is actually being *said* from what is inferred. Some authors prefer not to draw this distinction and adopt a very wide notion of utterance meaning. We will not do so. The investigation of such inferences, their role in communication and how they are related to the meaning_e of what is actually said, is an important part of the linguistic discipline called **pragmatics**, the scientific study of, roughly speaking, the rules that govern language use. Within pragmatics, Paul Grice's theory of 'conversational implicatures' deals with inferences of this kind.

Utterance meaning is also of concern for semantics: it has to explain how reference and truth depend on the CoU. For example, a semantic theory of tense would have to describe and explain which relations to the time of utterance present, past and future tense forms can indicate. A further important subject, gradually gaining importance, is the analysis of the systematic meaning shifts that expression meanings may undergo (cf. the reference of *bicycle* to a picture of a bicycle in scenario 2).

1.1.3 Communicative meaning

Neither the level of expression meaning nor that of utterance meaning is the primary level on which we interpret verbal utterances. In an actual exchange, our main concern inevitably is this: what does the speaker intend with the utterance, in particular, what does the speaker want from me? Conversely, when we take on the speaking part, we choose our words in pursuit of a certain communicational intention. Verbal exchanges are a form of social interaction. They form an important part of our social lives. As

such, they will always be interpreted as part of the whole social exchange and relationship entertained with the speaker.

One and the same sentence can be uttered with quite different communicative results. The utterance of (1) in scenario 1 will be taken as a statement, and thereby as a withdrawal of a former request. In scenario 2, the utterance of the same sentence constitutes the refusal of an offer. In other CoUs, uttering the sentence could serve still other communicative ends. A theory that addresses this level of interpretation is speech act theory, introduced in the 1950s by the philosopher John L. Austin (1911–60) and developed further by others, in particular John R. Searle. The central idea of speech act theory is that whenever we make an utterance in a verbal exchange we act on several levels. One level is what Austin calls the ‘locutionary act’. A locutionary act is the act of using a certain expression (usually a sentence) with a certain meaning_e, in the given CoU. In doing so, we also perform an ‘illocutionary act’ on the level on which the utterance constitutes a certain type of ‘speech act’: a statement, a question, a request, a promise, a refusal, a confirmation, a warning, etc. For example, when Titus in scenario 2 says *I don’t need your bicycle*, he performs the locutionary act of saying that sentence with the utterance meaning it has in the given context, including reference to the card with the picture of a bicycle. On the illocutionary level, he performs a refusal of Maggie’s offer.

The speech act level will be referred to as **communicative meaning**, meaning_c. Unlike expression meaning and utterance meaning, communicative meaning lies outside the range of semantics. Rather, it is of central concern for pragmatics. Exceptions to this division are constituted by expressions that due to their expression meaning serve the performance of certain types of speech acts, e.g. *Thank you*. Its meaning is the indication of the speech act of thanking. Other such expressions are phrases for greeting or apologizing. They will be treated in more detail in 2.3.1.

Having distinguished three levels of meaning, we have at the same time established, albeit sketchily, what constitutes the field of semantics proper. The discussion can be summed up as follows:

Semantics is the study of the meanings of linguistic expressions, either simple or complex, taken in isolation. It further accounts for the way utterance meaning, i.e., the meaning of an expression used in a concrete context of utterance, is related to expression meaning.

Table 1.1 gives a survey of the three levels of meaning and how they are defined. As we have seen, communicative meaning is built upon utterance meaning, and this in turn is built on expression meaning. In this sense, semantics provides the ground for pragmatic considerations.

Level of meaning	Definition
expression meaning	the meaning of a simple or complex expression taken in isolation
utterance meaning	the meaning of an expression when used in a given context of utterance; fixed reference and truth value (for declarative sentences)
communicative meaning	the meaning of an utterance as a communicative act in a given social setting

Table 1.1 Three levels of meaning

1.2 Sentence meaning and compositionality

We will now take a closer look at expression meaning, in particular, sentence meaning_e. It is a trivial fact that the meanings of words and sentences differ in one important point. Meanings of words must simply be known and therefore learned. In our minds, we carry a huge ‘lexicon’ where all the words we know and their meanings are stored and to our disposition. Stored meanings are therefore called **lexical meanings**. We do not, however, have ready-made, learned meanings of complete sentences stored in our minds.

Both statements are in need of qualification. On the one hand, there are many words we need not have learned and can yet understand. These are words that can be regularly derived from other words we know. For example, you would understand the verb *mousify* even if you have just encountered it for the first time, since you know the pattern in English for deriving verbs from nouns by attaching the suffix *-ify* roughly meaning ‘make into a . . .’. Another possibility for forming new, but interpretable words is the combination of two words into one, such as *mouse food*. On the other hand, there are some complex expressions, including sentences that do have a fixed, learned meaning, such as proverbs: *The early bird catches the worm*. These too have lexical meanings. But by and large, sentences and words differ in that only the latter have lexical meanings.

Although we usually understand sentences without any conscious effort, their meanings must be derived from our stored linguistic knowledge. This process is technically called **composition**.⁵ Complex expressions whose meanings are not stored in the lexicon are therefore said to have **compositional meaning**. In dealing with (1), we thought about the meanings of the words it contains, but somehow glossed over the way in which the meaning of the sentence comes about. You may wonder why this is a question at all. But as you will see immediately, the question is not that trivial.

1.2.1 Grammatical meaning

Just for a change, we will consider a new example:

(2) *The dog ate the yellow socks.*

Let us assume that we have assessed the lexical meanings of the words in (2): *the*, *dog*, *ate*, *yellow* and *sock*. There are no larger units in the sentence with lexical meaning; the rest of the interpretation is composition. Still regarding the words, we may observe that they occur here in particular grammatical forms. The verb form *ate* is past tense, more precisely: simple past tense rather than progressive (*was eating*); it is in the so-called indicative mood rather than in the conditional (*would eat*), it is active rather than passive (*was eaten*), it is not negated (*did not eat*). The noun *socks* is plural; and, of course, although this is not especially marked on the word, *dog* is singular. The adjective *yellow* is neither comparative (*yellower*) nor superlative (*yellowest*) but in its basic form, called 'positive'. The forms of the words matter directly for their meaning, and consequently for the meaning of the whole sentence. The singular noun *dog* has a different meaning from the plural noun *dogs*: *dog* refers to a single creature of this kind, and *dogs* to more than one. Likewise, the meaning of present tense *eat(s)* is not the same as that of past tense *ate*. In our lexicon only one meaning of a word is stored, reasonably the singular meaning of nouns, a tenseless meaning of verbs and the 'positive' meaning of adjectives.⁶ Therefore, the meanings of the words in their given form must be derived from their lexical meanings by rules. There are rules for deriving the plural meaning of a noun, the comparative meaning of an adjective or the simple past tense meaning of a verb, respectively. These rules are part of the apparatus we use in composition.

It must be noted that not all differences in the grammatical forms of words matter for their meaning. A certain form may be necessary just for grammatical reasons. In English this does not occur very often, but here are two examples:

- (3) a. *I am angry with Ann.*
 b. *Ann is angry with me.*

In the variant of English applied here, the form of the first person pronoun in (3a) is grammatically necessary because the pronoun forms the subject. Being the object in (3b), it must take the form *me*. *Me am angry with Ann* or *Ann is angry with I* would be ungrammatical. Since the form of the pronoun is determined by grammar, there is no meaning difference between *I* and *me*. The analogue holds for the difference between *am* in (3a) and *is* in (3b). Both carry the same meaning of present tense indicative *be*. Thus differences in form only matter for meaning if they can be chosen freely, independently of the syntactic structure of the sentence.⁷

That word forms may matter for semantic composition is a first important point to establish.

- The grammatical form of a word, in so far as it is not determined by grammar, contributes to its compositional meaning.

Therefore the form itself, e.g. singular, plural, positive, comparative, simple past tense, progressive past tense, etc. has a meaning. Such meanings are called **grammatical meaning**.⁸

1.2.2 Syntactic structure and combination rules

As the next step of composition, the meanings of the words (in their given forms) are combined into a whole, the meaning of the sentence. This process is guided by the syntactic structure of the sentence (this is, for the most part, what grammar is good for: to guide the interpretation of complex expressions). Let us first determine which words in (2) belong together. The words *the dog* form a syntactic unit. This kind of unit, in this case consisting of the definite article and the noun *dog*, is called a **noun phrase**, NP for short. The words *the yellow socks* form another NP, containing an adjective in addition to the article and the noun. Actually, the adjective and the noun form another unit within the NP. The combination of words into larger syntactic units is governed by the rules of grammar. There is a rule for combining adjectives with nouns, and another rule for combining a noun, or an adjective-noun combination, with an article (the article comes first). Given such rules for forming larger syntactic units we need corresponding composition rules, for example:

- a rule for deriving the meaning of an adjective-noun combination (*yellow socks*) from the meaning of the adjective and the meaning of the noun;
- a rule for deriving the meaning of an article-noun NP (*the dog*) from the meaning of the article and the meaning of the noun.

We will not try to specify these rules now. Suffice it to say that this is not at all a trivial task; for example, combinations of adjectives and nouns are interpreted in many different ways.

Having assessed *the dog* and *the yellow socks* as larger units, we turn to the total structure of the sentence. It consists of these two NPs and the verb *ate*. Due to the rules of English grammar, these three parts are related as follows: the verb is the predicate of the sentence, the NP *the dog* is its subject and *the yellow socks* its direct object. From a syntactic point of view, the verb and the direct object form a unit, known as **verb phrase**, or **VP**, which is then combined with the subject to form the complete sentence. We therefore need two more composition rules:

- a rule for deriving the meaning of a VP (*ate the yellow socks*) from the meaning of the verb (*ate*) and the meaning of the direct object NP (*the yellow socks*);
- a rule for deriving the meaning of a sentence (*the dog ate the yellow socks*) from the meaning of the subject NP (*the dog*) and the meaning of the VP (*ate the yellow socks*).

Again, these rules are not trivial. Roughly speaking, the composition works as follows: the verb *eat* in its given 'active' form means an event, of eating, which necessarily involves two elements, an eater and something that is eaten; the subject NP contributes a description of the eater and the direct object NP a description of the object that is eaten.

1.2.3 The principle of compositionality

Let us sum up the general results we can draw from this example. The syntactic rules of a language allow the formation of complex expressions from what will be called basic expressions. (Basic expressions are expressions with a lexical meaning.) The meaning of complex expressions is determined by semantic composition. This mechanism draws on three sources:

- 1 the **lexical meanings** of the basic expressions;
- 2 the **grammatical forms** of the basic expressions;
- 3 the **syntactic structure** of the complex expression.

The general scheme in Figure 1.1 shows that semantic composition is thought of as a so-called **bottom-up** process:⁹ it proceeds from the smallest units to the larger ones. The lexical meanings of the smallest units serve as input for the rules of grammatical meaning, whose output is the input for the combination rules. The converse of a bottom-up process is a top-down process. If semantic interpretation were conceived as a top-down process, this would mean that the meanings of words are derived from the meanings of sentences.¹⁰

As long as a complex expression is formed in accordance with the grammatical rules of the language, it can be interpreted compositionally. For every syntactic rule there is a corresponding composition rule – there *must* be, because otherwise grammar would produce strings of words that would be impossible to interpret. Along with the lexical knowledge, these rules belong to our linguistic knowledge.

That complex expressions receive their meaning by the process of composition, is the central idea underlying semantics. It is called the Principle of Compositionality:¹¹

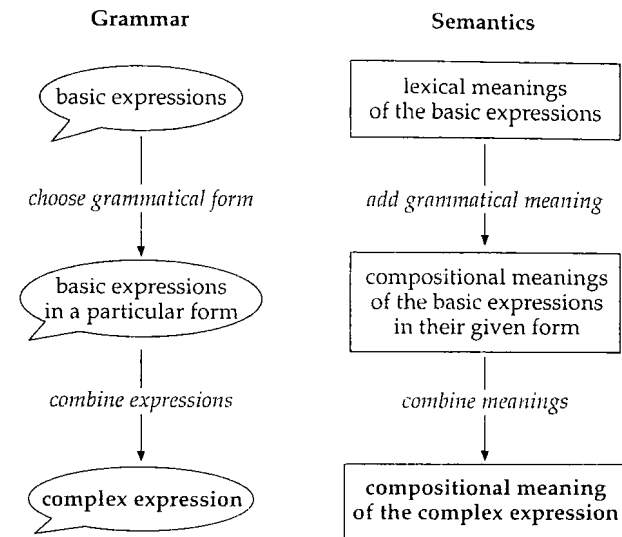


Figure 1.1 The process of composition

Principle of Compositionality

The meaning_c of a complex expression is determined by the lexical meanings of its components, their grammatical meanings and the syntactic structure of the whole.

The principle implies that the meanings_c of complex expressions are *fully* determined by the three sources mentioned, i.e. by the linguistic input alone. Thus, in particular, the process does not draw on extra-linguistic context knowledge. The principle as it stands can therefore be taken as an indirect definition of expression meaning: expression meaning is that level of meaning that can be obtained by the process of composition, i.e. on the basis of lexical meanings, interpretation rules for grammatical forms and semantic combination rules.

It must be noted that the principle does not hold for the level of utterance meaning. Utterance meaning can only be determined by bringing in non-linguistic knowledge about the given CoU. For example, part of the utterance meaning of (2) in a particular CoU might be that the yellow socks belong to John. This, of course, is an aspect of the meaning_u of (2) that cannot be derived from the mere linguistic information provided by the sentence.

The Principle of Compositionality yields a convenient division of semantics into the following subdisciplines:

- **lexical semantics:** the investigation of expression meanings stored in the mental lexicon (*mouse, sock*);
- **compositional word semantics:** the investigation of the meanings of words that are formed by the rules of word formation (*mousify, mouse food*);
- **semantics of grammatical forms:** the investigation of the meaning contribution of grammatical forms that can be freely chosen, often understood as including the semantic analysis of function words such as articles, prepositions and conjunctions;
- **sentence semantics:** the investigation of the rules that determine how the meanings of the components of a complex expression interact and combine.

Often semantics is subdivided into two subdisciplines only: lexical semantics is then understood as also comprising compositional word semantics, and the semantics of grammatical forms is subsumed under sentence semantics.

A further domain is defined negatively, as it were, by the principle: the part of semantics that is concerned with utterance meaning, i.e. meaning beyond composition:

- **utterance semantics:** the investigation of the mechanisms (e.g. meaning shifts) that determine, on the basis of the compositionally derived expression meaning, the range of possible utterance meanings.

In this volume, we will be concerned mainly with lexical meaning (Chapters 2, 3, 4, 5, 6, 7, 8 and 9) and sentence meaning (Chapters 4, 6 and 10); utterance meaning, i.e. meaning shifts, will be discussed in Chapters 3 and 6. Neither compositional word meaning nor grammatical meaning will be dealt with in depth.

Checklist

levels of meaning	inferences
expression meaning	Grice
content words	communicative meaning
function words	speech act theory
lexical meaning	Searle, Austin
sentence meaning	composition
utterance meaning	compositional word meaning
context of utterance, CoU	grammatical meaning
reference	rules of meaning combination
truth	bottom-up
meaning shifts	Principle of Compositionality

Further reading

Lyons (1995, Chapter 1) on levels of meaning. Verschueren (1999, Chapter 1) on inferences and speech acts, Chapter 3 on the role of context in interpretation. Levinson (1983, Chapters 3 and 5) for a more comprehensive discussion of Grice's theory and speech act theory. Tallerman (1998, Chapters 2 and 3) on elementary syntax.

Notes

- ¹ Following a common practice of simplification, I will talk about language and language use as though language were exclusively spoken language. Actually terms such as speech and speaker are to be taken as including language use in all possible media: spoken, written, signed, sent in Morse code or whatever.
- ² › ‹ quotes are used for meanings.
- ³ Alternatively one may assume that English has two personal pronouns *you*, a singular *you* corresponding to French *tu*, German *du* and former English *thou*, etc. and a plural *you* corresponding to French *vous* and German *ih*r. Whether English has two pronouns *you* or one which is neutral to the distinction between singular and plural ('grammatical number') is a difficult question we do not want to go into here. We will assume the latter alternative.
- ⁴ Present tense does not always refer to present time. For example, it is often used for reference to future time (cf. *I need your bicycle tomorrow*).
- ⁵ Incidentally, this is also the term for combining two words into one, such as *mouse* and *food* into *mouse food*. If necessary, the two cases are distinguished as *semantic vs morphological composition*.
- ⁶ In some cases, certain forms of words may have a special lexical meaning, such as the plural form of nouns, e.g. *glasses* as opposed to *glass*. Some nouns are only used in the plural (*trousers*), for others the distinction does not seem to matter (*logic, logics*).
- ⁷ Whether or not a particular choice, e.g. between singular or plural, is free, may depend on the grammatical construction. Usually the choice of grammatical number is free for nouns, but sometimes it is not, cf. the ungrammaticality of *he saved our life (vs ... lives)*. Similarly some sentence types exclude certain tenses, although normally the tense of the verb can be freely chosen.
- ⁸ The term is somewhat misleading, because grammatical forms that are determined by grammar and therefore lack a meaning, nevertheless have a grammatical function, e.g. the indication of whether a pronoun is the subject or the object of a sentence. The term *grammatical meaning* could be misunderstood as referring to the grammatical function of such forms.
- ⁹ For better readability, the schema in Figure 1.1 depicts the process upside-down.
- ¹⁰ Actually this appears to be what happens when we encounter unknown words in context. In such situations we are often able to infer the meaning of the

unknown word if we can somehow grasp the meaning_w of the whole utterance. But this does not mean that the process of interpretation in general is top-down. Clearly, unknown word meanings can only be inferred if the rest of the sentence meaning can be derived compositionally, i.e. bottom-up.

- ¹¹ The principle is attributed to the German philosopher, logician and mathematician Gottlob Frege (1845–1925), and sometimes called Frege's Principle. Although he obviously applied the principle, there is no passage in his publications that could serve as a quotation.

Descriptive, social and expressive meaning

2

This chapter will try to convey a more precise idea about expression meaning. In the first part about 'descriptive' meaning, we will consider the relationship between meaning, reference and truth. The second part is concerned with non-descriptive meaning, i.e. parts of the meaning that are relevant on the level of social interaction or for the expression of subjective attitudes and evaluations.

2.1 Meanings are concepts

In order to understand what kind of entities meanings_w are, the best thing we can do is consider the role that meanings play in actual communication. We will consider another concrete example and assume a CoU that takes up scenario 1 from 1.1.2: Mary, just back from her trip, finds her daughter Sheila quite upset. Sheila has spent the time with Mary's dog Ken, and the two do not like each other. When asked what happened, Sheila answers:

- (1) *The dog has ruined my blue skirt.*

Let us suppose that what Sheila says is true and that Mary believes what Sheila says. Mary will then know something she did not know before: that Ken has ruined Sheila's blue skirt. She knows this because Sheila said (1) and because this sentence has the meaning it has. Let us take a closer look at how the transfer of information by such a sentence works, first for a single word and then for the whole sentence.

2.1.1 The meaning of a word

We assume that Sheila is referring to Ken. What enables Mary to recognize that? Sheila used the words *the dog*: the definite article *the* and the noun *dog*.