Semantics

Semantics is the study of meaning in language. The term did not come to be widely used until the 20th century, but the subject it represents is very old, reaching back to the writings of Plato and Aristotle, and attracting the special interest of philosophers, logicians, and (these days) linguists (§65). The linguistic approach aims to study the properties of meaning in a systematic and objective way, with reference to as wide a range of utterances and languages as possible. It is thus broader than the approach taken by many logicians and philosophers, who have tended to concentrate on a restricted range of sentences (typically, statements, or 'propositions') within a single language. But logical analysis nonetheless exercises a major influence on contemporary linguistic semantics (p. 111).

Any scientific approach to semantics has to be clearly distinguished from a pejorative sense of the term that has developed in popular use, when people talk about the way language can be manipulated in order to mislead the public. A newspaper headline might read 'Unemployment reduced to semantics' – referring to a new way of counting the unemployed which makes it appear that there are fewer of them. Or someone might say in an argument, 'That's just semantics', implying that the point is purely a verbal quibble, bearing no relationship to anything in the real world. This kind of nuance is absent when we talk about semantics from the objective viewpoint of linguistic research.

The meanings of meaning

In an important early book on the subject, C. K. Ogden & I. A. Richards's *The Meaning of Meaning* (1923), 16 different meanings of the words 'mean/meaning' were distinguished. Here are some of them:

John means to write. 'intends'
A green light means go. 'indicates'
Health means everything 'has importance'
His look was full of meaning. 'special import'
What is the meaning of life? 'point, purpose'
What does 'capitalist' mean to you? 'convey'
What does 'cornea' mean? 'refer to in the world'

It is the last kind of use that comes closest to the focus of linguistic semantics; but even this is a special kind of enquiry. The question asks for a definition, which is a somewhat unusual form of reply, found more in dictionaries than in everyday speech, that involves the 'translation' of the difficult word into 'easier' words. The study of the properties of definitions is an important part of semantics, but it is only a part. Of greater importance is the study of the way in which words and sentences convey meaning in everyday situations of speech and writing.

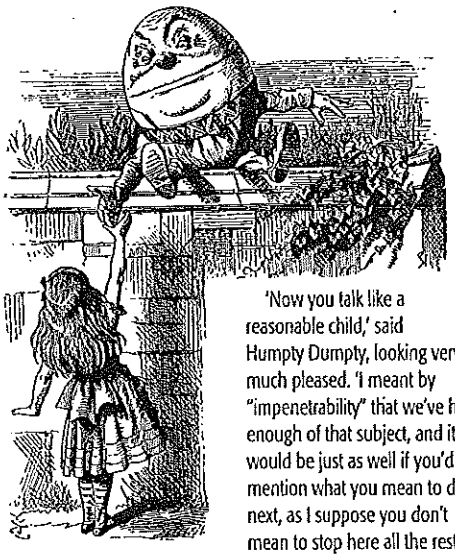
Three conceptions of meaning

Words → things

A popular view is that words 'name' or 'refer to' things – a view that can be found in the pages of Plato's *Cratylus*. Proper names like *London*, *Bill Brown*, and *Daddy* illustrate this conception, as do several other words and phrases – the labels attached to objects for sale in a shop, or those found on a paint colour chart. But there are large numbers of words where it is not possible to see what 'thing' the word refers to: verbs such as *ask* or *find*; adjectives such as *difficult* or *popular*; nouns such as *consistency* or *tradition*. In fact, the majority of words seem unable to be related to things, in any clear way.

SEMANTICS AND ALICE

One of the favourite quotations of semantics is from Lewis Carroll's *Through the Looking Glass* (1872, chapter 6), in which Humpty Dumpty turns our conventional understanding of meaning on its head, and thus makes us see more clearly what it has to be about. If everyone were to use words in an idiosyncratic way, as Humpty suggests, the result would be communication anarchy. Only in certain fields – such as literature (§12) – do we tolerate personal deviations from the semantic norms of the language.



'There's glory for you!'

'I don't know what you mean by "glory,"' Alice said.

Humpty Dumpty smiled contemptuously. 'Of course you don't – till I tell you. I meant "there's a nice knock-down argument for you!"'

'But "glory" doesn't mean "a nice knock-down argument,"' Alice objected.

'When *I* use a word,' Humpty Dumpty said, in rather a scornful tone, 'it means just what I choose it to mean – neither more nor less.'

'The question is,' said Alice, 'whether you *can* make a word mean so many different things.'

'The question is,' said Humpty Dumpty, 'which is to be master – that's all.'

Alice was too much puzzled to say anything: so after a minute Humpty Dumpty began again. 'They've a temper, some of them – particularly verbs, they're the proudest – adjectives you can do anything with, but not verbs – however, I can manage the whole lot of them! Impenetrability! That's what I say!'

'Would you tell me, please,' said Alice, 'what that means?'

'Now you talk like a reasonable child,' said Humpty Dumpty, looking very much pleased. 'I meant by "impenetrability" that we've had enough of that subject, and it would be just as well if you'd mention what you mean to do next, as I suppose you don't mean to stop here all the rest of your life.'

'That's a great deal to make one word mean,' Alice said in a thoughtful tone.

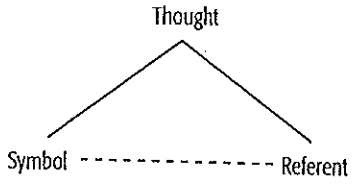
'When I make a word do a lot of work like that,' said Humpty Dumpty, 'I always pay it extra.'

'Oh!' said Alice. She was too much puzzled to make any other remark.

'Ah, you should see 'em come round me of a Saturday night,' Humpty Dumpty went on, wagging his head gravely from side to side, 'for to get their wages, you know.'

Words → concepts → things

This view denies a direct link between words and things, arguing that the relationship can be made only through the use of our minds. For every word, there is an associated concept. One of the best-known formulations of this position is the 'semiotic triangle' of Ogden and Richards (1923, p. 99):



The main criticism of this approach is the insuperable difficulty of identifying 'concepts'. The 'concept' underlying a word such as *tradition* is no easier to define than the 'thing' referred to by *tradition*. Some words do have meanings that are relatively easy to conceptualize, but we certainly do not have neat visual images corresponding to every word we say. Nor is there any guarantee that a concept which might come to mind when I use the word *table* is going to be the same as the one you, the reader, might bring to mind.

Stimuli → words → responses

Leonard Bloomfield (1887–1949) expounded a behaviourist view of meaning in his book *Language* (1933): meaning is something that can be deduced solely from a study of the situation in which speech is used – the stimulus (S) that led someone to speak (r), and the response (R) that resulted from this speech (s). He draws this as follows:

S — — — — → r.....s — — — — → R

In Bloomfield's example, Jill is hungry, sees an apple (S), and asks Jack to get it for her (r); this linguistic stimulus (s) leads to Jack getting the apple (R). Bloomfield argues that you can tell what the meaning of r ... s must be just by observing the events that accompanied it. However, in very many situations it is difficult to demonstrate what the relevant features of the stimulus/response are – a real problem when events are not clearly visible in physical terms (as in the expression of feelings). And it proves even more difficult to handle cases where people do not act in the 'predicted' way (if Jack did not fetch the apple, perhaps because of a quarrel with Jill at Monte Carlo two years before).

NATURAL OR CONVENTIONAL?

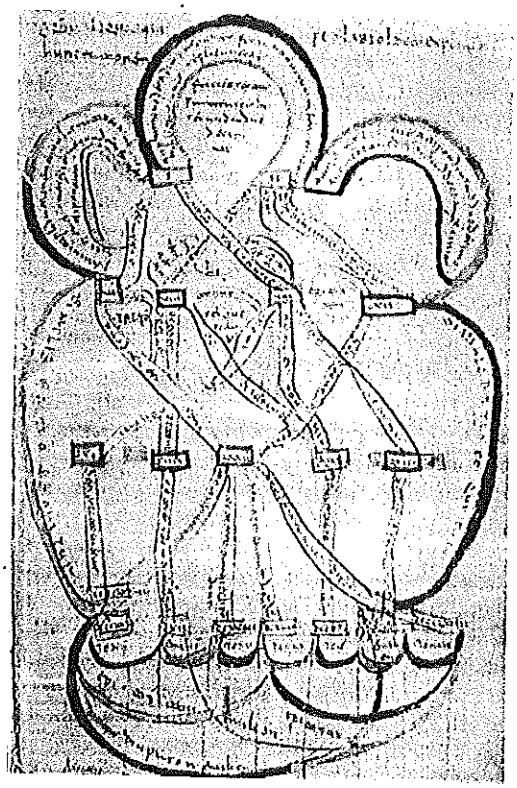
The Greek philosophers were the first to debate the nature of meaning, from which two main views emerged. The *naturalist* view, deriving largely from Plato (427–347 BC), maintained that there was an intrinsic connection between sound and sense. The *conventionalist* view, largely Aristotelian, held that this connection was purely arbitrary (§65).

In their extreme forms, both views are untenable. If the naturalist view were valid, we would be able to tell the meaning of words just by hearing them. Only onomatopoeic words (§30), such as *bow wow* and *splash*, come close to this, and even they change greatly from language to language. But naturalistic thinking is still widely encountered, especially in the concern many people have over the use of certain words (to do with death or sex, for example, p. 63), or in the readiness with which they make judgments about the appropriateness of words. 'Look at them, sir,' says Aldous Huxley's character Old Rowley, pointing to swine wallowing in the mud, 'Rightly is they called "pigs" ' (*Crome Yellow*, 1921).

The conventionalist position is nearer the truth, as it emphasizes the arbitrary relationship between words and things – a principle accepted by modern semanticists. There is nothing in the form of the word *pig* that bears any direct relationship to the 'thing'. But it is equally untenable to think of language, as the conventionalists did, solely as the result of an *agreement* between people to use a word in a certain way. Such a procedure would presuppose the prior existence of language, to formulate the agreement in the first place. Diodorus of Megara (4th century BC) nonetheless supported the conventionalist position to the extent of calling his slaves by the names of Greek particles!

A DESIGN BY ISIDORE OF SEVILLE (*c.*AD 555–636)

The design attempts to show a link between a word's shape and its meaning. Isidore believed that the basic meaning of a word could be found if it could be traced back to its primitive shape. The discussion is found in the ninth book of his *Originum sive etymologiarum libri XX*, which is largely about questions of semantic history and the origins of language.



MODERN SEMANTICS

In the past, semantic debate has been largely concerned with discovering what 'meaning' is, as a concept in its own right. The enquiries have undoubtedly increased our understanding of the nature of the problem, but an accepted definition of 'meaning' is as far away today as it was in Plato's time. Why should this be so?

It is now widely held that 'meaning' is not some kind of 'entity' separate from language – any more than measures such as 'height' or 'length' have some kind of independent existence. To say that objects 'have height' means only that they are so many units high; it does not mean that there is an abstract property of 'height' that exists independently of objects. In the same way, to say that words 'have meaning' means only that they are used in a certain way in a sentence. We can examine the meaning of individual words and sentences – but there is no 'meaning' beyond that.

In modern linguistics, then, meaning is studied by making detailed analyses of the way words and sentences are used in specific contexts. It is an approach shared by several philosophers and psychologists (p. 438). Ludwig Wittgenstein (1889–1951), in particular, stressed its importance in his dictum: 'the meaning of a word is its use in the language'.

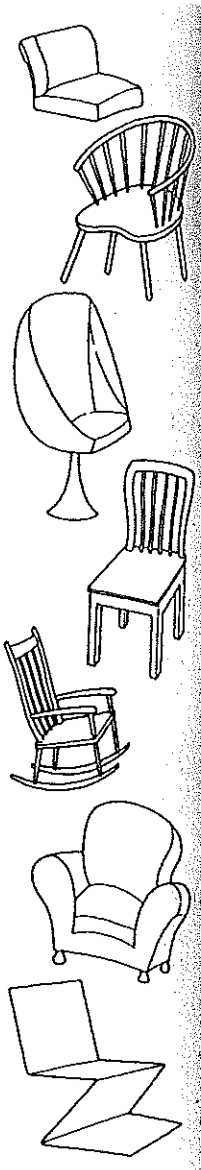
Sense vs reference

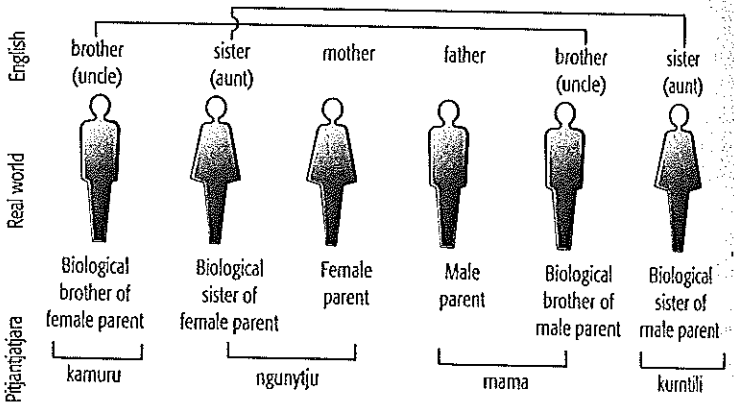
Semantics is not directly concerned with the study of the external world, or its conceptualization. The world of non-linguistic experience is the province of physicists, geographers, psychologists, and others. When Internet enthusiasts talk about the 'Semantic Web', this is a much broader notion of semantics, including encyclopedic knowledge as well as linguistic data. Nor, as we have seen (p. 105), is semantics easily able to cope with the study of how language *refers* to this external world – the notion of 'reference'. Rather, the primary focus of the modern subject is on the way people relate words to each other within the framework of their language – on their 'sense', rather than their reference.

The distinction between sense and reference is a critical one, because it allows us to study the many cases where we happily use words, even though they do not naturally correspond to the way things are in the world. This may be difficult to see if we restrict our study to a single language, but when we look at how different languages 'parcel out' the world, the distinction is forced upon us. For example, in the 'real' world, mothers and fathers have brothers and sisters. In English, there are no single words expressing the notions 'mother's brother', 'father's brother', 'mother's sister', or 'father's sister', and we have to use a circumlocution to make the distinction. In the Australian language Pitjanjatjara, however, we have a different situation: *ngunytju* = 'mother's sister', *kamuru* = 'mother's brother', *kurntili* = 'father's sister', and *mama* = 'father's brother'. There is also a complication (to English ways of thinking): *mama* also means 'father', and *ngunytju* also means 'mother'. What is plain, though, is that the same biological relationships are given quite different linguistic treatment between the two languages. Family photographs would look the same, but the words would have different senses (see below).

But even within a single language, we need to distinguish sense from reference, to explain the way language makes divisions where there are none in reality. The neat scientific classifications of fauna and flora, where each name has its place in a system of terms, are not typical of languages. In everday life, we use such words as *hill* and *mountain*, *cup* and *glass*, or *stream* and *river*, where the real-world notions are quite indeterminate. When does a stream become a river, or a hill a mountain? And would all agree about which of the pictures (right) count as a *chair*?

There is also the problem of how we explain what a word's meaning is. Let us imagine someone who had encountered the word *chair* and did not know what it meant. One procedure would be to explain its reference: we could take the person to a chair and point to it. But this would be of limited help, for how would the person know from that experience which *other* objects in the world should also be called chairs? The wrong deduction might also be made, that what we were pointing at was the quality 'wooden', or the concept of 'furniture' – the kind of error children make when they learn vocabulary (§42). A better procedure would be to explain the sense of the word, using a rough definition such as 'seat with four legs and a back'. Such a definition would enable the person to look out for other objects with similar properties, and thus use the word appropriately. The definition could then be sharpened, as related words were met (e.g. *armchair*, *stool*). But this whole process of vocabulary learning continues without any direct reference to the objects in the real world: there is total reliance on the use of words to explain the sense of other words – a process that reaches its logical conclusion in a dictionary (§18).





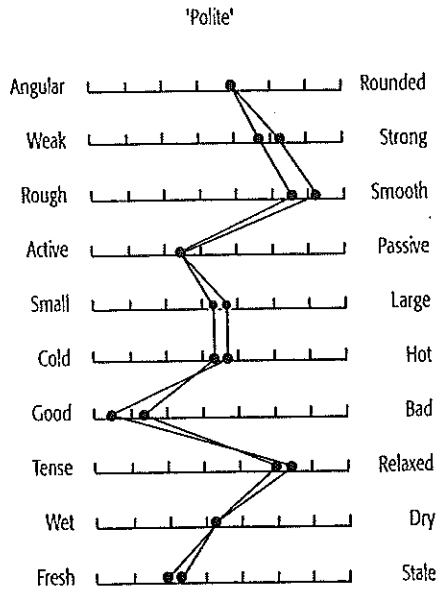
Semantic space

Psychologists also share the concern to establish the semantic properties of individual words, and several approaches have been proposed to plot differences and quantify the psychological 'distance' between words.

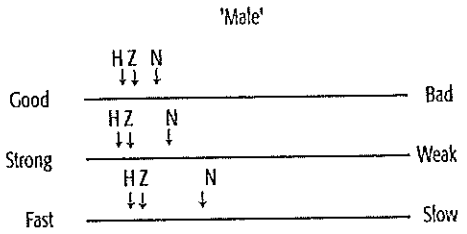
A pioneering work in this field was C. E. Osgood, G. Suci, & P. Tannenbaum, *The Measurement of Meaning* (1957), which was a study of 'affective' meaning – the emotional reactions attached to a word. Each word was subjected to a test that they called a 'semantic differential' – the name reflecting the view that it was possible to analyse meaning into a range of different dimensions. Osgood likened his procedure to a game of Twenty Questions, in which each question (e.g. 'Is it good or bad? fast or slow? small or large?') would aim to locate a concept in semantic space. The questions were presented as seven-point scales, with the opposed adjectives at each end, such as

good — — — — — — — bad

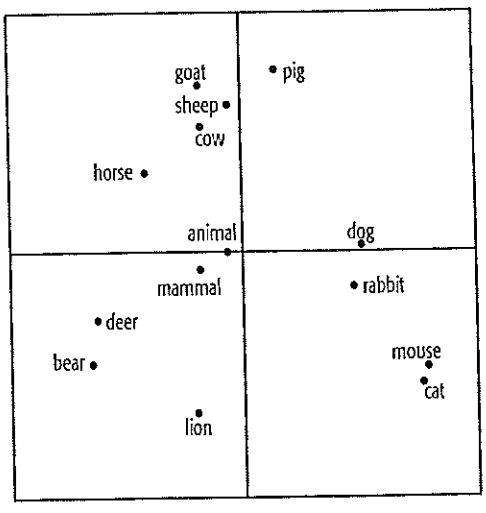
and subjects were asked to rate words in terms of where they would fall on these scales. If they felt that *car* was 'good', for example, they would place a mark towards the 'good' end of the first scale; if 'bad', towards the other end. The seven positions allowed for variations in degree of feeling. Ten of the scales are illustrated below, giving the average responses from the two groups of 20 subjects to the word *polite* (after Osgood, 1952):



The method was also used to make comparisons between cultural groups. For example, *noise* is a highly affective concept for the Japanese, who tended to react to it using the extremes of the polar scales; it is not so for Americans or Kannada-speaking Indians. The word *male* varies in its connotations between Hopi (H), Zuñi (Z), and Navajo (N) Indians, the first two groups being fairly close together (after Maclay & Ware, 1961).



The semantic differential procedure is a limited one. It does not provide information about the basic meaning of a word but only about the emotions the word generates. It tells us, for example, that *mother* might be 'very good', 'slightly strong', etc., but it does not tell us that the word means 'adult female parent'. To display this kind of information, other ways of working with semantic space are required. We can illustrate this using the results of a technique in which people judge the similarities between words. In the diagram below, mammal names are located in a space where the horizontal dimension represents size and the vertical dimension represents ferocity (after Rips *et al.*, 1973). Larger animals are on the left; more ferocious animals are towards the bottom. The more similar any two animals are thought to be, the closer they are placed in the space. (There is no necessary correspondence with zoological reality, as can be seen from the closeness between cats and mice.)



This is a very simple analysis, which it would be more difficult to make for words where the relevant dimensions of meaning are less clear-cut (items of furniture, for example). But the general approach is illuminating, with considerable research potential.

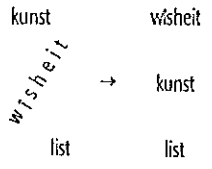
Charles E. Osgood (1916–91)

Peter Mark Roget (1779–1869) English physician and scholar

Semantic change

The linguistic approach to semantic fields was first propounded by German scholars in the 1930s. In one of the earliest studies (Trier, 1934), the approach showed how the structure of a semantic field can change over time. Middle High German terms for 'knowledge' changed greatly between 1200 and 1300. In 1200, a German had no separate lexeme for the quality of cleverness. The language contained *kunst* ('courtly skills') and *list* ('non-courtly skills'), and there was also *wisheit* for any form of knowledge, whether courtly or not, mundane or divine.

A hundred years later, everything was different. *Wisheit* had developed the restricted meaning of 'religious experience'; *kunst* was beginning to take on the meaning of 'art/skill', and *wizzen* (modern *Wissen*) had more the meaning of 'knowledge'. *List* had left the field entirely, as it had begun to develop pejorative connotations (cf. its sense of 'cunning' or 'trick' in Modern German). The whole of this change can be summarized in the form of two diagrams:



For a similar use of diagrams in the comparison of modern languages, see p. 110.

Semantic structure

One of the most productive approaches to the semantic analysis of vocabulary has come from the application of structuralist ideas (§65). From this viewpoint, language is a network of systematic relationships between units. In phonology, for example, the relationships exist between sounds – or phonemes (§28). What are the equivalent semantic units, and how are they related?

Lexemes

So far in this section, we have used the term 'word' to discuss semantic units, and this is the traditional use. People readily talk about the 'meaning of words'. However, if we wish to enquire precisely into semantic matters, this term will not do, and an alternative must be found. There are three main reasons.

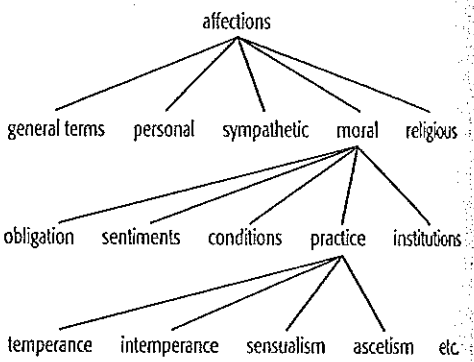
1. The term *word* is used in ways that obscure the study of meaning. The forms *walk, walks, walking,* and *walked* could all be called 'different words'; yet from a semantic point of view, they are all variants of the same underlying unit, 'walk'. If the variants are referred to as 'words', though, what should the underlying unit be called? It would not be particularly clear to say that 'these four words are different forms of the same word'.
2. The term *word* is useless for the study of idioms, which are also units of meaning. A much-used example is *kick the bucket* (= 'die'). Here we have a single unit of meaning, which happens to consist of three words. Again, it would hardly be clear to talk of this unit as a 'word', if we then go on to say that this word consists of three words.
3. The term *word* has in any case been appropriated for use elsewhere in linguistic study – in the field of grammar, where it does sterling service at the junction between syntax and morphology (p. 94).

For such reasons, most linguists prefer to talk about the basic units of semantic analysis with fresh terminology, and both *lexeme* and *lexical item* are in common use. We may now avoid the lack of clarity referred to above, and say that the 'lexeme' WALK occurs in several variant forms – the 'words' *walk, walks,* etc. Similarly, we can say that the 'lexeme' KICK THE BUCKET contains three 'words'; and so on. It is lexemes that are usually listed as headwords in a dictionary. Accordingly, we shall put this term to use in the remaining parts of this section.

Semantic fields

One way of imposing some order on vocabulary is to organize it into 'fields' of meaning. Within each field, the lexemes interrelate, and define each other in specific ways. For example, the various lexemes for 'parts of the body' (*head, neck, shoulders,* etc.) form a semantic field, as do the different lexemes for 'vehicles', 'fruit', 'tools', or 'colour'. It has been argued that the whole of a language's vocabulary is structured into fields; but there is in fact a great deal of variation as we move from one part of the language to another. There would be little difficulty gathering together all the English lexemes for 'body parts', for example; but it would be very difficult to do the same job for 'noise' or 'ornaments'.

There have been many philosophical and linguistic attempts to classify the concepts or words in a language – notably, those associated with the 17th-century quest for a universal language (§58). In recent times, the most influential and popular work has been the *Thesaurus* of Peter Mark Roget (1779–1869), first published in 1852. Roget divided the vocabulary into six main areas: *abstract relations, space, matter, intellect, volition,* and *affections.* Each area was given a detailed and exhaustive subclassification, producing 1,000 semantic categories in all. One path through the thesaurus is illustrated below:



Groups of words are then listed under each of these headings and classified into the main parts of speech. For example, in the 1962 edition of the work (p. 625), we find the following items listed as a section within *temperance* (numbers refer to other thesaurus sections; keywords are in italics):

> *abstainer,* total a., teetotaller 948n. *sober person;* prohibitionist, pussyfoot; vegetarian, fruitarian, Pythagorean; Encratite; dieter, banter, faster; enemy of excess, Spartan 945n. *ascetic.*

Thesauri of this kind have now been produced for several languages, and prove to be a useful adjunct to many practical linguistic activities, such as professional writing, translating, and setting or solving crosswords. For the semanticist, however, their value is limited, as they contain no information about the sense relationships between individual lexemes, and items that come from different regional, social, or professional varieties (§§8–11) are juxtaposed without comment. To study the structure of a semantic field, more precise means of plotting the sense relations between lexemes need to be used.

Sense relationships

How are the lexemes of a language organized? To think of them as a list, such as we might find in a dictionary, is highly misleading. There is no semantic reality in alphabetical order; on the contrary, alphabetical order destroys semantic structure, keeping apart lexemes that should belong together (such as *aunt* and *uncle*, or *big* and *little*). Rather, we need to develop an alternative conception, based on our intuitions that groups of lexemes are related in sense.

Accounts of semantic structure recognize several kinds of sense relations between lexemes. Some result from the way lexemes occur in sequences (*syntagmatic* relations); others from the way in which lexemes can substitute for each other (*paradigmatic* relations) (§65). For example, in the sentence *It was a very auspicious* –, English speakers 'know' that the omitted word will be one of a very small set (e.g. *occasion, event*) – unless, of course, a literary or humorous point is being made (*It was a very auspicious kilt*). This would be a syntagmatic semantic relationship. By contrast, the relationship between the following two sentences is a paradigmatic one: *Is that a new radio? No, it's an old radio.* The substitution of *old* for *new* results in a change of meaning that we recognize as an 'opposite'.

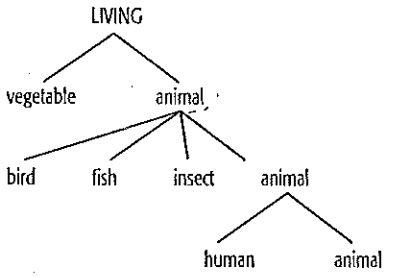
Several types of paradigmatic relationship have been recognized, some of which form a familiar part of language syllabuses in school. These include:

- *Synonymy* This is the relationship of 'sameness' of meaning, e.g. *kingly/royal/regal, pavement/sidewalk, youthful/youngster.* The search for synonyms is a long-standing pedagogical exercise, but it is as well to remember that lexemes rarely (if ever) have *exactly* the same meaning. There are usually stylistic, regional, emotional, or other differences to consider. And context must be taken into account. Two lexemes might be synonymous in one sentence but different in another: *range* and *selection* are synonyms in *What a nice – of furnishings*, but not in *There's the mountain –*.
- *Hyponymy* This less familiar relationship refers to the notion of 'inclusion', whereby we can say that 'an X is a kind of Y'. For example, *rose* is a hyponym of *flower, car* of *vehicle.* Several lexemes will be 'co-hyponyms' of the same superordinate term: *rose, pansy, tulip* ... Once again, it must be stressed that this is a linguistic, and not a real-world classification. Languages differ in their superordinate terms, and in the hyponyms they accept under one such term. For instance, in classical Greek the lexemes for 'carpenter', 'doctor', 'flautist', and other occupations are all hyponyms of *demiourgos*; but there is no equivalent superordinate term in English. We simply do not have a single 'occupational' term that would allow us to say 'A carpenter/doctor/flautist, etc. is a kind of –'. Likewise, *potato* is a hyponym of *vegetable* in English, but *Kartoffel* is not included among *Gemüse* in German (after Lyons, 1963).

THE 'ANIMAL' KINGDOM

Animal is a strange lexeme in English, because it can be used at three levels in a hierarchy of inclusion:

1. in a classification of living things, it contrasts with *vegetable*, to include birds, fishes, and insects;
2. it contrasts with *bird, fish*, and *insect* to include humans and beasts;
3. it contrasts with *human*.



- *Antonymy* This is the relationship of 'oppositeness of meaning'. Antonyms are often thought of in the same breath as synonyms, but they are in fact very different. There may be no true synonyms, but there are several kinds of antonyms. Some of the most important types are:
  – *gradable* antonyms, such as *big/small, good/bad,* which permit the expression of degrees (*very big, quite small,* etc.);
  – *non-gradable* antonyms (also called *complementary* terms), which do not permit degrees of contrast, such as *single/married, male/female;* it is not possible to talk of *very male, quite married,* etc., except in jest; and
  – *converse* terms: two-way contrasts that are interdependent, such as *buy/sell* or *parent/child*; one member presupposes the other.
- *Incompatibility* Under this heading are grouped sets of lexemes that are mutually exclusive members of the same superordinate category. For example, *red, green,* etc. are incompatible lexemes within the category *colour*: it would not be possible to say 'I am thinking of a single colour, and it is green and red.' On the other hand, *red* is not incompatible with such lexemes as *round* or *dirty* (something can be at once 'red and round'). Terms for fruit, flowers, weekdays, and musical instruments illustrate other incompatible sets. Once again, we must be prepared for some unexpected usages – as in English, where *black, white,* and *grey* are not always included within the category of colour (as with *black-and-white* films and TV sets), and where *red* can be excluded from this category (as with snooker, where one may proceed to play the 'coloured' balls only after all the red balls have been potted).

The company lexemes keep

'You shall know a word by the company it keeps', said the British linguist J. R. Firth (1890–1960) in 1957, referring to the syntagmatic tendency of lexemes to work together ('collocate') in predictable ways. *Blond* collocates with *hair, flock* with *sheep, neigh* with *horse.* Some collocations are totally predictable, such as *spick* with *span*, or *addled* with *brains* or *eggs.* Others are much less so: *letter* collocates with a wide range of lexemes, such as *alphabet* and *spelling*, and (in another sense) *box, post* and *write.* Yet other lexemes are so widely used that they have no predictable collocates at all, such as *have* and *get.*

Collocation should not be confused with 'association of ideas'. The way lexemes work together may have nothing to do with 'ideas'. We say in English *green with jealousy* (not *blue, red,* etc.), though there is nothing literally 'green' about 'jealousy'. *Coffee* can be *white*, though the colour is brown.

Collocations differ greatly between languages, and provide a major difficulty in mastering foreign languages. In English, we 'face' problems and 'interpret' dreams; but in modern Hebrew, we have to 'stand in front of' problems and 'solve' dreams. In Japanese the verb for 'drink' collocates with water and soup, but also with tablets and words.

The more fixed a collocation is, the more we think of it as an 'idiom' – a pattern to be learned as a whole, and not be the 'sum of its parts'. Thus we find French *broyer du noir* (lit. 'grind' + 'black'), meaning to 'have the blues' or 'be browned off' – a nice instance of the arbitrary use of colour terms.

Collocations are quite different from the idiosyncratic links between ideas that can be verbally expressed. On a psychiatrist's couch, we may 'free associate', responding to *farm* with *Easter*, or *jam* with *mother.* This is not collocation, which is a link between lexemes made by all who speak a language.

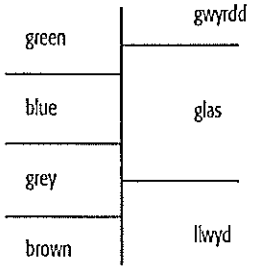
Kinship contrasts
Another semantic field which has been much studied is that of kinship. Here too there are interesting differences between languages:
- Hungarian had no terms for 'brother' or 'sister' until the 19th century, though it did have separate terms for 'elder' and 'younger' brothers and sisters.
- Malay has a generic term for both 'sibling' and 'cousin'.
- There is no single term for 'grandfather' or 'grandmother' in Swedish: *farfar* = 'father's father', *morfar* = 'mother's father', *farmor* = 'father's mother', *mormor* = 'mother's mother'.
- In Njamal (Australia), some terms express generation distance, e.g. a man can use *maili* both for 'father's father' and 'daughter's son's wife's sister' – both are two generations away.
- Latin distinguished 'father's brother' (*patruus*), 'father's sister' (*matertera*), 'mother's brother' (*avunculus*), and 'mother's sister' (*amita*), but modern Romance languages have reduced these to two (e.g. French *oncle* and *tante*).

Deixis
Every language has a set of lexemes which can be interpreted only with reference to the speaker's position in space or time. These are known as *deictic* forms (from the Greek word for 'pointing'), and the conditions governing their use have attracted especial attention in recent semantics. They fall into three main types.
- *Personal deixis* The use of pronouns, such as *I* and *you*, which identify who is taking part in the discourse.
- *Spatial deixis* Forms that distinguish the position of the speaker in relation to other people or objects, such as *this/that, here/there* (p. 103), *come/go*. *Come*, for example, implies direction towards the speaker – *Come here!* (but not **Go here!*).
- *Temporal deixis* Forms that distinguish time with reference to the speaker, such as *now, yesterday, then*, and the various kinds of tense marker.

Colour lexemes

The range of colours is a continuous band, lacking any clear physical boundaries. The semantic field of colour has therefore attracted particular attention because it demonstrates very clearly the different patterns of lexical use in a language. English has 11 basic colour lexemes: *white, black, red, green, yellow, blue, brown, purple, pink, orange*, and *grey*. In contrast:

- There were no generic lexemes for 'brown' or 'grey' in Latin; modern Romance forms (such as French *brun, gris*) have been borrowed from Germanic. Navajo has a single lexeme for both.
- Navajo also makes no lexical distinction between 'blue' and 'green'. On the other hand, it has two terms for 'black', distinguishing the black of darkness from the black of such objects as coal.
- Russian makes a distinction between two kinds of 'blue', *sinij* vs *goluboj*, where English has to use circumlocutions: 'dark blue' vs 'sky blue'. Hungarian has two terms for 'red'.
- Japanese *ao* can mean 'green', 'blue', or 'pale', depending on context (e.g. vegetables, sea, clouds).
- In Hanunóo, there are just four basic colour terms, 'black', 'white', 'red', and 'green'.
- Some New Guinea Highland languages have terms only for 'black' and 'white' – perhaps better translated as 'dark' vs 'light'.
- In some languages the situation is more difficult to express in words, and a field diagram is clearer. Literary Welsh, for example, divides the green–brown part of the spectrum quite differently from English:



Modern Welsh is similar to English, but even so, *glas* is used for the colour of growing things (though it otherwise is equivalent to *blue*).

Colour universals?

The differences between the colour terms of various languages are striking, and might lead us to conclude that each language has worked out a unique system in a totally arbitrary way. A 1969 study by B. Berlin & P. Kay, however, argued the opposite. After studying the colour systems of 98 languages, they concluded that there is a universal inventory of only 11 basic colour categories, and all languages use either these 11 or fewer. 'Basic' was interpreted to mean that the terms used only a single morpheme (excluding *light brown*, etc.), were in common use (excluding *indigo*), applied to many objects (excluding *blond*), and were not contained within another colour (excluding *scarlet*). They also claimed that these basic terms were ordered, as follows:

$$\begin{bmatrix}\text{white}\\ \text{black}\end{bmatrix} < [\text{red}] < \begin{bmatrix}\text{green}\\ \text{yellow}\end{bmatrix} < [\text{blue}] < [\text{brown}] < \begin{bmatrix}\text{purple}\\ \text{pink}\\ \text{orange}\\ \text{grey}\end{bmatrix}$$

If a language has a term to the right of the sign <, it will also have all the terms to the left.

These claims are not without controversy. Obtaining reliable data from native speakers about such matters is a problem, especially as their judgments might have been coloured by their exposure to other languages. Some languages, also, seem to have 12 basic terms (e.g. Russian). But the research has demonstrated some impressive similarities across a wide range of languages.

Polysemy or homonymy?

- *Polysemy* refers to cases where a lexeme has more than one meaning: for example, *chip* can mean a piece of wood, food, or electronic circuit. People see no problem in saying that 'the word *chip* has several different meanings in English'.
- *Homonymy* refers to cases where two (or more) different lexemes have the same shape: for example, *bank* is both a building and an area of ground. Again, people see no problem in saying that 'these are two different words in English'.

This second reaction would also be given to those cases where lexemes were only 'half' identical in shape:

- *homophones*, which have the same pronunciation, but different spelling (e.g. *threw* vs *through*);
- *homographs*, which have the same spelling, but different pronunciation (e.g. *wind* – air movement vs bend).

The distinction seems clear enough, and dictionaries treat cases of multiple meaning either as polysemy or as homonymy. But in fact it is not always easy to decide which we are dealing with, and dictionaries sometimes differ in their decisions. Are *table* (furniture) and *table* (arrangement of data) two different words, or the same word with two meanings? Dictionaries usually go for the latter solution, on grounds of a shared etymology. On the other hand, *pupil* (in school) and *pupil* (of the eye) are usually listed as different words – though in fact they have the same historical origin. French *voler* 'fly' and *voler* 'steal' are similar: they are now thought of as different words, but both derive from Latin *volare*. There is often a conflict between historical criteria and present-day intuition in sorting out cases of polysemy and homonymy.

Semantic components

A further way to study lexical meaning is by analysing lexemes into a series of semantic features, or components. *Man*, for example, could be analysed as ADULT, HUMAN, and MALE. The approach was originally devised by anthropologists as a means of comparing vocabulary from different cultures, and it has been developed by semanticists as a general framework for the analysis of meaning.

Whole systems of relationships can be established, using a small set of components. For example, the components ADULT/NON-ADULT and MALE/FEMALE can be used for the following:

man (ADULT, MALE), woman (ADULT, FEMALE)
boy (NON-ADULT, MALE), girl (NON-ADULT, FEMALE)

Many animals display a similar pattern (though lacking a male/female non-adult distinction):

MALE	FEMALE	NON-ADULT
bull	cow	calf
ram	ewe	lamb
boar	sow	piglet

In componential analysis, contrasts are usually presented in terms of + or –, and often drawn in a matrix. Thus, we could use +MALE and –MALE (or, of course +FEMALE and –FEMALE) to summarize the above possibilities:

	bull	ram	boar	cow	ewe	sow	calf	lamb	piglet
MALE	+	+	+	–	–	–	+–	+–	+–
FEMALE	–	–	–	+	+	+	+–	+–	+–

The analyses become more interesting, as the lexemes become more complex. Here, for instance, is a possible matrix for some human motion verbs:

	natural	hurried	forward	one foot always on ground
walk	+	–	+	+
march	–	+	+	+
run	–	+	+	–
limp	–	–	+	+

It is easy, using a system of this kind, to see what lexical gaps there are in a language. For example, this matrix suggests there is no single English lexeme expressing the notion of 'human using legs to move backwards'. On the other hand, it is not always so easy to decide which are the relevant components of a lexeme and whether they can be applied in a binary (+/–) way. Would *swim* be +HURRIED or –HURRIED in this matrix? Or, in other fields, would *soup* be +EAT or –EAT, and *porridge* +LIQUID or –LIQUID?

Sentence meaning

The study of meaning takes us by degrees through the whole of a language, and it proves difficult to draw a neat line around the semantic component of any linguistic framework (§13). Much of the focus of traditional semantics has been on vocabulary, but contemporary semantics is increasingly concerned with the analysis of sentence meaning – or, at least, of those aspects of sentence meaning that cannot be predicted from the 'sum' of the individual lexemes.

- *Prosodic meaning* The way a sentence is said, using the prosody of the language (§29), can radically alter the meaning. Any marked change in emphasis, for example, can lead to a sentence being interpreted in a fresh light. Each of these sentences carries a different implication, as the stress (shown by capitals) moves:

  John's bought a red CAR (not a red bicycle).
  John's bought a RED car (not a green one).
  JOHN's bought a red car (not Michael).

  The prosody informs us of what information in the sentence can be taken for granted (is 'given') and what is of special significance (is 'new').

- *Grammatical meaning* The categories that are established by grammatical analysis can also be analysed from a semantic point of view. A sentence such as *John read a book yesterday* consists of Subject + Verb + Object + Adverbial (p. 99); but it can also be analysed as an 'actor' performing an 'action' on a 'goal' at a certain 'time'. There is a great deal to be said about the 'semantic roles' played by syntactic elements – an area of study that falls uneasily between semantics and grammar.
- *Pragmatic meaning* The function performed by the sentence in a discourse needs to be considered. The meaning of the sentence *There's some chalk on the floor* seems plain enough; but in some situations it would be interpreted as a statement of fact ('Have you seen any chalk?') and in others as a veiled command (as when a teacher might point out the chalk to a child in class). The pragmatic study of sentence function is reviewed in §21, but it overlaps greatly with the field of semantics – especially the 'semantics of misunderstanding'.
- *Social meaning* The choice of a sentence may directly affect the social relationships between the participants. We may convey such impressions as politeness, rudeness, competence, or distance, and this will affect our status and role within a community. 'What do you mean by talking to me like that?' is a question that raises larger issues than the meaning of the individual lexemes and sentences that have been used.
- *Propositional meaning* Perhaps the most important trend in modern semantics is the investigation of sentence meaning using ideas derived from philosophy and logic. In this kind of approach, a careful distinction is drawn between sentences (grammatical units, p. 98) and propositions. A proposition is the unit of meaning that identifies the subject matter of a statement; it describes some state of affairs, and takes the form of a declarative sentence, e.g. *Mary loves Michael*. In such theories as 'truth-conditional semantics', sentences are analysed in terms of the underlying propositions they express, and these propositions are then tested to see whether they are true or false in relation to the real world.

Grammar or semantics

The uncertain boundary between semantics and grammar is a classic problem in linguistic theory. It can be illustrated for English by the many sentences that are used in a habitual manner, and are thus semi-idiomatic in type, falling midway between the 'straightforward' idioms such as *raining cats and dogs* and clear cases of sentences which follow the normal rules of grammar, such as *The man kicked the ball*.

In one study, a large number of habitually used expressions were collected, based on the lexeme *think*. They included:

Come to think of it...
What do you think?
I thought better of it.
Think nothing of it.
Think it over.
It doesn't bear thinking about.
I thought you knew.
I think so.
What I think is...
I was just thinking aloud.
Who'd have thought it?
Who do you think you are?
(After Pawley & Syder, 1983, pp. 213–14.)

It is argued that people have memorized expressions of this kind, as part of the process of building up fluent connected speech (the phenomenon is less obvious in the written language). On the other hand, these 'lexicalized sentence stems', as they were called, are plainly not as 'fixed' in their structure as conventional idioms, and their meaning can be predicted quite accurately from their constituent lexemes (unlike, say, *raining cats and dogs*). The result is an area of usage that lies midway between the domain of grammar, which focuses on productive sentence types, and that of the lexicon, which focuses on the properties of particular lexical items.