Semantics is the study of meaning in language. Meaning is a much less tangible notion than those introduced in the above chapters on phonology, morphology and syntax. Meaning has a strong subjective element to it and it is spread across other levels of language as will be discussed below. It is also a contact area with other disciplines such as philosophy and logic. Philosophical semantics looks at the relations between linguistic expressions and the phenomena in the nonlinguistic world to which they refer and examines the conditions under which they are true or false. This type of semantics goes back to Classical Greece, to the three main philosophers Socrates, Plato and Aristotle. In the sphere of logic, semantics is important as a system of logical analysis where it is not so much the relation between language and the outside world which is of concern but rather the internal formal relationships between terms in a logical system.

The history of linguistics shows periods in which semantics received more or less attention. In the nineteenth century linguists concentrated more on phonology and morphology and semantics suffered from comparative neglect. With the advent of structuralism at the beginning of the 20th century, it looked as if semantics might achieve the status it deserved. However, the development of American structuralism between the two world wars did nothing to further linguistic interest in semantics. Such prominent linguists as Leonard Bloomfield (active in the 1920s and 1930s) regarded semantics as too difficult to deal with scientifically and left it to one side. The same is true of early transformational grammar in the 1950s. Only in the mid 1960s did the interest of linguists turn to semantics once more. Since then there have been many works on semantics both within models of grammar and outside. Despite these efforts there are no coherent theories of semantics on a par with those in syntax and phonology.
5.1 The meaning of ‘meaning’

One of the first difficulties one comes across in semantics is with the definition of the term *meaning*. Two common misconceptions are involved here. The first is that what one refers to by ‘meaning’ does in fact have some real existence (apart from our idea of it); the second is that the word ‘meaning’ refers to the same thing each time it is used. These two situations are termed 1) the presupposition of existence and 2) the presupposition of homogeneity.

There are standard examples to illustrate these two phenomena. For instance, although the words *unicorn* and *dragon* exist there are no such animals. What one imagines on hearing the terms depends on the images (usually pictorial depictions) which one may have come across during one’s lifetime. For example, a unicorn is often thought of as a horse with a twisted cone-shaped horn protruding from the forehead; a dragon may be thought of as a reptile-like animal which breathes fire.

The presupposition of homogeneity can be illustrated easily with words which denote quality. For example, there is a saying in English that ‘Beauty is in the eye of the beholder’ which rests on the assumption that the notion of ‘beauty’ varies from individual to individual. Another sphere from which one could illustrate question of homogeneity is that of words with moral overtones. The sentence ‘Your country expects you to do your duty’ sounds very simple. But in fact semantically it is quite complex as the notion of ‘duty’ is not easily defined. In the context of an impending war, it could mean that one group in society – a higher one – expects another group – a lower one – to fight and possibly die for them without any betterment of their own lot.

When an idea or concept is encoded in language one cannot always be sure that this will lead to the transfer of just that idea or concept from a speaker to a hearer. This fact is intuitively recognised by language users, as in the statement ‘I don’t quite understand what you mean’, which shows that meaning can vary from speaker to speaker. Nonetheless, the most successful means of defining meanings is via the use of words. It is the clearest way at arriving at a consensus on what constitutes the meaning of a word and has the additional advantage of excluding attempts at defining meaning by appealing to other, often obsolete factors, such as the historical source of a word (its etymology). For instance, the word *culture* is used in present-day English to refer to general social behaviour, as in ‘today’s holiday culture’. Although ‘culture’ is used to refer to art and customs of a society it now also means ‘social behaviour’, just as philosophy means ‘general policy’, because it is commonly used in this sense, for instance in industry.

5.1.1 Presupposition and entailment

The central idea behind *presupposition* is that a sentence by its very meaning presupposes that something else is true which preceded the utterance of the
sentence. For example, the sentences *Have you given up linguistics?* and *Did you enjoy your dinner?* both imply that the person addressed was studying linguistics and did in fact eat dinner respectively.

The second notion – *entailment* – refers to situations where, if one sentence is true, another related sentence is also true. If you like, entailment can be regarded as a type of inclusion. If one sentence is semantically included by another – usually by a relation of hyponymy – then the truth of the included one implies the truth of the including one. A simple example can illustrate this: if the sentence *Cathal has two daughters* is true then the sentence *Cathal has children* is also true.

### 5.2 Types of meaning

When laypeople think of meaning it is first and foremost lexical meaning which comes to mind, that is, meaning which can be captured by the question ‘What is an X?’ where X often stands for an object in the outside world. But this is only one kind of meaning. It is possible to distinguish at least four types of meaning: lexical, grammatical, sentence and utterance meaning.

1) **LEXICAL MEANING** is that of individual words or of compound words, for instance, *What is the trachea? What is lexicology? What is a drumlin?*

2) **GRAMMATICAL MEANING** is that of form words which only obtain significance when used in connection with lexical words. Such form words are the many prepositions, conjunctions or determiners in a language. Their meaning is only evident in a sentence or phrase containing lexical items. For instance, the word *to* has no independently specifiable meaning but in the sentence *He gave a lovely present to his wife* it has grammatical meaning as it precedes the beneficiary of an action. It is typical of these elements that they have many functions, for example, *to* is commonly used as an infinitive marker as in *They decided to come.*

3) **SENTENCE MEANING** results from the combination of words in a sentence. This can vary even with the same words as with a sentence where the subject and the object are exchanged. Meaning can furthermore depend on the scope of an element, deriving from its position in a sentence, compare that of *all* in the following sentences *All the boys ate the food* and *The boys ate all the food* which contain the same words but in a different order.

4) **UTTERANCE MEANING** is that of a sentence in a particular spoken context which is not necessarily the same as its literal meaning, cf. *Can you pass me the salt?* which is not a question but a request. Utterance
meaning is closely linked to the area of linguistics called speech act theory which examines the use and classification of language in concrete situations (see section ??? below).

5.3  Meaning relationships

Apart from the question of types of meaning, just dealt with, there are various ways of classifying meaning relationships. At the most basic level one can distinguish relationships which apply within language and those which obtain between language and the outside world. To capture these two types linguistics avail of the terms sense and denotation.

Basic meaning relationships

1) SENSE refers to the semantic relations between linguistic items. For instance, the words man, woman, boy, girl, child, adult are related to each other (and of course ‘point’ to beings outside of language, see next paragraph). The distinguishing factor may be gender or age, depending on the items in question. Other constellations of words exist in which the distinguishing features between items are different. Consider the related words car, van, lorry. Here the items are distinguished by size and purpose, i.e. whether used to transport people and/or goods. From these simple examples it can be seen that sense relations typically hold between items in word-fields (see section 3 Lexicology above), i.e. in groups of words which refer to objects which are viewed as related in meaning. The word-fields to be found in language do not always correlate with the situation in the ‘outside world’, e.g. the term vitamin is used to denote a group of chemicals which only have in common that one requires relatively small quantities of them. The apparent unity which the name suggests does not correlate with reality.

2) DENOTATION refers to the relation between words and the non-linguistic world. The word bicycle ‘denotes’ a mechanical device with two wheels with a rider and propelled by human muscular effort. The Irish word rothar, the Russian word velosiped and the German word Fahrrad all refer to the same thing. From this one can see that the relation is arbitrary, that is there is no necessary connection between the sound shape of the word and what it denotes. However, for each language the relation is fixed by social convention as pointed out by de Saussure at the beginning of the 20th century (see section 3.1 Structural notions in linguistics above). Denotational meaning is sometimes refers to as conceptual meaning.

The object or concept which a word denotes is not its entire meaning. For most
words one can also recognise finer shades of meaning especially the positive or
negative aura which a word has. To capture this aspect the term connotation (or
sometimes associative meaning) is used. For instance, *Hallo, old boy!* exploits
the connotation of ‘old boy’ as someone with whom one is acquainted. In strictly
denotational terms it would refer to an old boy, which is not the case in this
example. However, in most cases the denotational reference of a word is not in
conflict with the connotation. These instances are more subtle and more likely to
be manipulated by speakers for their effect on hearers. For example, the sentence
*He referred to the dangers of the scheme* could be phrased in a number of
ways, say by using pointed out or drew attention to or highlighted or stressed
as the verb. The connotation of urgency in stress might be deliberately aimed at
or avoided depending on what the speaker intends. Equally the relative
neutrality of refer to might be chosen in order to downplay a situation, maybe
one which hearers feel should be taken seriously. The range of connotation is
often from negative to positive with a given selection of words. For instance, the
word ‘stench’ has a negative connotation but the word ‘scent’ a positive one,
although both refers to sensations of smell. Because positive associations exist,
words are frequently used more for their connotations rather than their primary
meaning, their denotation. Take for instance the words fair, just, righteous,
impartial, objective all have connotations – overtones – of moral goodness. In
this context one could consider the language of politics or advertising for the use
of words with positive connotations. An example of this would be a cigarette
advertisement such as *Exclusive tobacco hand-picked for your pleasure from
the house of XXX*. Now exclusive has the connotation of ‘very special, not
everyday’. Hand-picked implies ‘conscientious attention to quality’. House in
the phrase above suggests ‘a level of personal commitment to customers’, all of
which may well not apply to the product at all.

The basic meaning relationship of sense can be further differentiated by
examining the precise nature of this relationship. By these means a further
fourfold division can be reached as outlined in the following paragraphs.

Internal meaning relationships

1) SYNONYMY Sameness of meaning. Not an absolute category as the
degree of sameness is a relative matter, for instance fair and just are
similar but not quite the same; the difference is often one of collocation,
i.e. the combinations of other words which an item may occur in, e.g. *He
was given a fair trial* and *He is a just man* but not *He was given a just
trial* (though *He is a fair man* is quite acceptable). In fact one can
maintain that if two words are exactly the same in meaning then in the
course of time one will drop away as has happened with Old English
guma ‘man’ or niman which was replaced by the Scandinavian
borrowing take. What may happen is that two originally synonymous
words may become distinguished by style as with the many French loans
in the Middle English period which came to be characteristic of a more formal style of English, cf. work and labour; freedom and liberty.

2) **ANTONYM** Difference in meaning. There is a distinction between graded and non-graded antonyms. The former are not a matter of ‘yes’ or ‘no’ but of ‘more’ or ‘less’, e.g. small, interesting, talkative, clumsy. The latter can only have one of two values, e.g. dead, alive; pregnant, not pregnant.

3) **HYPONYMY** This is the relationship which obtains between specific and general lexical items. For instance, flute is a hyponym of instrument. Flute, clarinet, oboe are co-hyponyms of each other. Hyponymy is typical of word-fields, collections of words which are related in some general sense and which show an internal hierarchy. Furniture, food, buildings, clothes are typical word-fields which contain hyponyms, many of which are co-hyponyms if they are on the same level, as with the examples just given which all belong to the wind section of an orchestra; chair, stool, couch, sofa are co-hyponyms in the word-field ‘furniture’ as they are all items of furniture on which people sit as opposed to table which one sits at.

5.4 **The figurative use of language**

Human cognition operates on various levels of abstraction, our consciousness is quite removed from the physical layers of nerve stimuli on which it is based. A central part of this abstraction is the use of symbols and the treatment of intangible phenomena as objects. This cognitive behaviour is reflected in language, nowhere as clearly as the way in which we refer to language itself. It is common to talk of ‘the English language’ as if it were an object like a tree or a flower which it is not. The language is an abstraction from the collective linguistic behaviour of those individuals who learned certain words and rules in their childhood. This type of abstraction enables discussion which would otherwise be much more difficult. We can follow conversations about abstract entities because we conceive of them as if they were objects.

An essential part of abstract thought, and hence language, is the figurative use of literal terms. Just as it is helpful to treat abstract entities as if they were objects, so it is often useful to use literal terms to refer to less tangible entities. For instance, a computer virus is not a virus in the biological sense – a parasitical organism which preys on a host. But the general behaviour of biological viruses – preying on a host – is typical of computer viruses too as these are unwanted bits of software which prey on the operating system of your computer. The same figurative use is found in software bug, a dysfunction in a computer programme.

The figurative use of a literal term is called a metaphor (in linguistics as in literary studies). Metaphors are useful because they allow us to use known
literal terms for concepts which may be less known or less tangible but which are parallel to the known terms. For instance, the foot of the mountain is a figurative use of foot which symbolises the lower end of the mountain just as the brow of the hill shows brow in a figurative use to indicate the top ridge of a hill.

All languages have metaphors which derive from the human body, which is the primary sources of such items. Just think of phrases like the head of the company, the president’s right-hand man, on the back of the others, have an ear for his employees, keep an eye on the stock market, with his nose to the ground, to keep a stiff upper lip, she can’t stomach the man, have a heart for linguists, he put his foot down on the matter. Such lists could be extended at will, for English just as for any other language.

Metaphorical use of language is not confined to nominal phrases like as those just listed. There are many verbs and verbal usages which owe their meaning to metaphorical extensions from literal meaning (see section ???. Grammaticalisation below), e.g. the verb go in English where its spatial meaning has come to be used metaphorically for temporal contexts as in Fiona is going to learn Russian.

Because metaphors rest on parallelisms with some literal term which is known, it is particularly common to find them in comparisons. A frequent type of metaphor in language is found with the name of an animal for a human, e.g. He is strong as a bear/an ox. Verbs can also derive from animal names – via implicit comparison – as in He chickened out at the last moment. A use of an adjective in this context would be He’s very cocky these days.

Closely related to the metaphorical use of language is metonymy by which is meant the use of an associated phenomenon/object (or part of this) for the phenomenon/object itself, e.g. The Crown for the monarchy. Cities or key buildings for governments are a common source of metonymy, e.g. Dublin for the Irish government, The White House for the American administration. There are many different subtypes of metonymy, e.g. container for contents as in a glass of wine, the whole bottle, or part for whole as in farmhand ‘agricultural labourer’.

5.5 Analysing meaning

The meanings of individual words can be analysed in a number of ways. Among the various suggestions there are two which have been particularly favoured. The first, componential analysis, was common into the early 1970s when it came to be complemented, if not in fact replaced, by prototype theory. In the following a brief outline of each of these models is offered.

5.5.1 Componential analysis

This type of analysis is based on the notion of identifiable semantic features which are usually the grounds for distinguishing quasi-synonyms, e.g. lie
[+intentional] : fib [-serious] : untruth [+neutral]. These are formalised by the linguist as terms in square brackets but, importantly, are grasped intuitively by native speakers as well.

This insight has led to a semantic model which assumes that the overall meaning of a word is made up of smaller, basic units, the semantic components. The model has a counterpart in phonology, developed from the mid 1930s to the late 1960s, where phonemes are said to be a bundle of phonemic features, such as [±voice], [±nasal], etc.

In componential analysis a word like bull would made up of the features [-female], [-human], [+adult], and [+bovine], whereas cow would differ from bull only in that it is [+female] (or [-male], as it may be) with other components having equal value. The difference between girl and boy also lies in the value of the component [±female], but they are both [+human] and the component [±bovine] is not contained in the set of components used to define them. Equally the feature [±adult] can be used to distinguish boy, girl on the one hand and man, woman on the other.

Componential analysis requires that one use binary features and that there is clear agreement on which features apply to what objects / beings. It is indisputable that [±bovine] does not apply to humans or [±feline] or [±canine] for that matter. But what about the feature [±able to fly], is this a necessary component for defining bird? For some people it undoubtedly is and it can be argued that the first idea that comes to mind when hearing bird is an animal that flies. However, there are animals – such as penguins or ostriches – that do not fly but that are in other respects like most birds. Those speakers for whom such animals count as birds (in a subjective sense) do not have the component [±able to fly] as a necessary feature in the bundle describing bird. The problem here is that there is no way of objectively determining just what features do or do not belong to the componential description of objects / beings. In order to overcome this difficulty many linguists have turned to an alternative model, prototype theory.

5.5.2 Prototype theory

The word prototype has a few meanings. One common use of the word is to denote a draft or model of a product which is not yet available on the commercial market. This usage is seen in a sentence like At the car show XXX showed a prototype of their new sports model which is expected to be available early next year. There is another usage of the word to denote a typical member of a class of objects, e.g. A lion is a prototypical hunting animal. Why is the lion regarded as a typical member of this class? Perhaps because it is only a carnivore (as opposed to humans which are omnivores), i.e. lions don’t eat leaves. It is a particularly good hunter in open spaces and so salient to humans considering the class of hunting animals. Other hunters may behave differently, e.g. leopards drag their booty up a tree and consume it there, hyenas hunt at night
and so are not normally visible to humans, crocodiles are also hunters but from water and we generally think of hunters as operating solely on land.

The second use of ‘prototype’ has had a considerable influence on semantic studies. The notion was introduced in the 1970s and was seen as successful in avoiding many of the problems of available semantic models, such as componential analysis (see below). The latter ran into difficulties as far as the number of components, required to describe an object sufficiently, is concerned.

Prototype theory proposes that concepts, such as the words *bird* or *chair*, are not sets of semantic components bundled together, as in componential analysis, but prototypes, that is typical instances of the object concerned. Furthermore, the notion of component is binary by definition, i.e. either a component is present or it is not. But semantic information does not seem to be organised in this fashion. The prototype of *bird* would be a typical bird, as for example a blackbird, robin or sparrow. This may then account for the fact that a penguin does not (in European culture) automatically come to mind when hearing *bird*. Prototypes may be stored in memory as a set of typical features or a visual image.

People from different countries and cultures would seem to have different prototypes. By and large one can say that the prototypes people entertain result from the members of certain classes to which they were exposed in the formative period of their lives. It may well be true that north Europeans regard medium-sized birds like blackbirds or sparrows as prototypical birds, but people from countries with many rain forests, like Brazil, may well think of more colourful birds, like parrots, as prototypical. This also applies to prototypical values for certain categories. It is uncontestable that a prototypically tall person would be of greater height in Norway than in, say, Thailand. Equally a dark-skinned Scot is likely to be of a fairer complexion than a dark Iranian, for instance.

5.5.3 Basic-level concepts

This term was introduced by Eleanor Rosch, a prominent psychologist, in connection with the question of how languages organise and express meaning. Rosch argues that there is a universal tendency across languages to structure the world into several hierarchical layers. She observes that in the world features are not chaotically distributed but tend to occur in clusters, as with the notion of prototype just discussed, and goes on to say that some of these concepts are more ‘basic’ than others. To say *I have a pen* is more informative than *I have some stationary item*, which gives us only the vaguest idea of what the speaker possesses. *I have a fountain pen*, however, only provides us with only one more feature in comparison with just *pen*. Therefore, it can be argued, *pen* is a basic-level concept, below which more and less informative concepts are arranged. It is interesting that the overwhelming majority of basic-level concepts
are expressed as single words, while more informative concepts are often
compounds or phrases. What is regarded as a basic-level concept by speakers
depends, of course, on their knowledge of and acquaintance with the object(s) in
question: while European languages only have one word for *rice*, there are
Asian societies that have different noncompounded words for (i) rice growing in
a field, (ii) rice as it is sold on the market, and (iii) cooked rice. Again, in the
vertical organisation of concepts, a town-dweller is more likely to treat *tree* as a
basic concept, while country-dwellers, who are more familiar with plants, might
treat *pine* as basic in the class of evergreens (bar the *larch*).

5.6 Semiotics

Related to the notion of semantics is that of semiotics. The latter term refers to
the study of signal or sign systems in general. For example, a set of traffic lights
is a semiotic system as is the machine instruction code of a computer. Natural
language semantics can be viewed as a subset of semiotics. All such signs are
used in communication systems, between humans or between a machine and
humans. The signs in semiotic systems are symbolic, i.e. they stand for
something, rather than being the thing itself. For example, the colour green stands
for ‘permission to proceed’ in a traffic-light system, yellow for ‘prepare to stop’
and red for ‘do not proceed’. However, this colour scheme is arrived at by a set
of conventions and is not demanded by the nature of the colours. Usually the
symbolic value of signs in a certain system are derived from their more common
value on a general level, take again the instance of red in traffic lights which is
derived from red as a symbol of danger. This in turn may ultimately derived
from the colour of blood. As blood should not be seen, then if it is this implies
injury and danger. Green is the colour of healthy plant growth and hence is taken
as the opposite of red in semiotic systems.

It is a truism to say that semiotic systems are intended to communicate a
message. Obviously traffic signals are installed to convey messages to drivers.
This leads on to a very simple model of semiotic behaviour.

\[
\text{Sender} \rightarrow \text{Message goes through Channel} \rightarrow \text{Receiver}
\]

The signal has a particular form and conveys a certain meaning. Form and
meaning together constitute the *code*. Consequently the *message* is encoded by
the *sender* and decoded by the *receiver*.

This is a very general and much simplified description of a
communication system and it applies to very diverse systems such as road traffic
signs. And of course it can be taken to hold for language as well as the latter is
naturally a system of communication. One can find mirrors of the semiotic model
in language on a variety of levels, for instance in phonetics.
The above three types can be taken to correspond to the sender – message – receiver components in semiotic terms.

Within the field of linguistics, semiotics is not usually treated in great detail, though countries have different traditions in this respect – Germany has a strong tradition of research into semiotics. Because it deals with sign systems in the most general sense, semiotics is often incorporated into courses of study such as sociology and/or communication studies.

5.7 Sign language

There is, however, one semiotic system, which is of particular interest to linguists: the sign language used by people who are mute. Mute individuals are frequently deaf from birth and hence have never learned to speak. There is also acquired deafness, due to irreparable damage to both ear drums. Those who suffer from the latter usually abandon speech as they have no feedback for what they say. Before abandoning speech, deaf people usually go through a period in which the quality of their speech deteriorates continually. Again this is due to the lack of feedback and acoustic control over the sound which they produce with their organs of speech. Alternative systems, such as lip-reading, which at first sight appear to be an answer to the problem of the deaf, are deficient in a number of ways.

The solution for deaf people has been to use sign language, chiefly realised by highly specific and well-coordinated movements of the hands. Recent studies of sign language acquired in early childhood have shown that it is a fully-fledged language with nearly all the elements of natural languages. Furthermore, if deaf children are exposed to an insufficient form of sign language, for instance from nondeaf speakers who use it because the deaf children cannot understand anything else, then these children react by expanding the structure of the fragmentary sign language they are offered from their environment. This process can be compared directly to creolisation (see section ??? below) where the children of pidgin speakers increase the structural options of the input pidgin to make out of this a fully-fledged natural language.

There are two main forms of sign language used for English. American Sign Language, also known as Ameslan or ASL, is the form used in the United States. It consists of some 4,000 signs with functions and categories which are similar to spoken language. In Britain there is a different forms and the two types of sign language are not readily comprehensible for users of opposite types.
Summary

- **Semantics** is concerned with the study of meaning and is related to both philosophy and logic. **Semiotics** is the study of communication systems in general. **Sign language** is a common means of communication among those who are deaf and can, if learned from childhood, approach natural language in terms of scope and flexibility.

- There are four recognisable types of meaning: *lexical* meaning, *grammatical* meaning, *sentence* meaning and *utterance* meaning which refer to the areas of derivational morphology, inflectional morphology, syntax and pragmatics respectively.

- External meaning relationships involve *sense* (relationships between words) and *denotation* (relationship of word to what it signifies).

- There are various internal meaning relationships such as *synonymy* (sameness of meaning), *antonymy* (difference in meaning), *hyponymy* (hierarchical order of meaning).

- Different models for semantic analysis are available: *prototype theory*, where a central concept is taken as typical and less central ones are peripheral, and *componential analysis* which seeks to break words down into their component semantic parts.

Further reading


