8 Semantics

The distinction between language (including 'logic') on the one hand, and factual or 'real world' knowledge on the other, will be explored further in Chapter 2 (pp. 12-13), and in Chapter 11 we shall also investigate the notion of transfer of meaning, and see in what sense it amounts to a 'tampering with language'. At this stage, let us simply note that such a distinction is felt to exist, but that it is not easy for a linguist or a philosopher to justify it, or to prescribe how to draw a line in individual cases. Nevertheless, practical considerations, if no others, compel us to make such a distinction, for to do otherwise would be to enlarge the domain of semantics (as Bloomfield by implication enlarged it) into the impossibly vast study of everything that is to be known about the universe in which we live. We shall look at this distinction more critically in Chapter 5 (pp. 82-6).

Summary

In this chapter I have tried to make three main points about the study of meaning:

1. That it is mistaken to try to define meaning by reducing it to the terms of sciences other than the science of language: e.g. to the terms of psychology or chemistry.

2. That meaning can best be studied as a linguistic phenomenon in its own right, not as something 'outside language'. This means we investigate what it is to 'know a language' semantically, e.g. to know what is involved in recognizing relations of meaning between sentences, and in recognizing which sentences are meaningful and which are not.

3. That point (2) rests on a distinction between 'knowledge of language' and 'knowledge of the "real world"'.

2. Seven Types of Meaning

Some people would like semantics to pursue the study of meaning in a wide sense of 'all that is communicated by language'; others (among them many modern writers within the framework of general linguistics) limit it in practice to the study of logical or conceptual meaning in the sense discussed in Chapter 1. Semantics in the former, wider sense can lead us once again into the void from which Bloomfield retreated with understandable misgivings – the description of all that may be the object of human knowledge or belief. On the other hand, we can, by carefully distinguishing types of meaning, show how they all fit into the total composite effect of linguistic communication, and show how methods of study appropriate to one type may not be appropriate to another.

On this basis, I shall break down 'meaning' in its widest sense into seven different ingredients, giving primary importance to logical meaning or (as I shall prefer to call it) conceptual meaning, the type of meaning I was discussing earlier in connection with 'semantic competence'. The six other types I shall consider are connotative meaning, social meaning, affective meaning, reflected meaning, collocative meaning, and thematic meaning.

Conceptual Meaning

Conceputal Meaning (sometimes called 'denotative' or 'cognitive' meaning) is widely assumed to be the central factor in linguistic communication, and I think it can be shown to be integral to the essential functioning of language in a way that other types of meaning are not (which is not to say that conceptual meaning is the most important element of every act of linguistic communication). My chief reason for assigning priority to conceptual meaning is that it has a complex and sophisticated organization of a kind which may be compared with, and cross-related to, similar organization on the syntactic and phonological levels of language. In particular, I would like to point to two structural principles that seem to lie at the basis of all linguistic patterning: the principle of contrastiveness and the principle of structure. Contrastive features underlie the classification of sounds in phonology.
for example, in that any label we apply to a sound defines it positively, by what features it possesses, and also by implication negatively, by what features it does not possess. Thus the phonetic symbol /b/ may be explicated as representing a bundle of contrastive features + bilabial, + voice, + stop, - nasal: the assumption being that the distinctive sounds or phonemes of a language are identifiable in terms of binary, or largely binary, contrasts. In a similar way, the conceptual meanings of a language can be studied in terms of contrastive features, so that (for example) the meaning of the word woman could be specified as + HUMAN, - MALE, + ADULT, as distinct from, say, boy, which could be 'defined' + HUMAN, + MALE, - ADULT (see p. 90).

The second principle, that of structure, is the principle by which larger linguistic units are built up out of smaller units; or (looking at it from the opposite point of view) by which we are able to analyse a sentence syntactically into its constituent parts, moving from its immediate constituents through a hierarchy of sub-division to its ultimate constituents or smallest syntactic elements. This aspect of the organization of language is often given visual display in a tree-diagram:

```
Sentence
  |      |      |
  |      |      |
Subject
  |      |      |
  |      |      |
Determiner Noun
  |      |      |
  |      |      |
Verb Complement
  |      |      |
  |      |      |
Determiner Noun
```

Or it can be represented by bracketing:

\{
\{(No)(man)\} \{(is)\} \{(an)(island)\}\}

It has long been taken for granted that the syntax of a language is to be handled in such terms. But it is now also widely accepted that the semantics of natural language has its own counterpart of syntactic structure, or (to use in many ways a closer analogy) of the systems of symbolic logic devised by mathematicians and philosophers (see Chapters 8 and 9).

The two principles of contrastiveness and constituent structure represent the way language is organized respectively on what linguists have termed the PARADIGMATIC (or selectional) and SYNTAGMATIC (or combinatorial) axes of linguistic structure. It will be my main aim in the latter part of this book (Chapters 6–17) to explore as fully as I can the application of these principles to semantic analysis, and so to show how methods of study devised for other levels of language can bring precision and insight to conceptual semantics.

In this discussion, I have taken for granted a third generally acknowledged principle of linguistic organization, which is that any given piece of language is structured simultaneously on more than one 'level'. At least the three following levels, in the pictured order, seem to be necessary for a full account of the linguistic competence by which we are able to generate or understand linguistic utterances:

```
LISTENER
  |      |      |
  |      |      |
Phonology (A)
  |      |      |
  |      |      |
Syntax (B)
  |      |      |
  |      |      |
Semantics (C)
```

And this means that for the analysis of any sentence, we need to establish a 'phonological representation', a 'syntactic representation' and a 'semantic representation', and the stages by which one level of representation can be derived from another. The aim of conceptual semantics is to provide, for any given interpretation of a sentence, a configuration of abstract symbols which is its 'semantic representation', and which shows exactly what we need to know if we are to distinguish that meaning from all other possible sentence meanings in the language, and to match that meaning with the right syntactic and phonological expression. The ability to match levels operates in one direction (A→B→C on the diagram) if we are DECODING, i.e. listening to a sentence and interpreting it; and in the opposite direction (C→B→A) if we are ENCODING, i.e. composing and speaking a sentence. From this account it will be clear that conceptual meaning is an inextricable and essential part of what language is, such that one can scarcely define
language without referring to it. A ‘language’ which communicated by other means than by conceptual meaning (e.g. a ‘language’ which communicated solely by means of expletive words like Oh! Ah! Oho! Alas! and Tally ho!) would not be a language at all in the sense in which we apply that term to the tongues of men.

**Connotative Meaning**

More of what is distinctive about conceptual meaning will appear when we contrast it with CONNOTATIVE MEANING. Connotative meaning is the communicative value an expression has by virtue of what it refers to, over and above its purely conceptual content. To a large extent, the notion of ‘reference’ overlaps with conceptual meaning. If the word *woman* is defined conceptually by three features (+HUMAN, −MALE, +ADULT), then the three properties ‘human’, ‘adult’, and ‘female’ must provide a criterion of the correct use of that word. These contrastive features, translated into ‘real world’ terms, become attributes of the referent (that which the word refers to). But there is a multitude of additional, non-criterial properties that we have learnt to expect a referent of *woman* to possess. They include not only physical characteristics (‘biped’, ‘having a womb’), but also psychological and social properties (‘gregarious’, subject to maternal instinct’), and may extend to features which are merely typical rather than invariable concomitants of womanhood (‘capable of speech’, ‘experienced in cookery’, ‘skirt-or-dress-wearing’). Still further, connotative meaning can embrace the putative properties of the referent, due to the viewpoint adopted by an individual, or a group of people or a whole society. So in the past woman has been burdened with such attributes (‘frail’, ‘prone to tears’, ‘cowardly’, ‘emotional’, ‘irrational’, ‘inconstant’) as the dominant male has been pleased to impose on her, as well as with more becoming qualities such as ‘gentle’, ‘compassionate’, ‘sensitive’, ‘hard-working’. Obviously, connotations are apt to vary from age to age and from society to society. A hundred years ago, ‘non-trouser-wearing’ must have seemed a thoroughly definitive connotation of the word *woman* and its translation equivalents in European languages, just as in many non-western societies today womankind is associated with attributes foreign to our own way of thinking. It is equally obvious that connotations will vary, to some extent, from individual to individual within the same speech community: to an English-speaking misogynist *woman* will have many uncomplimentary associations not present in the minds of speakers of a more feminist persuasion.

It will be clear that in talking about connotation, I am in fact talking about the ‘real world’ experience one associates with an expression when one uses or hears it. Therefore the boundary between conceptual and connotative meaning is coincident with that nebulous but crucial distinction, discussed in Chapter 1, between ‘language’ and the ‘real world’. This accounts for the feeling that connotation is somehow incidental to language rather than an essential part of it, and we may notice, in confirmation, that connotative meaning is not specific to language, but is shared by other communicative systems, such as visual art and music. Whatever connotations the word *baby* has can be conjured up (more effectively, because the medium is directly representational) by a drawing of a baby, or an imitation of a baby’s cry. The overlap between linguistic and visual connotations is particularly noticeable in advertising, where words are often the lesser partners of illustrations in the task of conferring on a product a halo of favourable associations.

A second fact which indicates that connotative meaning is peripheral compared with conceptual meaning is that connotations are relatively unstable: that is, they vary considerably, as we have seen, according to culture, historical period, and the experience of the individual. Although it is too simple to suggest that all speakers of a particular language speak exactly ‘the same language’, it can be assumed, as a principle without which communication through that language would not be possible, that on the whole they share the same conceptual framework, just as they share approximately the same syntax. In fact, some recent semanticists have assumed that the same basic conceptual framework is common to all languages, and is a universal property of the human mind (see pp. 26–30).

Thirdly, connotative meaning is indeterminate and open-ended in a sense in which conceptual meaning is not. Connotative meaning is open-ended in the same way as our knowledge and beliefs about the universe are open-ended: any characteristic of the referent, identified subjectively or objectively, may contribute to the connotative meaning of the expression which denotes it. In contrast, it is generally taken as fundamental to semantic theory that the conceptual meaning of a word or sentence can be codified in terms of a limited set of symbols (e.g. in the form of a finite set of discrete features of meaning), and that the semantic representation of a sentence can be specified by means of a finite number of rules. This postulate of the finiteness and determinateness of conceptual content is modelled on the assumptions that linguists generally make when analysing other aspects of linguistic structure. Such assumptions are to some extent over-simplified, but without them it would be difficult to uphold the view of language as a finite and coherent system.
Social and Affective Meaning

We turn now to two aspects of communication which have to do with the situation in which an utterance takes place. **Social Meaning** is that which a piece of language conveys about the social circumstances of its use. In part, we 'decode' the social meaning of a text through our recognition of different dimensions and levels of style within the same language. We recognize some words or pronunciations as being dialectal, i.e. as telling us something of the geographical or social origin of the speaker; other features of language tell us something of the social relationship between the speaker and hearer: we have a scale of 'status' usage, for example, descending from formal and literary English at one end to colloquial, familiar, and eventually slang English at the other.

One account (Crystal and Davy, *Investigating English Style*) has recognized, among others, the following dimensions of socio-stylistic variation (I have added examples of the categories of usage one would distinguish on each dimension):

**Variation according to:**

- **Dialect** (The language of a geographical region or of a social class)
- **Time** (The language of the eighteenth century, etc.)
- **Province** (Language of law, of science, of advertising, etc.)
- **Status** (Polite, colloquial, slang, etc., language)
- **Modality** (Language of memoranda, lectures, jokes, etc.)
- **Singularity** (The style of Dickens, of Hemingway, etc.)

Although not exhaustive, this list indicates something of the range of style differentiation possible within a single language. It is not surprising, perhaps, that we rarely find words which have both the same conceptual meaning and the same stylistic meaning. This observation has frequently led people to declare that 'true synonyms do not exist'. If we understand synonymy as complete equivalence of communicative effect, it is indeed hard to find an example that will disprove this statement. But there is much convenience in restricting the term 'synonymy' to equivalence of conceptual meaning, so that we may then contrast conceptual synonyms with respect to their varying stylistic overtones:

- steed (poetic)
- horse (general)
- nag (slang)
- gee-gee (baby language)
- domicile (very formal, official)
- residence (formal)
- abode (poetic)
- home (general)
- diminutive (very formal)
- tiny (colloquial)
- wee (colloquial, dialectal)

The style dimension of 'status' is particularly important in distinguishing synonymous expressions. Here is an example in which the difference of status is maintained through a whole sentence, and is reflected in syntax as well as in vocabulary:

1. They chucked a stone at the cops, and then did a bunk with the loot.
2. After casting a stone at the police, they absconded with the money.

Sentence (1) could be said by two criminals, talking casually about the crime afterwards; sentence (2) might be said by the chief inspector in making his official report. Both could be describing the same happening, and their common ground of conceptual meaning is evident in the difficulty anyone would have in asserting the truth of one of these sentences, and denying the truth of the other.

In a more local sense, social meaning can include what has been called the **illocutionary force** of an utterance (see pp. 321-3): for example, whether it is to be interpreted as a request, an assertion, an apology, a threat, etc. The function an utterance performs in this respect may be only indirectly related to its conceptual meaning. The sentence *I haven't got a knife* has the form and meaning of an assertion, and yet in social reality (e.g. if said to the waiter in a restaurant) it can readily take on the force of a request such as 'Please bring me a knife'.

From this it is only a small step to the consideration of how language reflects the personal feelings of the speaker, including his attitude to the listener, or his attitude to something he is talking about. **Affective Meaning**, as this sort of meaning can be called, is often explicitly conveyed through the conceptual or connotative content of the words used. Someone who is addressed: 'You're a vicious tyrant and a villainous reprobate, and I hate you for it!' is left in little doubt as to the feelings of the speaker towards him. But there are less direct ways of disclosing our attitude than this: for example, by scaling our remarks according to politeness. With the object of getting people to be quiet, we might say either:

1. (3) I'm terribly sorry to interrupt, but I wonder if you would be so kind as to lower your voices a little.
2. or:
3. (4) Will you belt up.
Factors such as intonation and voice-timbre - what we often refer to as 'tone of voice' - are also important here. The impression of politeness in (3) can be reversed by a tone of biting sarcasm; sentence (4) can be turned into a playful remark between intimates if delivered with the intonation of a mild request.

Affective meaning is largely a parasitic category in the sense that to express our emotions we rely upon the mediation of other categories of meaning - conceptual, connotative, or stylistic. Emotional expression through style comes about, for instance, when we adopt an impolite tone to express displeasure (as in (4) above), or when we adopt a casual tone to express friendliness. On the other hand, there are elements of language (chiefly interjections, like Aha! and Yippee!) whose chief function is to express emotion. When we use these, we communicate feelings and attitudes without the mediation of any other kind of semantic function.

Reflected and Collocative Meaning

Two further, though less important types of meaning involve an interconnection on the lexical level of language.

First, REFLECTED MEANING is the meaning which arises in cases of multiple conceptual meaning, when one sense of a word forms part of our response to another sense. On hearing, in a church service, the synonymous expressions The Comforter and The Holy Ghost, both referring to the Third Person of the Trinity, I find my reactions to these terms conditioned by the everyday non-religious meanings of comfort and ghost. The Comforter sounds warm and 'comforting' (although in the religious context, it means 'the strengthener or supporter'), while The Holy Ghost sounds awesome.

One sense of a word seems to 'rub off' on another sense in this way only when it has a dominant suggestive power either through relative frequency and familiarity (as in the case of The Holy Ghost) or through the strength of its associations. Only in poetry, which invites a heightened sensitivity to language in all respects, do we find reflected meaning operating in less obviously favourable circumstances:

Are limbs, so dear-achieved, are sides,

Full-nerved - still warm - too hard to stir?

In these lines from Futility, a poem on a dead soldier, Wilfred Owen overtly uses the word dear in the sense 'expensive(ly)', but also alludes, one feels in the context of the poem, to the sense 'beloved'.

The case where reflected meaning intrudes through the sheer strength of emotive suggestion is most strikingly illustrated by words which have a taboo meaning. Since their popularization in senses connected with the physiology of sex, it has become increasingly difficult to use terms like intercourse, ejaculation, and erection in 'innocent' senses without conjuring up their sexual associations. This process of taboo contamination has accounted in the past for the dying-out of the non-taboo sense of a word: Bloomfield explained the replacement of cock in its farmyard sense by rooster as due to the influence of the taboo use of the former word, and one wonders if intercourse is now following a similar path.

COLLOCATIVE MEANING consists of the associations a word acquires on account of the meanings of words which tend to occur in its environment. Pretty and handsome share common ground in the meaning 'good-looking', but may be distinguished by the range of nouns with which they are likely to co-occur or (to use the linguist's term) collocate:

<table>
<thead>
<tr>
<th>pretty</th>
<th>handsome</th>
</tr>
</thead>
<tbody>
<tr>
<td>girl</td>
<td>boy</td>
</tr>
<tr>
<td>boy</td>
<td>man</td>
</tr>
<tr>
<td>woman</td>
<td>car</td>
</tr>
<tr>
<td>flower</td>
<td>vessel</td>
</tr>
<tr>
<td>garden</td>
<td>airliner</td>
</tr>
<tr>
<td>colour</td>
<td>typewriter</td>
</tr>
<tr>
<td>village</td>
<td>etc.</td>
</tr>
</tbody>
</table>

The ranges may well, of course, overlap: handsome woman and pretty woman are both acceptable, although they suggest a different kind of attractiveness because of the collocative associations of the two adjectives. Further examples are quasi-synonymous verbs such as wander and stroll (cows may wander, but may not stroll) or tremble and quiver (one trembles with fear, but quivers with excitement). Not all differences in potential co-occurrence need to be explained as collocative meaning: some may be due to stylistic differences, others to conceptual differences. It is the incongruity of combining unlike styles that makes 'He mounted his gee-gee' or 'He got on his steed' an improbable combination.

On the other hand, the acceptability of 'The donkey ate hay', as opposed to 'The donkey ate silence', is a matter of compatibility on the level of conceptual semantics (on such 'selection restrictions', see pp. 137-42). Only when explanation in terms of other categories of meaning does not apply do we need to invoke the special category of collocative meaning: on the other levels, generalizations can be made, while collocative meaning is simply an idiosyncratic property of individual words.
Associative Meaning: a Summary Term

Reflected meaning and collocative meaning, affective meaning and social meaning: all these have more in common with connotative meaning than with conceptual meaning; they all have the same open-ended, variable character, and lend themselves to analysis in terms of scales or ranges, rather than in discrete either-this-or-that terms. They can all be brought together under the heading of associative meaning, and to explain communication on these levels, we need employ nothing more sophisticated than an elementary 'associationist' theory of mental connections based upon contiguities of experience. We contrast them all with conceptual meaning, because conceptual meaning seems to require the postulation of intricate mental structures which are specific to language and to the human species.

Associative meaning contains so many imponderable factors that it can be studied systematically only by approximative statistical techniques. In effect, Osgood, Suci and Tannenbaum proposed a method for a partial analysis of associative meaning when they published their ambitiously titled book *The Measurement of Meaning* in 1957. Osgood and his co-authors devised a technique (involving a statistical measurement device, the Semantic Differential) for plotting meaning in terms of a multi-dimensional semantic space, using as data speakers' judgements recorded in terms of seven-point scales. The scales are labelled by contrasting adjective pairs, such as happy-sad, hard-soft, slow-fast, so that a person may, for example, record his impression of the word *bagpipe* on a form in the following way:

<table>
<thead>
<tr>
<th>3</th>
<th>2</th>
<th>1</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>good</td>
<td>×</td>
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<td></td>
<td></td>
<td></td>
<td>bad</td>
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<td>hard</td>
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<td>soft</td>
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<td>passive</td>
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<td></td>
<td>active</td>
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<tr>
<td>etc.</td>
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</table>

Statistically, the investigators found that particular significance seemed to lie in three major dimensions, those of evaluation (good-bad), potency (hard-soft), and activity (active-passive). It is clear, even from this very brief sketch, that the method can provide no more than a partial and approximate account of associative meaning: partial because it entails a selection from indefinitely many possible scales, which in any case would only provide for associative meaning in so far as it is explicable in scalar terms; approximate because of the statistical sampling, and because a seven-point scale constitutes a cutting-up of a continuous scale into seven segments within which no differentiation is made - a process similar in its crudity to that of cutting up the spectrum into seven primary colours. This is not to disparage the Semantic Differential technique as a means of quantifying associative meaning: the lesson to be learned is, in fact, that it is only by such relatively insensitive tools as this that associative meaning can be systematically studied: it does not lend itself to determinate analyses involving yes-no choices and structures of uniquely segmentable elements.

Another important observation about the Semantic Differential is that it has been found useful in psychological fields such as personality studies, 'attitude measurement', and psychotherapy, where differences in the reactions of individuals are under scrutiny, rather than the common core of reactions that they share. This upholds what I said earlier in particular reference to connotative meaning: that whereas conceptual meaning is substantially part of the 'common system' of language shared by members of a speech community, associative meaning is less stable, and varies with the individual's experience.

Thematic Meaning

The final category of meaning I shall attempt to distinguish is thematic meaning, or what is communicated by the way in which a speaker or writer organizes the message, in terms of ordering, focus, and emphasis. It is often felt, for example, that an active sentence such as (1) has a different meaning from its passive equivalent (2), although in conceptual content they seem to be the same:

1. Mrs Bessie Smith donated the first prize.
2. The first prize was donated by Mrs Bessie Smith.

Certainly these have different communicative values in that they suggest different contexts: the active sentence seems to answer an implicit question 'What did Mrs Bessie Smith donate?', while the passive sentence seems to answer an implicit question 'Who was the first prize donated by?' or (more simply) 'Who donated the first prize?'. That is, (1), in contrast to (2), suggests that we know who Mrs Bessie Smith is (perhaps through a previous mention). The same truth conditions, however, apply to each: it would be impossible to find a situation of which (1) was an accurate report while (2) was not, or vice versa.

Thematic meaning is mainly a matter of choice between alternative grammatical construction, as in:

1. A man is waiting in the hall.
2. There's a man waiting in the hall.
They stopped at the end of the corridor.
At the end of the corridor, they stopped.
I like Danish cheese best.
Danish cheese I like best.
It's Danish cheese that I like best.
But the kind of contrast by ordering and emphasis illustrated by (1) and (2) can also be contrived by lexical means: by substituting (for example) belongs to for owns.
My brother owns the largest betting-shop in London.
The largest betting-shop in London belongs to my brother.
In other cases, it is stress and intonation rather than grammatical construction that highlights information in one part of a sentence. If the word electric is given contrastive stress in (12):
Bill uses an electric razor.
The kind of razor that Bill uses is an electric one.
the effect is to focus attention on that word as containing new information, against a background of what is already assumed to be known (viz. that Bill uses a razor). This kind of emphasis could have been equally achieved in English by the different syntactic construction of (13). The sentences bracketed together above obviously have, in a sense, 'the same meaning'; but all the same, we need to acknowledge that their communicative value may be somewhat different; they will not each be equally appropriate within the same context.

Demarcation Problems
I have now dealt with the seven types of meaning promised at the beginning of the chapter, but I do not wish to give the impression that this is a complete catalogue, accounting for all that a piece of language may communicate. One might, for example, have added a category for the physiological information conveyed by an act of speech or writing: information about the sex of the speaker, his age, the state of his sinuses, and so on.
A further caveat about the seven types of meaning: there are always problems of 'demarcation', and more especially, problems of separating conceptual meaning from the more peripheral categories. The difficulty of delimiting conceptual from connotative meaning, noted earlier, is paralleled in other borderline areas, such as that between conceptual meaning and socio-stylistic meaning:

(1) He stuck the key in his pocket.
(2) He put the key in his pocket.
We could argue that (1) and (2) are conceptually synonymous, and that the difference between the two is a matter of style (sentence (2) is neutral, while (1) is colloquial and casual). On the other hand, we could maintain that the shift in style is combined with a conceptual difference: that stick in a context such as (1) has a more precise denotation than (2) and could be roughly defined as 'to put carelessly and quickly'. There is support for the second explanation in the slight oddity of the following sentences:
*He stuck the key slowly in his pocket.
*He stuck the key carefully in his pocket.
(The preceding asterisk, according to a convention of linguistics, signals the unacceptability of a sentence.)
Often, in fact, the solution to a problem of delimitation is to conclude that quasi-synonyms differ on at least two planes of meaning.
As a second illustration, we may take a case on the border between conceptual and collocative meaning, that of the verbs smile and grin. Do these words have different conceptual meanings, or is it just that the range of expressions with which they habitually combine is different? Few would hesitate over which of the two words to insert in:
The duchess ——ed graciously as she shook hands with her guests.
Gargoyles ——ed hideously from the walls of the building.
But the question is whether such differences in collocation spring from different conceptual and connotative content: whether, for example, a grin can be defined as a broader, toothier and more potentially hostile expression than a smile, and is more likely to be found on the face of a gargoyle than that of a duchess for that very reason. This is a particularly complex case in that differences of social and affective meaning are also clearly implicated. In fact, as already observed, affective meaning is a category which overlaps heavily with style, connotation, and conceptual content.

Intended and Interpreted Meaning
It may be wondered why I have avoided making a distinction between the INTENDED meaning, that which is in the mind of the speaker when he is framing his message, and the INTERPRETED meaning, or that which is conveyed to the mind of the listener when he receives the message. I have equated meaning in its broad sense with 'communicative effect',
and ‘communication’ usually means transfer of information from a
source (A) to a target (B). On this basis, one might argue that com-
munication has only taken place if we know that what was in mind (A)
has been transferred to, or copied in, mind (B). It is natural, then, that
studies of meaning (particularly in philosophy) should have devoted
much attention to the vexed question of the relation between meaning,
intention, and interpretation. In spite of this, a linguist may feel
entitled to ignore the difference between the intention of a message and
its effect, because he is interested in studying the communication system
itself, rather than what use or misuse is made of it. He is interested in
studying the semantic aspect of the language which we may assume to be
common to the minds of (A) and (B), and this includes, incidentally,
studying ambiguities and other aspects of language (e.g. variability of
associative meaning) which give scope for miscommunication. But the
important point is that meaning, for semantics, is neutral between
‘speaker’s meaning’ and ‘hearer’s meaning’; and this is surely justifiable,
since only through knowing the neutral potentialities of the medium of
communication itself can we investigate differences between what a
person intends to convey and what he actually conveys.

All normal use of language, of course, implies some intention on the
part of the speaker; but in so far as meaning implies an intention, the
intention is only recoverable from the meaning itself. In other words, in-
tentions are private but meaning is public. This applies even to social
meaning: a matter to which I shall return in Chapter 16, in discussing
the relation between semantics and pragmatics.

Summary
As this chapter has introduced quite a range of terms for types of
meaning, it is fitting that it should end with a summary, and a suggestion
or two for simplifying terminology:

Seven Types of Meaning

<table>
<thead>
<tr>
<th>1. CONCEPTUAL MEANING or Sense</th>
<th>Logical, cognitive, or denotative content.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. CONNOTATIVE MEANING</td>
<td>What is communicated by virtue of what language refers to.</td>
</tr>
<tr>
<td>3. SOCIAL MEANING</td>
<td>What is communicated of the social circumstances of language use.</td>
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<tr>
<td>4. AFFECTIVE MEANING</td>
<td>What is communicated of the feelings and attitudes of the speaker/writer.</td>
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<tr>
<td>5. REFLECTED MEANING</td>
<td>What is communicated through association with another sense of the same expression.</td>
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<tr>
<td>6. COLLOCATIVE MEANING</td>
<td>What is communicated through association with words which tend to occur in the environment of another word.</td>
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<tr>
<td>7. THEMATIC MEANING</td>
<td>What is communicated by the way in which the message is organized in terms of order and emphasis.</td>
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I have here used sense as a briefer term for ‘conceptual meaning’,
(or ‘meaning’ in the narrower sense), and will feel free to use it for clarity
and convenience from now on. For ‘meaning’ in the wider sense which
embraces all seven types listed, it is useful to have the alternative term
COMMUNICATIVE VALUE.
SEMANTICS

Second Edition

F. R. PALMER
Professor of Linguistic Science
University of Reading

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To Mark, Justin and Geoffrey

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Semantics is the technical term used to refer to the study of meaning, and, since meaning is a part of language, semantics is a part of linguistics. Unfortunately, ‘meaning’ covers a variety of aspects of language, and there is no general agreement about the nature of meaning, what aspects of it may properly be included in semantics, or the way in which it should be described. This little book will try to show what topics are included in semantics and some of the ways in which they have been, or can be, handled, but because of the nature of the subject and the variety of views about it, it cannot hope to be more than an introductory survey.

1.1 The terms semantics and meaning

The term *semantics* is a recent addition to the English language. A detailed account of its history is to be found in Read (1948). Although there is one occurrence of *semantick* in the phrase *semantick philosophy* to mean ‘divination’ in the seventeenth century, *semantics* does not occur until it was introduced in a paper read to the American Philological Association in 1894 entitled ‘Reflected meanings: a point in semantics’. The French term *sémantique* had been coined from the Greek in the previous year by M. Bréal. In both cases the term was not used simply to refer to meaning, but to its development — with what we shall later call ‘historical semantics’. In 1900, however, there appeared Bréal’s book *Semantics: studies in the science of meaning*; the French original had appeared three years earlier. This is a superb little book, now sadly neglected, but well worth reading. It is one of the earliest books on linguistics as we understand it today, in that...
1. Introduction

it treated semantics as the 'science' of meaning, and that it was not primarily concerned with changes of meaning from a historical point of view (see 1.3).

Yet the term semantics did not catch on for some time. One of the most famous books on semantics is *The meaning of meaning* by C. K. Ogden & I. A. Richards, first published in 1923. *Semantics* does not occur in the main body of the book itself, but it appears in an appendix, which is itself a classic in the field, entitled *The problem of meaning in primitive languages*, written by the anthropologist Malinowski (1923).

Other terms besides semantics have been used. H. G. Wells in *The shape of things to come* speaks of the science of signifies, but he says that it was lost sight of and not revived until the twenty-first century. *Semiotics* (or, for some scholars, *semiology*) is in current use to refer to the theory of signs, or of signalling systems, in general. Language may, therefore, be seen as a semiotic system, but it is not certain that it is useful to treat linguistics as a branch of semiotics (see 1.2).

There is, unfortunately, a use of the terms semantic and semantics in popular language, especially in newspapers, that bears only a slight resemblance to our use. The terms are used to refer to the manipulation of language, mostly to mislead, by choosing the right word. Thus there were headlines in *The Guardian* in 1971: 'Semantic manoeuvres at the Pentagon' and 'Homelessness reduced to semantics'. The first of these headed an article in which it was suggested that the term mobile manoeuvre was being used to mean 'retreat', while in the second the point was rather that by using a very narrow definition of homelessness the authorities were able to suggest that the number of homeless was considerably reduced. There is a perfectly true story, too, of the strip-tease dancer who wrote to an eminent American linguist asking him to supply a word to replace strip-tease because of its 'wrong connotations'. 'I hope', she added, 'that the science of semantics can help the verbally unprivileged members of my profession.' The eminent linguist, knowing his classical languages, suggested *ecdysiast*.

1.1 The terms semantics and meaning

The term meaning is, of course, much more familiar to us all. But the dictionary will suggest a number of different meanings of meaning, or, more correctly, of the verb mean, and Ogden & Richards were able to list no less than sixteen different meanings that have been favoured by 'reputable scholars'. It is no part of a book of this kind to investigate all these popular and scientific definitions of the term, nor to ask if all the meanings of mean and meaning have something in common. But a brief look at some of the common uses may be illuminating, for we can ask which, if any, of these comes close to the use of the terms that we need in semantics.

To begin with, we should not see a close link between the sense we require and the sense of 'intend' that we find in *I mean to be there tomorrow*. It is significant, perhaps, that we cannot, in this context, talk about 'my meaning', to refer to 'what I mean to do'. Nearer to the sense we need is that of *That cloud means thunder* or *A red light means 'Stop'*. For means here is used of signs, both natural and conventional, that indicate something that is happening or will happen, or something that has to be done. Nevertheless, there is a difference between these two examples. The traffic lights clearly belong to a communication system in which it is the convention that red means 'Stop', but the clouds do not belong to any such system, and while they may provide us with information, they can hardly be said to communicate. Language is more like the traffic lights, but the analogy is not very helpful because their communicative function is derived from language and, moreover, from a limited and specialised use of it.

The most relevant use of the terms for our purposes is found in such sentences as *What does 'calligraphy' mean?* 'Calligraphy' means 'beautiful handwriting'. The reply to such questions is in terms of other words that the speaker thinks the hearer can understand. This is, of course, characteristic of dictionaries. They provide definitions by suggesting words or phrases which, we are given to understand, have the 'same' meaning, though what is same-ness is a problem that
we shall not be able to escape (5.3). The extent to which meaning is dealt with in terms of the equivalence of terms is even more clearly brought out when we deal with foreign languages. For if we are asked what chat means in French we shall almost certainly reply cat. It is interesting to notice that we would not ask what cat means in French, expecting the reply chat. Instead, we have to say What is the French for 'cat'? In stating meaning, then, we are obliged to produce a term that is more familiar than the one whose meaning is being questioned. We translate from obscure terms, technical terms, or a foreign language into words that can be easily understood. It is obvious, however, that this will not get us very far in our study of meaning, for, though the principles of dictionary-making may be relevant to our enquiries, we are not solely, or chiefly, concerned with writing dictionaries.

A different use of meaning is found in such sentences as 'It wasn't what he said, but what he meant.' Lewis Carroll made play with the difference between saying and meaning in Alice's Adventures in Wonderland:

'Then you should say what you mean', the March Hare went on.

'I do', Alice hastily replied; 'at least - at least I mean what I say - that's the same thing, you know.'

'Not the same thing a bit', said the Hatter.

This is a curious use for, if our words have a meaning, how can we fail to say what we mean, or, rather, how can the words fail to mean what they mean? The answer is, of course, that we wish to suggest that the words do not mean what they might most obviously be thought to mean, that there is some other meaning besides the 'literal' meaning of the words. There are a number of quite different ways of achieving this. We can quite simply use such features as intonation or even perhaps non-linguistic signs such as a wink to indicate that the words must not be taken literally. In this respect there is one intonation tune in English that is particularly interesting – the fall-rise, in which the intonation falls and rises on the 'centred' word in a sentence. For this tune expresses reservations; it says 'but . . .'. For instance, with She's very clever it may well 'say' (i.e. imply) that she is not very honest, or not very attractive, while with I think so it would suggest that I do not really know (whereas a different intonation would express confidence in my belief). Similarly I can say, with sarcasm, That's very clever to mean 'That's very stupid', and if I wink when I say That's mine, I probably intend to suggest that it is not (7.1). Secondly, much of what we say 'presupposes' a great deal. The classic example is When did you stop beating your wife? which presupposes that you beat her at one time without actually saying it. This, too, we shall have to discuss in detail later (7.4).

All in all, it seems that we shall not make much progress in the study of meaning by simply looking at common or even scholarly uses of the relevant terms. Rather we must attempt to see what meaning is, or should be, within the framework of an 'academic' or 'scientific' discipline. Semantics is a part of linguistics, the scientific study of language.

1.2 Semantics and linguistics

Let us now try to place semantics within linguistics and see what that implies. To begin with, we can assume that semantics is a component or level of linguistics of the same kind as phonetics or grammar. Moreover, nearly all linguists have, explicitly or implicitly, accepted a linguistic model in which semantics is at one 'end' and phonetics at the other, with grammar somewhere in the middle (though not necessarily that there are just these three levels). The plausibility of this is obvious enough. If language is regarded as an information system, or more strictly as a communication system, it will associate a message (the meaning) with a set of signs (the sounds of language or the symbols of the written text). The Swiss linguist, Ferdinand de Saussure (1916: 99 [1959: 67]); referred to these as the SIGNIFIER (signifiant) and the SIGNIFIED (signifié). (He, unfortunately, used the term SIGN to refer
to the association of these two, but some of his more recent followers have, more reasonably, used it for the signifier alone. Examples of communication systems, all of them no doubt much simpler than language, are numerous. We have already mentioned traffic lights. Some animals make noises to communicate. The gibbons, for instance, have a set of calls to indicate the discovery of food, danger, friendly interest, desire for company, and they have one call that is intended merely to establish position and so prevent the band from spreading too far apart (Hockett 1958: 572–3).

Although it is reasonable to see language as basically a communication system, we must not push the analogy with other systems too far, for several reasons. First, language does not always have a ‘message’ in any real sense, certainly not in the sense of a piece of information; part of its function is concerned with social relationships (3.5), though this is also true of the animal communication systems too. Secondly, in language both the ‘signs’ and the ‘messages’ (the signifiers and the signified) are themselves enormously complex and the relationship between them is of even greater complexity. For this reason it has been convincingly argued that human language differs in kind rather than in degree from other ‘languages’. Thirdly, in language it is extremely difficult, perhaps even impossible, to specify precisely what the message is. In other communication systems there is no problem because the message can be independently identified in terms of language or, rather, of a language such as English, e.g. Red means ‘Stop’. For language in general we have no such easy solution, for we cannot define meaning (the ‘message’) independently of language. We can only state one set of meanings in terms of another set, only describe language in terms of language.

I have suggested that linguistics is the ‘scientific’ study of language. A scientific study must be empirical; it must be possible, in some way, to test and verify the statements made within it. It is easy enough to apply this to phonetics, for we can observe what is happening – we can listen to a person speaking. We can, moreover, describe the operations of the vocal organs, or, with the aid of scientific instruments, can measure precisely the physical characteristics of the sounds that are emitted. But there is, unfortunately, no similar, simple way of dealing with semantics. It is not at all clear what constitutes evidence for a statement about meaning, and some of the theories that have laid most claim to being scientific have proved to be the most unsatisfactory. Precisely what is meant by ‘scientific’ or ‘empirical’ in the context of linguistic study is a matter of some debate.

A further difficulty with semantics is that meanings do not seem to be stable but to depend upon speakers, hearers and context. Yet if linguistics is scientific, it must be concerned not with specific instances, but with generalisations. For this reason it is generally assumed that a distinction can be made between the linguistic system and the use made of that system by speakers and hearers. There is no real conflict between the assumption that there are rules of the grammar of English and the recognition that much of our speech is ungrammatical because we make mistakes, we forget what we have already said, we break off, etc. Similarly, a man who has complete command of the sound system of English may fail to make important phonological distinctions when he is ill or drunk. There are, however, considerable difficulties in deciding what is in the system or even whether it can be completely divorced from its use. This point was made, though in a rather different conceptual framework, by de Saussure (1916: 30–2 [1959: 13–15]) in his distinction between language (langue) and speaking (parole). This distinction reappeared in Chomsky (1965: 4) as competence and performance. (Chomsky differs greatly from de Saussure on the nature of the linguistic system within language or competence, but the theoretical distinction is the same.) Both are concerned essentially, as are we, to exclude what is purely individual and accidental (speaking or performance), and to insist that the proper study of linguistics is language or competence. But for both de Saussure and Chomsky,
language or competence is some kind of idealised system without any clear empirical basis.

We must ask whether a similar distinction is valid within semantics. It goes without saying that we cannot be concerned with purely individual, idiosyncratic, acts. We may recall Lewis Carroll once again (Through the Looking-Glass):

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

An individual's meaning is not part of the general study of semantics. Of course, it is interesting or important for some purposes to see how and why an individual diverges from the normal pattern. This is necessary in the study of literature - the poet may well not 'mean' what you and I would mean. It is obviously important too in psychiatric studies where the individual is apparently unable to use his language in the same way as others. But it is important to realise that neither the literary nor the psychiatric studies of the individual would be possible without the generalised 'normal' patterns to make comparisons with.

Nevertheless we need to make a distinction between what would seem to be the usual meaning of a word or a sentence and the meaning it has in certain specific circumstances. This may be a matter of 'meaning' versus 'use', or, as some philosophers and linguists have suggested, between semantics and pragmatics. But the most useful distinction, perhaps, is made by Lyons (1977: 643) in terms of sentence meaning, which is directly related to the grammatical and lexical features of a sentence, and utterance meaning, which includes all 'secondary' aspects of meanings, especially those related to context. It is this distinction that allows us to 'say' one thing and mean another (2.5).

1.3 Historical semantics

There will be virtually no discussion in this book (except in this section) of historical semantics, the study of the change of meaning in time. Yet a great deal of work that has been done on semantics has been of a historical kind, and it was noted earlier that the term semantics was first used to refer to the development and change of meaning.

Certainly the study of the change of meaning can be fascinating. We can start by attempting to classify the kinds of change that occur. The great American linguist, Bloomfield (1933: 426–7), noted a number of types, each given a traditional name. These, together with an example and the earlier meaning, were:

Narrowing  meat  ‘food’
Widening  bird  ‘nestling’
Metaphor  bitter  ‘biting’
Metonymy (nearness in space or time)  jaw  ‘cheek’
Synecdoche (whole/part relation)  town  ‘fence’
  stove  ‘heated room’
Hyperbole (stronger to weaker meaning)  astound  ‘strike with thunder’
Litotes (weaker to stronger meaning)  kill  ‘torment’
Degeneration  knave  ‘boy’
Elevation  knight  ‘boy’

We shall also try to find reasons for the changes. Some are no more than fortuitous. The word money is related to Latin moneo ‘warn’ (cf. admonish), because money was made at Rome in the temple of the goddess Juno Moneta. The tanks of modern warfare are so called because of a security decision in the 1914–18 war to deceive the Germans into thinking that water-tanks were being despatched. Other changes arise from new needs. The word car was an obsolete poetic word for ‘chariot’, until the motor-car was invented. Most scientific words have acquired specialised meanings that have no close relationship to the non-scientific use; mass and energy in physics are not what they are to the layman. A cause of fast change is
Introduction

1.3 Historical semantics

taboo — a word that is used for something unpleasant is replaced by another and that too is again replaced later. Thus English has had the terms privy, W.C., lavatory, toilet, bathroom, etc., and, more recently, loo.

Historical change is properly an area of comparative and historical linguistics, or what is more commonly called comparative philology, which attempts both to reconstruct the history of languages and, via their history, to relate languages apparently coming from a common source or 'ancestor'. One of the aims of the subject is to establish 'sound laws', to show for instance the correlation of p in Romance languages with f in Germanic languages (this is an aspect of what is known as Grimm's Law). This can be illustrated in English where pairs of words come from Romance and Germanic, e.g. paternal/ father, pen/feather, piscatorial/fish. But the establishment of sound laws depends on knowing that the words we compare are the 'same' in the sense that they can be supposed to have a common origin, and this can only be done on the basis of their meaning. This is obvious enough in the case of the examples above (remember that pens were originally quills). It is no surprise that we can relate ewe to Latin ovis 'sheep' and English ovine, or acre to Latin ager 'field' and agriculture. It may be more surprising (but only from the sound, not the meaning) that cow and beef are also related (though in a more complex way). Less likely in terms of meaning is the common origin of guest and hostile, until it is remembered that strangers might be treated either as friends or enemies. Generally the less obvious identifications of meaning are well supported by the evidence of sound laws. We find words that ought by the sound laws to be related, and then look for reasonable semantic relationships. Unhappily this is not possible with all groups of languages. In many parts of the world the language relationships are difficult to establish, largely because we have no ancient records. Thus speculation may take over. Attempts have been made to relate words from different African languages because of some phonetic similarity, with no sound laws, on the basis of the meanings 'day', 'sun', 'fire', and, similarly, 'sky', 'above', 'rain'. Unless the identification in terms of sound laws is convincing (and it is not), such identifications are not very persuasive.

Apart from the scientific study of the change of meaning, it is an obvious fact that people are interested in etymology, the discovery of earlier meanings of words (or, if we follow the etymology of etymology, the discovery of their 'true' meanings). Indeed dictionaries attempt to satisfy this interest by quoting at least the most recent origin of each word. Interest in etymology goes back for centuries. The first serious discussion is in Plato's Cratylus; many of the suggested etymologies there are preposterous, but a number of them are basically correct. Part of the difficulty for the layman is that words are often not what they seem. Gooseberry has nothing to do with geese, and strawberry is not directly connected with the use of straw to protect the fruit (though both straw in strawberry and straw are from a common origin relating to strawberries strewing themselves and straw being strewn). But few would expect hysterical to be connected with the womb (in Greek), or for lord and lady to have anything to do with loaf (of bread).

Etymology for its own sake is of little importance, even if it has curiosity value, and there really should be no place for a smattering of it in dictionaries. The chief difficulty is that there can be no 'true' or 'original' meaning since human language stretches back too far. It is tempting, for instance, to say that nice REALLY means 'precise', as in a nice distinction. But a study of its history shows that it once meant 'silly' (Latin nescius 'ignorant'), and earlier it must have been related to ne 'not' and sc- probably meaning 'cut' as in scissors and shears. And before that? We cannot know. Clearly, then, no serious discussion of etymology is required here.

As I said at the beginning of this section, there will be no further discussion of historical semantics. This may be surprising, and perhaps even disappointing, to the reader who has been led to believe by popular books and by the practice of most dictionaries to think of meaning in terms of change of meaning. But linguists have generally come to accept the
distinction made explicit by de Saussure (1916: 117 [1959: 81]) between diachronic and synchronic linguistics, the first being concerned with language through time, the second with language as it is, or as it was at a particular time. Although there are some theoretical problems about drawing a clear line between these two types of study, in practice it can be drawn and a great deal of confusion can be avoided if we are clear whether a linguistic statement is a synchronic or diachronic one. For instance ‘Ought is the past tense of owe’, ‘Dice is the plural of die’ are confused statements. As synchronic facts about modern English they are untrue; they may be diachronically true – but in that case the verb should be ‘was’ not ‘is’.

Linguists have in recent years concentrated on the synchronic study of language. It can, moreover, be argued that synchronic study must logically precede the diachronic study, for we cannot study change in a language until we have first established what the language was like at the time during which it changed. So too in semantics we cannot deal with change of meaning until we know what meaning is. Unfortunately, because they have no clear theory of semantics, some scholars interested in historical change have indulged in vague statements of the kind we considered earlier. This alone, I feel, is sufficient reason for concentrating, in a book of this size, on synchronic matters.

1.4 Semantics in other disciplines

Some philosophers have suggested that many, if not all, philosophical problems can be solved by the study of ‘ordinary language’. It is argued, for instance, that the problems of the nature of good and evil, of right and wrong, in moral philosophy can be dealt with by seeing the way in which such words as good are used. The problem of ‘good’, that is to say, is seen as the problem of the use of good. This is only of marginal interest to the linguist. Nevertheless, some of the work of such philosophers has had an impact upon linguistics, notably that of Austin with his proposals concerning performatives and speech acts (7.3), of Strawson on presupposition (7.4) and of Grice on implicatures (7.5).

An older and more traditional area of philosophy that has interested linguists is that of logic, and there will be a whole chapter (8) devoted to semantics and logic. The logicians’ proposals have ranged from the comparatively simple syllogism of All men are mortal, Socrates is a man, Therefore Socrates is mortal, to highly complex logical syntax. But a word of warning is appropriate here. Logic makes use of concepts that are found in ordinary language, e.g. those of ‘and’ and ‘or’, and relies ultimately for its validity on what we judge to be logically correct. Nevertheless, logical systems are self-coherent and internally consistent models of an idealised kind similar to those of mathematics and are not directly based upon, and therefore cannot be invalidated by, observations of natural language. Consequently, the linguist should be suspicious of talk about the ‘logical basis of natural language’. The logical systems of the logician are far neater and consistent than anything to be found in language. They do not form the basis of language, but are a highly idealised form of a few of its characteristics.

It is also worth mentioning the distinction between science and the philosophy of science. While the scientist may take for granted the validity of his assumptions, his methods and his conclusions, the philosopher of science may question the whole basis on which he works. Such a distinction ought to be valid in linguistics, if the subject is in any sense scientific.
Unfortunately, there is still so little general agreement, especially in semantics, about the aims and the precise nature of the subject, and about the models of description to be used, that much of the discussion is more philosophical than scientific. But the philosophical problems will not be solved in the abstract. It is the essential task of the linguist to make such empirical statements as he can with the techniques and models that he has available. Only then can we usefully turn to consider the theoretical basis of his work.

Anthropologists are concerned with language as an essential part of the cultural and behavioural patterns of the people they study. The linguist would be unwise to ignore the fact that language functions within such patterns, a point that was made very forcibly by Malinowski, whose proposals concerning context of situation are discussed in 3.3. One specific area of anthropological research that has particularly interested students of semantics is that of kinship, for the varied and intricate kinship relations of many societies are revealed in the equally intricate semantic patterns of the kinship terminology (5.7).

The relation between psychology and linguistics is judged so important that it has given rise to a subject called psycholinguistics. Essentially the psychological approach to language lies in the attempt to understand how we process language both in its production and reception. Sadly, we are still very ignorant about many aspects of this, especially in relation to meaning. Nevertheless, it can be said that the role of meaning seems far more important, even in dealing with grammatical issues, than one would have guessed from reading most linguistic works on the subject. For instance, it has been noted that there are problems with understanding sentences in which there is 'self embedding' such as The boy the man the woman loved saw ran away, where the woman loved is embedded in the man saw and the resultant complex further embedded in The boy ran away. Yet it is much easier to interpret The question the girl the dog bit answered was complex. There is clearly no grammatical reason why one should be more difficult than the other, for the grammatical markers make it clear that their grammatical structures are the same. But in the second sentence we have the obvious semantic links of 'girl answering question', 'dog biting girl', 'question being complex' and the process of interpretation is, because of the semantics, very much easier. This strongly suggests that even when the grammar seems quite explicit we rely far more on the meaning to help us with the interpretation.

It is largely through the influence of certain psychologists that behaviourist analyses of meaning have been proposed. One example is to be found in the works of Morris, e.g. Signs, language and behavior (1946). In this book he is concerned with signs and what they denote or signify. Thus if a dog is trained to expect food when a buzzer goes, the food is 'denoted' by the buzzer (though if no food is provided it is not denoted but merely 'signified'). We shall return to discuss in detail this behaviourist approach to meaning later (3.4). It is sufficient here to note that Morris compares the dog/food example with a man who prevents a driver from going along a road where there has been a landslide. Here the man's words are the sign, the landslide what is denoted, and 'the condition of being a landslide at that place' what is signified. But it is very difficult to identify the use of the terms sign, denote, signify here with their use in the example of the dog and its food.

A very different, and less relevant, approach is found in a book entitled The measurement of meaning by Osgood, Suci & Tannenbaum (1957). They attempt to 'measure' the meaning of words such as father in terms of semantic 'space', this space being defined in terms of a twenty-questions-like quiz: 'Is it happy or sad?', 'Is it hard or soft?', 'Is it slow or fast?' The results are plotted on a grid. But clearly this tells us little about meaning in general. It may say something about 'emotive' or 'connotational' meaning (see 5.3) such that politician will rate low and statesman high on the good/bad scale, but that is all.

A more promising approach might at first sight be found in
an altogether different discipline, communication theory. In this theory we have several familiar concepts that are defined technically. The communication system carries INFORMATION and the system can be judged according to the efficiency with which it transmits the information. In particular an efficient system will have minimum REDUNDANCY (parts of the message that can be removed without removing any information) and minimum NOISE (anything at all that interferes with transmission). In language there is a great deal of redundancy and a lot of noise. A simple illustration of the redundancy in the written language is that if the bottom half of a line of print is covered the line can still be read. Noise may be just ‘noise’ in the usual sense, for that interferes with communication, but it can equally be loss of high frequencies on the telephone or radio, bad enunciation or bad handwriting or, in the example above, the covering of the bottom half of the line of print. In fact, there must be redundancy if a message can still be understood when there is noise. In semantics noise may consist of the discrepancies between the speaker’s and the hearer’s understanding – for this will interfere with the transmission of the information. But this theory will not help us a great deal with semantics, for information in the technical sense is not meaning. It is not the effectiveness of the transmission of information that concerns us in semantics, but precisely what that information is intended to be. The human speaker, unlike the communication system, does not merely transmit the message; he also creates it, and we cannot even begin to talk about information in this sense precisely because we cannot quantify or specify precisely what it is that is being ‘transmitted’.

THE SCOPE OF SEMANTICS

In this chapter I shall attempt to clear the way for the consideration, in later chapters, of the various aspects of semantics, first, by discussing (and dismissing) two unsatisfactory views of semantics which, though prima facie plausible, provide no solution to semantic problems and, secondly, by attempting to set out some of the more important distinctions that have to be made.

2.1 Naming

In 1.2 it was suggested that language might be thought of as a communication system with on the one hand the signifier, on the other the signified. But a basic problem is to establish the nature and relationship of these two.

One of the oldest views, found in Plato’s dialogue Cratylus, is that the signifier is a word in the language and the signified is the object in the world that it ‘stands for’, ‘refers to’ or ‘denotes’. Words, that is to say, are ‘names’ or ‘labels’ for things.

This is, prima facie, an attractive view, for it seems that all languages have words or expressions like John Smith, Paris, Wednesday, the so-called proper nouns, whose function is precisely that of naming or labelling. The child learns many of his words by a process of naming. He is often given names of objects by his parents, and his first attempts at language will include saying ‘Da da’ when he sees his father, or producing names for a train, a bus, a cat, etc., on seeing the relevant objects in real life or in a book.

Before we proceed, two terminological points may be made. First, although here and elsewhere we have talked
an altogether different discipline, communication theory. In this theory we have several familiar concepts that are defined technically. The communication system carries information and the system can be judged according to the efficiency with which it transmits the information. In particular an efficient system will have minimum redundancy (parts of the message that can be removed without removing any information) and minimum noise (anything at all that interferes with transmission). In language there is a great deal of redundancy and a lot of noise. A simple illustration of the redundancy in the written language is that if the bottom half of a line of print is covered the line can still be read. Noise may be just 'noise' in the usual sense, for that interferes with communication, but it can equally be loss of high frequencies on the telephone or radio, bad enunciation or bad handwriting or, in the example above, the covering of the bottom half of the line of print. In fact, there must be redundancy if a message can still be understood when there is noise. In semantics noise may consist of the discrepancies between the speaker's and the hearer's understanding - for this will interfere with the transmission of the information. But this theory will not help us a great deal with semantics, for information in the technical sense is not meaning. It is not the effectiveness of the transmission of information that concerns us in semantics, but precisely what that information is intended to be. The human speaker, unlike the communication system, does not merely transmit the message; he also creates it, and we cannot even begin to talk about information in this sense precisely because we cannot quantify or specify precisely what it is that is being 'transmitted'.

In this chapter I shall attempt to clear the way for the consideration, in later chapters, of the various aspects of semantics, first, by discussing (and dismissing) two unsatisfactory views of semantics which, though prima facie plausible, provide no solution to semantic problems and, secondly, by attempting to set out some of the more important distinctions that have to be made.

2.1 Naming

In 1.2 it was suggested that language might be thought of as a communication system with on the one hand the signifier, on the other the signified. But a basic problem is to establish the nature and relationship of these two.

One of the oldest views, found in Plato's dialogue Cratylus, is that the signifier is a word in the language and the signified is the object in the world that it 'stands for', 'refers to' or 'denotes'. Words, that is to say, are 'names' or 'labels' for things.

This is, prima facie, an attractive view, for it seems that all languages have words or expressions like John Smith, Paris, Wednesday, the so-called proper nouns, whose function is precisely that of naming or labelling. The child learns many of his words by a process of naming. He is often given names of objects by his parents, and his first attempts at language will include saying 'Da da' when he sees his father, or producing names for a train, a bus, a cat, etc., on seeing the relevant objects in real life or in a book.

Before we proceed, two terminological points may be made. First, although here and elsewhere we have talked
about words, we often need to talk about sequences of words, usually with a grammatical identity, whole noun phrases for instance. For these the term expression will be used. Secondly, a useful distinction can be made between denotation and reference (Lyons 1977: 206-9), the former being used to indicate the class of persons, things, etc., generally represented by the expression, the latter to indicate the actual persons, things, etc. being referred to by it in a particular context. Thus, cow will denote the class of all cows, but that cow will refer to a particular cow. Unfortunately, there is no consistency among scholars in the use of these terms (and even in this book, when the distinction between ‘sense’ and ‘reference’ (2.3) is made, the term ‘reference’ is not being used in a way that contrasts it with ‘denotation’).

There are, however, many difficulties with this naming view. To begin with it seems to apply only to nouns (or nominal expressions in general); indeed traditional grammar often defines the noun, as distinct from the adjective, verb, preposition, etc., as ‘the name of a person or thing’. It is difficult, if not impossible, to extend the theory of naming to include these other parts of speech. It is possible, no doubt, to label colours, as is done in colour charts, and thus it may be that the colour words (adjectives) can be regarded as names. But this is not at all plausible for most of the other adjectives. Since the beginning of this section I have used the adjectives attractive, relevant, useful, traditional, difficult and plausible. How many of these could be used as a label to identify something that they denote? The point is even more obvious with verbs. It is virtually impossible to identify what is named by a verb. Even if we take a verb like run and attempt to illustrate it with a boy running (either in a still or moving picture) there is no obvious way in which we can isolate the ‘running’ part of it. With a noun we can often draw a picture of the object that is denoted. But this is difficult, if not impossible, with verbs. For let us consider the verb run and an attempt to illustrate what it denotes with a picture of a boy running. There are two difficulties that arise (even if we have a moving picture). First, we are not presented separately with a boy and with ‘running’. We need a fairly sophisticated method of separating the two. Secondly, even in so far as we can distinguish the boy and ‘what he is doing’, it is far more difficult to identify precisely what are the essential characteristics of what is denoted by the verb than what is denoted by the noun. For instance, does running involve only the movement of the feet or are the arms involved too? Does it necessarily involve a change of position? Is the speed relevant? Clearly there is not something that can easily be recognised and identified as ‘running’. The problem is obviously even more difficult with remember, like or see. Similar considerations hold for prepositions (up, under) and conjunctions (when, because), while pronouns (I, he) raise even more severe problems, since they denote different things at different times (2.5, 3.5).

Can we, however, retain the theory of naming, but apply it to nouns alone? An obvious problem, to begin with, is that some nouns, e.g. unicorn, goblin, fairy, relate to creatures that do not exist; they do not, therefore, denote objects in the world. One way out of this difficulty is to distinguish two kinds of world, the real world and the world of fairy stories. But this is, of course, to admit that words are not just names of things, and it must involve some fairly sophisticated explanation of the way in which we can, by some kind of analogy, move from giving names to objects in the world to giving names to objects that do not exist. Such an explanation is possible, but such words are evidence of the fact that words are not simply names of the objects of our experience.

There are other nouns that, while not referring to imaginary items, do not refer to physical objects at all. Thus we cannot identify the objects to be named by love, hate, inspiration, nonsense. When the grammarians speak of nouns being names of things we can ask whether love, hate, etc., are things. If they are inclined to say ‘Yes, but they are abstract things’, it becomes clear that the only reason why they wish to call them things is that they have nouns corresponding to
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Even where there are physical objects that are identifiable, it is by no means the case that the meaning of the relevant word or expression is the same as its denotation. One of the best-known examples to illustrate this point is that of the evening star and the morning star (see 8.4). These can hardly be said to have the same meaning; yet they denote a single object, the planet Venus. Similarly, we may recall Gilbert and Sullivan’s The Mikado where the titles First-Lord of the Treasury, Lord Chief Justice, Commander-in-Chief, Lord High Admiral, Master of the Buck-Hounds and many others all refer to Pooh-Bah. This suggests that it was misleading to begin the discussion by bringing in proper nouns. For while these are used to refer to particular people, places, times, etc., it is debatable whether they have any denotation and they can hardly be said to have meaning. We would not normally ask What does John Smith mean? or What is the meaning of Paris?

Yet another difficulty is the fact that even if we restrict our attention to words that are linked with visible objects in the world around us, they often seem to denote a whole set of rather different objects. Chairs, for instance, come in all shapes and sizes, but precisely what is it that makes each one a chair rather than a settee or a stool? Often the dividing line between the items denoted by one word and those denoted by another is vague and there may be overlap. For when is a hill a hill and not a mountain? Or a stream a river? In the world of experience objects are not clearly grouped together ready, so to speak, to be labelled with a single word. This is a problem that has bothered philosophers from the time of Plato. There are two extreme, but clearly unhelpful, explanations. One is the ‘realist’ view that all things called by the same name have some common property – that there is some kind of reality that establishes what is a chair, a hill, a house. The second, the ‘nominalist’ view is that they have nothing in common but the name. The second view is obviously false because we do not use chair or hill for objects that are com-
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ways, nor is there any overlap between the classes. A gorilla is a gorilla, a lion a lion. The same is true, or very largely true, of the names of insects, plants and even of chemical substances. But these scientific classifications are not typical of everyday experience. Most of the things we see do not fall strictly into one class or another. Moreover, we should not be misled into thinking that we can and should tidy up our terminology by seeking the advice of the scientist. Of course, as literate and educated beings we will be influenced by scientific knowledge and may well refrain from calling a whale a fish or a bat a bird (though why could not fish simply mean ‘a creature that swims in the water’ and bird ‘a vertebrate that flies’?). But we can go too far. Bloomfield (1933: 139) argued that salt could be clearly defined as sodium chloride, or NaCl. He was wrong to do so. Salt, for ordinary language, is the substance that appears on our tables. It is no less salt if its chemical composition is not precisely that of the chemists’ definition. Salt for most of us belongs with pepper and mustard, which do not lend themselves to any simple scientific specification - and neither should salt in its everyday use. Ordinary language differs from scientific language precisely in the fact that its terms are not clearly defined and its classes not rigorously established.

One possible way out of all our difficulties is to say that only some words actually denote objects - that children learn some of them as labels. The others have a meaning that is derived from the more basic use. This is in essence the proposal of Russell (1940: 25, 66 [1962: 23, 63]) who suggested that there are two kinds of word, ‘object word’ and ‘dictionary word’. Object words are learnt ostensibly, i.e. by pointing at objects, while dictionary words have to be defined in terms of the object words. The object words thus have ostensive definitions.

Yet much of what we have already said shows that this can be no solution. For in order to understand an ostensive definition we have to understand precisely what is being pointed at. If I point to a chair and say ‘This is a chair’, it is first of all necessary to realise that I am pointing to the whole object, not to one of its legs, or to the wood it is made of. That may be fairly easily established, but it is also necessary to know what are the characteristics of a chair if the definition is to be of any value. For someone who does not know already what a chair is may well assume from the ostensive definition that a stool or a settee is a chair. He might not even be sure whether the word chair applied equally to a table, since the ostensive definition does not even establish that we are pointing at a chair as something to be sat on, rather than as a piece of furniture. Pointing to an object itself involves the identification of the object, the specification of the qualities that make it a chair or a table. It requires a sophisticated understanding, perhaps even the understanding of the entire categorisation of the language concerned. As the philosopher Wittgenstein (1953: 16) commented, ‘I must already be the master of a language to understand an ostensive definition.’

To return to the child, it is clear enough that he does not simply learn the names of things. For if he did he would be unable to handle all the complexities that we have been discussing. Above all, learning a language is not learning just ‘This is a . . . ’; even less is it saying ‘book’ whenever he sees a book. We shall not solve problems of semantics by looking at a child learning language, for an understanding of what he does raises precisely the same problems as those of understanding what adults do in their normal speech.

In this section we have talked mostly about the meaning of words. But we shall also have to discuss the meaning of sentences (Chapter 6). It is enough here to point out that a naming theory for sentences is no more satisfactory than one for words. We cannot directly relate the meaning of a sentence to things and events in the world. The strongest view which relates sentences to actual things and events, such that There is a horse on the lawn would be used only if there is a horse on the lawn, is obviously untenable, since we can tell lies or make mistakes (there may be no horse on the lawn). A weaker view is to see meaning in terms of the conditions
under which a sentence would be true – the meaning of *There is a horse on the lawn* being thus stated in terms of ‘truth conditions’ involving a certain kind of animal being at a particular time on a specially prepared area of grass. This will be discussed in 8.5.

### 2.2 Concepts

The view we have just been criticising relates words and things directly. A more sophisticated and, at first sight, more plausible view is one that relates them through the mediation of concepts of the mind. This view in all its essentials has been held by some philosophers and linguists from ancient times right up to the present day. Two of the best-known versions are the ‘sign’ theory of de Saussure and the ‘semiotic triangle’ of Ogden & Richards.

According to de Saussure (see 1.2), as we have seen, the linguistic sign consists of a signifier and a signified; these are, however, more strictly a sound image and a concept, both linked by a psychological ‘associative’ bond. Both the noises we make, that is to say, and the objects of the world that we talk about are mirrored in some way by conceptual entities.

Ogden & Richards (1923 [1949: 11]) saw the relationship as a triangle (Figure 1). The ‘symbol’ is, of course, the linguistic element – the word, sentence, etc., and the ‘referent’ the object, etc., in the world of experience, while ‘thought or reference’ is concept. According to the theory there is no direct link between symbol and referent (between language and the world) – the link is via thought or reference, the concepts of our minds.

![Diagram of the semiotic triangle](image)

**Figure 1**

This theory avoids many of the problems of naming – the classifications, for instance, need not be natural or universal, but merely conceptual. But it also raises a completely new problem of its own. For what precisely is the ‘associative bond’ of de Saussure or the link between Ogden & Richards’ symbol and concept?

The most naive answer to the question is to say that it is a psychological one, that when we think of a name we think of the concept and vice versa, i.e. that meaning consists of our ability (and indeed our practice) of associating one with the other, of remembering that *chair* refers to the concept ‘chair’. This view is totally unsatisfactory. It is not clear what exactly is meant by ‘thinking of’ a concept. Some scholars have actually suggested that we have some kind of image of a chair when we talk about chairs. But this is certainly false. I can visualise a chair in ‘my mind’s eye’, but I do not do so every time I utter the word *chair*. If this were a necessary part of talking, it would be impossible to give a lecture on linguistics. For precisely what would I visualise? Moreover, if I have images when I think about linguistics, they will almost certainly be different from those of other people, especially my students! More reasonably, perhaps, what is meant is that I relate my utterance of the word *chair* to some more abstract concept. But that will not help either. For what is this abstract concept – what colour is this chair, what size or shape? In any case we ought not to be interested in what happens on each occasion, but with the more general question of the meaning of *chair*. As a phonetician, I should not be interested in the precise articulation of *chair* except as material for many more general statements of phonetics and phonology. Similarly, as a semanticist, I want to know about the general meaning of *chair*, not what I may or may not think every time I use the word. As we said earlier we are not concerned with particular meanings.

A more sophisticated version sees the link not as something we make every time we use a word, but as some kind of permanent association stored in the mind or in the brain. The
difficulty with this view is that it really says nothing at all. For how can we, even in principle, establish what the concepts are? There is no obvious way in which we can look into our minds to recognise them, and still less a way in which we can look into the minds of others. In effect all this theory is doing is to set up, in some inaccessible place, entities that are by definition mirror images of the words that they are supposed to explain. Wherever we have a word there will be a concept — and the concept will be the ‘meaning of that word’. This is, obviously, a completely circular definition of meaning. It involves what is sometimes called a ‘ghost-in-the-machine’ argument. We wish to account for the working of a machine and present a total explanation in mechanical terms, but for some hypothetical person this is not enough — he cannot understand how this machine could work unless there is some kind of disembodied ghost or spirit inside it. Such an argument accounts for the phenomena by setting up an entity whose existence is justified solely as something that ‘explains’ the phenomena. Science has had many examples of this kind in its long history. Once scholars explained fire by positing the existence of the substance ‘phlogiston’. Of course we can never disprove the existence of such entities. We can only point out that they explain nothing at all, and that, therefore, nothing is gained by arguing for them.

It is, perhaps, hardly necessary to point out that, as with naming, the sentence is no more satisfactorily defined in terms of concepts than the word. Neither the naïve nor the more sophisticated version of the theory is at all helpful. Certainly when I say There is a horse on the lawn there is no reason to suggest that I actually ‘think of’ the concept, while a definition in terms of more abstract, timeless concepts is once again to say nothing at all but merely to interpret meaning by its mirror-image, postulated in an inaccessible place.

Although the philosophical tradition in the English-speaking world has been predominantly empiricist, there are many linguists who accept a conceptualist view of meaning.

2.2 Concepts

This is part of a new mentalism in which a key claim is that intuition and introspection must play a large part in our investigation of language. It is a short and perhaps inevitable step to see meaning in terms of the mental entities called concepts. It is suggested, moreover, that if we are unhappy about postulating the existence of such wholly theoretical entities, we should look for a parallel in theoretical physics, which proposes that there are such unobservable entities as neutrons, and it is argued that there is no more reason to reject the existence of concepts than to reject the existence of neutrons.

This argument must be rejected for three reasons. First, the ghost-in-the-machine objection is overwhelming — nothing is said by moving meaning back one step to the brain or the mind. The position with neutrons is quite different. They are an essential part of the physicist’s framework in that they are necessary for the predictive and explanatory power of his science. By postulating their existence he is able to account for quite specific observable data. But concepts do not explain or predict anything of this kind, and whatever can be said in terms of them can equally be said without them. Whether neutrons ‘exist’, when they are not three-dimensional entities, is a different and purely philosophical question and depends on the definition of existence, but concepts do not have even this claim to existence. Secondly, even if there were concepts in the mind they are in principle inaccessible to anyone but the individual, and we are left therefore with totally subjective views, since I can never know what your ‘meanings’ are. (Of course, if we had the knowledge to investigate the brain scientifically and could account fully for language in the structure of brain cells, both of these objections might be, thereby, overcome, but we are centuries away from such knowledge.) Thirdly, the arguments about intuition and introspection are irrelevant. We can introspect — and ask ourselves questions about our language without actually waiting for empirical data, actual recordings or texts. But in so doing we do not learn more
about our language or its structure; we merely produce for ourselves some more examples of our language. What we do NOT do by this process is establish the phonological or grammatical rules or structures; this comes from the investigation and comparison of a great deal of data (even if those data are all introspective). The same must be true of semantics, and it follows that we should not believe that there are concepts that can merely be discovered if we look in the right place. It is perhaps worth considering that if scientists had continued to rely on 'reason' (i.e. to look for answers to their problems within themselves and their own rational processes) rather than observation, we should still be searching for the philosopher's stone to turn lead into gold.

Finally, in this section it is worth noting that to some extent DUALISM, the view of language described here and in the previous section that sees meaning as part of the signified/signifier relation, is encouraged by the term meaning itself and by the statement that words (and sentences) HAVE meaning. For if this is so it is obviously legitimate to ask what kind of entity meaning is, and to look for it either in the world or in people's minds. But to say that a word has meaning is not like saying that people have legs or that trees have leaves. We are easily misled by the verb have and the fact that meaning is a noun into looking for something that is meaning.

In practice we all know what it is for a word to have meaning. Knowing the meaning of a word means that we can do a number of things - we can use it properly, we can explain it to others in terms of paraphrases or synonyms. But it does not follow from that that there is an entity that is meaning or a whole group of entities that ARE the meaning of words. For a word to mean something is similar in some way to a notion that a signpost points somewhere; we can understand the meaning of a word just as we can read the signpost. But it does not make sense to ask what it is that words mean any more than to ask what it is that signposts point to. It is not sense, that is to say, to ask in GENERAL what words mean or signposts point to. It is sense only to ask 'What does THIS word mean?'; 'What does THIS signpost point to?'.

The problem of semantics is not, then, nor can it be, the search for an elusive entity called 'meaning'. It is rather an attempt to understand how it is that words and sentences can 'mean' at all, or better perhaps, how they can be meaningful. If we are talking of 'having' meaning, it is rather like talking about 'having' length. Having length is being so many feet or inches long; length is not something over and above this. Similarly, meaning is not some entity that words or any other linguistic entities 'have', in any literal sense of 'having'.

Wittgenstein (1953: 31) said 'for a large class of words . . . the meaning of a word is its use in the language'. This is not a very helpful remark since we are perhaps not much clearer about the 'use' of a word than we are about its meaning. But it has some value; we can investigate use, and we are less likely to think of use as something that words 'have' in any literal sense, and less likely to waste our time in an attempt to discover precisely what it is.

2.3 Sense and reference

The term reference has already been used to contrast with denotation (2.1). It is also used in a useful, but wider sense, to contrast with sense, to distinguish between two very different, though related, aspects of meaning.

Reference deals with the relationship between the linguistic elements, words, sentences, etc., and the non-linguistic world of experience. Sense relates to the complex system of relationships that hold between the linguistic elements themselves (mostly the words); it is concerned only with intra-linguistic relations.

It might seem reasonable to argue that semantics is concerned only with the way we relate our language to our experience and so to say that reference is the essential element of semantics. Yet sense relationships have formed an important part of the study of language. For consider the words ram and ewe. These on the one hand refer to particular
kinds of animals and derive their meaning in this way. But
they also belong to a pattern in English that includes cow/
bull, sow/boar, mare/stallion, etc. Older grammars of English
treated this as a part of grammar, because it was clearly
related to sex, and sex was supposedly a matter of gender
(since sex and gender are related in some degree in Latin).
But there are other kinds of related words, e.g. duck/duckling,
pig/piglet (involving adult and young), or father/son, uncle/
nephew (involving family relationships), and these are not
usually thought to be grammatical. They are rather a part of
the 'semantic structure' of English. There are many other
kinds of sense relations, too, e.g. those exemplified by nar-
row/wide, dead/alive, buy/sell; these we shall discuss in some
detail later. The dictionary is usually concerned with sense
relations, with relating words to words, though most dic-
tionaries state such relations in a most unsystematic way
(Chapter 5). It could be argued, though, that the ultimate
aim of the dictionary is to supply its user with referential
meaning, and that it does so by relating, via sense relations, a
word whose meaning is unknown to a word or words whose
reference is already understood.

We have, then, two kinds of semantics, one that deals with
semantic structure and the other that deals with meaning in
terms of our experience outside language. But the situation
should not surprise the linguist, since he has a similar
situation at the other 'end' of his language model, where we
had tentatively placed phonetics (1.2). For linguists distin-
guish between PHONETICS, which deals with speech sounds as
such and describes them in terms of their auditory or acoustic
characteristics or of the articulations of the vocal organs, and
PHONOLOGY, which deals with the sound systems of lan-
guages in terms of the internal relations between sounds. But
we should not push the analogy too far. It is enough to see
that there may be two kinds of semantics, one that relates to
non-linguistic entities, and one that is intra-linguistic.

We are not concerned, however, only with words but also
with sentences. Indeed, most scholars who have dealt with
sense have been primarily concerned with sentence meaning
argues that a semantic theory must explain such sentences as

(1) His typewriter has bad intentions.
(2) My unmarried sister is married to a bachelor.
(3) John was looking for the glasses.
(4) (a) The needle is too short.
     (b) The needle is not long enough.
(5) (a) Many of the students were unable to answer your
     question.
     (b) Only a few students grasped your question.
(6) (a) How long did Archibald remain in Monte Carlo?
     (b) Archibald remained in Monte Carlo for some time.

(1) is an example of an anomalous sentence, (2) of a contra-
dictory one and (3) of an ambiguous one; (4) illustrates
paraphrase or synonymous sentences; in (5) one sentence
follows from the other, while in (6) the first implies or
presupposes the second.

In recent years some linguists have attempted to limit
semantics, both in theory and in practice, to sense relations.
One example is to be found in a well-known article (Katz &
Fodor 1963: 176), where we read 'A semantic theory de-
scribes and explains the interpretive ability of speakers; by
accounting for their performance in determining the number
of readings of a sentence; by detecting semantic anomalies;
by deciding upon paraphrase or synonymous sentences; and
by marking every other semantic property or relation
that plays a role in this ability.' Here there is explicit ref-
ence only to ambiguity ('the number of readings'), anomaly
and paraphrase, but, in a later work, Katz (1972: 45, 47-54)
lists no less than fifteen such relations. The speaker's ability
does not, however, include his ability to relate the sentences
to the world of experience, and indeed Katz & Fodor ex-
plitly exclude from a semantic theory any reference to the
settings of sentences. We shall discuss this view, in some
detail, in 3.2.
It is not always possible to distinguish clearly between sense and reference for the simple reason that the categories of our language correspond, to some degree at least, to real-world distinctions. Whether language determines the shape of the world or vice versa (see 3.1) is probably a ‘chicken and egg’ problem. The fact that we have ram/eve, bull/cow is part of the semantic structure of English, but it also relates to the fact that there are male and female sheep and cattle. But we have to remember (1) that not all languages will make the same distinctions, (2) that there is considerable indeterminacy in the categorisation of the real world - as we saw in our discussion of names, some things (e.g. the mammals) fall into fairly natural classes, others do not. It is because of this that we can distinguish sense and reference, yet must allow that there is no absolute line between them - between what is in the world and what is in language.

2.4 The word

Dictionaries appear to be concerned with stating the meanings of words and it is, therefore, reasonable to assume that the word is one of the basic units of semantics. Yet there are difficulties.

To begin with, not all words have the same kind of meaning as others; some seem to have little or none. In, for instance, Boys like to play it is easy enough to consider what might be the meaning of boys, like and play, but what is the meaning of to? It has been argued that meaning implies choice and that while we can replace boys, like and play by girls, hate and fight, to cannot be replaced by anything, but is wholly predictable in this environment, and so has no meaning at all. The nineteenth-century English grammarian, Henry Sweet (1891: 22) drew a distinction between ‘full’ words and ‘form’ words. Examples of full words are tree, sing, blue, gently and of form words it, the, of, and. It is only the full words that seem to have the kind of meaning that we would expect to find in a dictionary. The form words belong rather to the grammar and have only ‘grammatical’ meaning. Such meaning cannot be stated in isolation, but only in relation to other words and even sometimes to the whole sentence.

The word, moreover, is not a clearly defined linguistic unit. It is to some degree purely conventional, defined in terms of the spaces in the written text. Of course, this spacing is not wholly arbitrary, and there are several sound reasons why we make the divisions as we do. One signal in the spoken language is stress, in that one word seems to allow only one main stress, and we can, for that reason, treat blackbird as a single word, but black bird as two. But there is no complete correlation between the spoken and the written form, as evidenced by The White House, or by compounds such as shoeblack, shoe-horn and shoe polish, all with a single stress. Bloomfield (1933: 178) offered a solution by suggesting that the word is the ‘minimum free form’, the smallest form that may occur in isolation. But this all depends on what is meant by ‘in isolation’. For we shall not normally say the, is, by in isolation. We might, of course, produce these ‘words’ in reply to a question such as What is the second word here? or Did you say ‘a’ or ‘the’? But this just begs the question. We learn to utter in isolation just those items that we have learnt to recognise as words.

Bloomfield also suggested that we should look for an element smaller than the word, a unit of meaning – the morpheme: examples are -berry in blackberry or -y in Johnny. Later linguists were more interested in the status of such words as loved where they could identify the morphemes love- and -d. Here the two elements seem clearly to have the distinct meanings of ‘adore’ and ‘past’. But problems soon arose with words such as took, which appears to be both ‘take’ and ‘past’, yet cannot be segmented in any obvious way into two parts each with its own meaning. The best way to handle this is not in terms of morphemes (i.e. parts of words), but rather by redefining the term word in a different, though not unfamiliar way. We have been using this term in the sense that love and loved are different words. But we could also say
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that they are forms of the same word—the verb ‘to love’ (which, oddly enough, we identify by using two words, to and love). A technical term for the word in this second sense is **LEXEME**. It is lexemes that usually provide dictionary headings. There are not two entries for love and loved, but one only (and this may even include the noun love as well as the verb, though we may not wish to extend the term lexeme in a similar way). If we proceed on these lines we can talk about the meaning of words (i.e. lexemes), and independently of the meaning of grammatical elements such as plural or past tense. Instead of treating loved as the two morphemes love- and -d, we shall analyse it in terms of the lexeme love and the grammatical category of tense. This solution leaves us with the word (defined as the lexeme) as the unit for our dictionary, and completely avoids the problem of identifying the separate elements of took. But we are still left with the status of compounds (see 4.5).

Even if we can identify elements within the word without actually segmenting the word itself, there are still problems about stating the meaning of the elements. The grammatical elements, like the grammatical words we considered earlier, often seem to have little or no meaning. In some cases the meaning seems to be fairly simple and independent, e.g. ‘more than one’ for plural; yet even this is not entirely true, while gender is often only superficially related to sex (see 6.1). Other grammatical elements are almost devoid of any recognisable meaning, e.g. those of case in Latin, which for the most part simply indicate grammatical relations within the sentence—the subject, the object, etc. (6.4).

There are even some elements within words that are not grammatical yet equally have little or no meaning. Bloomfield was particularly concerned about the status of cran- in cranberry, which seems to have no independent meaning and does not occur in any other words. He might well have been concerned with straw- and goose- in strawberry and gooseberry, which have nothing to do with straw or geese. In contrast black- in blackberry can be related both in form and in meaning to the first elements of blackbird and blackboard. An interesting trio is greenfinch, bullfinch and chaffinch. All are names of finches. In greenfinch, green- actually indicates its colour; in bullfinch the first element can be identified, but has little connection with bulls; while the first element of chaffinch seems to have no meaning at all. Even more striking is the fact that there are many words in English that are called PHONAESTHETIC, in which one part, often the initial cluster of consonants, gives an indication of meaning of a rather special kind. Thus many words beginning with sl- are ‘slippery’ in some way—slide, slip, slither, slush, sluice, sludge, etc., or else they are merely pejorative—slattern, slut, slang, sly, sloopy, slovenly, etc. The sk- words refer to surfaces or superficiality—skate, skimp, skid, skim, skin, etc. The reader may consider also the meaning of words beginning with sn-, str-, sw-, tw-, etc. An amusing set is that which ends in -ump; almost all refer to some kind of roundish mass—plump, chump, rump, bump, lump, slump, and even perhaps dump and mumps. But we cannot generalise too far. Not every word with these phonological characteristics will have the meaning suggested, and, moreover, we cannot separate this part and state the meaning of the remainder, e.g. the meaning of -ide in slide or -ate in skate.

There is no consistency about the number of semantic units we may recognise within a word. Although we have ram/ewe, stallion/mare, we have no similar pairs for giraffe or elephant. We have to say male giraffe, female giraffe, or if we know the correct term bull elephant and cow elephant. Such considerations, together with the fact that we have the words cow and calf, may lead us to define bull as male adult bovine animal and to see this as an indication of four distinct elements of meaning in the same word. This point is related to the distinction made by Ullmann (1962: 8off.) between TRANSPARENT and OPAQUE words. Transparent words are those whose meaning can be determined from the meaning of their parts, opaque words those for which this is not possible. Thus chopper and doorman are transparent, but axe and porter...
are opaque. Comparison with other languages, German in particular, is interesting. In English *thimble, glove* and *linguistics* are opaque (the same is true of the equivalent French words, too); in German the corresponding words are all transparent — *Fingerhut* (‘finger-hat’), *Handschuh* (‘hand-shoe’), *Sprachwissenschaft* (‘language-science’). But there are degrees of transparency and opacity. A chopper may indeed be an instrument that chops, but does a screwdriver actually drive screws? What are we to say of *spanner* and *hammer*? The *-er* ending looks as if it is the indication of an instrument, but a spanner spans only in a now obsolete sense of *span* (‘wind up’), while a hammer does not ‘ham’ at all. Similar comments can be made about the *-berry* and *-finch* words that we considered earlier. We can, then, hardly use transparent words to decide what are the semantic elements within opaque ones; we should not wish to argue for the analysis of *thimble* on the basis of *Fingerhut*.

Finally, we must notice that some whole groups of words must be taken together to establish meaning. These are idioms — sequences of words whose meaning cannot be predicted from the meanings of the words themselves. Familiar examples are *kick the bucket, fly off the handle, spill the beans, red herring*. The point is clear if we contrast *kick the table, fly off the roof, spill the coffee, red fish*. Semantically, idioms are single units, but they are not single grammatical units like words, for there is no past tense *kick the bucketed*. There will be a more detailed discussion in 4.5.

Sometimes semantic division seems to ‘override’ word division. Consider, for example, *heavy smoker* and *good singer*. Semantically these are not *heavy + smoker* (a smoker who is heavy) and *good + singer* (a singer who is good). The meaning rather is one who smokes heavily or sings well. We can divide, if we insist, but the first division would have to be between *heavy* and *-er, good* and *-er*, if we want to retain the parallelism between the form and the meaning. An alternative solution would be in terms of deep structure, which would allow the statement of the meaning of *heavy smoker* in terms of *X smokes heavily* (see 6.1). But this might not be so easy with some other rather amusing examples that have been suggested — *artificial florist* and *criminal lawyer*.

All these considerations may suggest that we should abandon the idea that the word is a natural unit for semantics, however useful it may be for the dictionary maker. Bazell (1954 [1966: 339]) commented, ‘To seek a semantic unit within the boundaries of the word simply because these boundaries are clearer than others is like looking for a lost ball on the lawn simply because the thicket provides poor ground for such a search.’ But we cannot proceed without some kind of lexical unit and the lexeme seems the most obvious one, even if its definition may on occasions be arbitrary, and if the meaning of sequences of words is not always (wholly) predictable from the lexemes contained in them.

### 2.5 The sentence

Apart from all the problems concerning the word itself, there is the question whether the basic unit of meaning is not the word after all, but the sentence. For it is, surely, with sentences that we communicate, and this is reflected in the traditional definition of the sentence as ‘the expression of a complete thought’. If words have meaning, it could be argued, it is derived from their function as parts of sentences. Even if referential meaning is established by ostensive definition, such definition is achieved only by sentences of the kind *This is a...*, and such meaning, therefore, is ultimately statable only in terms of the sentence.

The sentence is essentially a grammatical unit; indeed it is the function of syntax to describe the structure of the sentence and thereby to define it. English sentences will consist minimally of a subject noun phrase and a verb phrase as its predicate or complement. Each of these may be a single word as in *Birds fly*. The syntax will determine much more complex structures than this, of course. However, we do not always produce complete sentences even of this minimal kind. It is simple enough to envisage a situation in which someone...
might simply say *Horses*. This could be in reply to a question such as *What are those animals in that field?* Although some scholars have talked of ‘one word sentences’ in describing such expressions, it seems more helpful to treat *Horses* as a sentence fragment and as an incomplete version of *They are horses*; certainly we should need to reconstruct the complete sentence in this way to talk about its meaning. Most fragments are closely linked to their linguistic context and handled in terms of ellipsis (the omission of parts of the sentences). Ellipsis in turn is related to the feature of ‘pro-formation’ (the use of pronouns and similar forms that replace verbs and other parts of speech). All are devices for not repeating everything that has already been established in the discourse. Thus, in *John saw Mary and spoke to her, John is omitted, while Mary is replaced by her in the second half of the sentence. Not all sentence fragments, however, are linked to the previous discourse. *Coming?* or *Coming!* may be used instead of *Are you coming?* or *I’m coming!* Moreover, in actual speech we often fail simply through lapse of memory or inattention to produce complete or grammatical sentences. We break off, we forget how we began, we confuse two or more constructions, etc. Nevertheless, the interpretation of all of these depends upon their relation to the sentences of the grammar. We can only recognise sentence fragments, or incomplete or ungrammatical sentences, if we know what a complete grammatical sentence is.

In spite of the remarks at the beginning of this section, it is useful to think of both words and sentences as having meaning. Moreover, the meaning of a sentence can be predicted from the meaning of the words it contains, or, more strictly, from these words qua lexemes and the grammatical features with which they are associated. (But there has been some debate whether the meaning is to be related to the actual surface structure or some more abstract deep structure – see 6.1.) So each sentence will have a meaning (a ‘literal’ meaning), or, if it is ambiguous like *I went to the bank*, two or more meanings. However, there are other kinds of meaning that are not directly related to grammatical and lexical structure. There is more to the problem of meaning than saying that *The cat sat on the mat means ‘The cat sat on the mat’*. First, a great deal of meaning in the spoken language is carried by the prosodic and paralinguistic features of language – intonation, stress, rhythm, loudness, etc., as well as such features as facial expressions and gestures (which are often called ‘paralinguistic’ in a wide sense of the term). We can, for instance, by the appropriate use of intonation, be sarcastic, so that *That’s very clever* means ‘That’s not very clever’. We can also imply what is not said. Thus *I don’t like coffee* with a fall-rise intonation may well imply ‘I like tea’ and *She’s very clever* may suggest ‘She’s rather ugly’. Or we can indicate that what we are saying is not really true, but is just meant to tease, by winking or even by simply smiling.

Secondly, we can by various devices, including intonation, indicate what is important, contrastive or new. The difference between *I saw John this morning, I saw John this morning and I saw John this morning* does not concern the information itself, but the relation between that information and previous information known to speaker and hearer. The choice of an active or passive sentence, *The car hit the child or The child was hit by the car*, may relate to what it is that we are talking about, and we can draw attention to items by change of word order as in *That one I don’t like* as opposed to *I don’t like that one*.

Thirdly, there is a variety of what are today called ‘speech acts’. We warn, we threaten, we promise, though often without giving any overt indication that we are doing so. The classic example is *There is a bull in the field*, which could be meant as a warning, not simply as a piece of information.

Fourthly (and this is a more general point than the one just made), we can often ‘say’ one thing and ‘mean’ another. To say of a professional athlete or a leader of industry *He is a nice man* may well be meant to suggest that he is not really very good at his profession. In general, giving irrelevant
The scope of semantics information can be taken to suggest that more relevant information would be unfavourable.

Fifthly, there is a problem associated with sentences like *Have you stopped beating your wife?* It is impossible to answer *Yes* or *No* without admitting that you have beaten her in the past. For the question implies or presupposes that you did, though it does not actually say so. Similarly, it has been argued that *The King of France is bald* presupposes that there is a King of France, though it does not assert his existence, while both *I regret that she came* and *I don’t regret that she came* presuppose that she came.

Finally, language is often deeply concerned with a variety of social relations. We can be rude or polite, and the decision to be one or the other may depend upon the social relationship with the person to whom we are speaking. Thus we may ask for silence with *Shut up, Be quiet, Would you please be quiet?*, *Would you keep your voice down a little please?* The choice depends on whether we wish to be rude or not – and this relates to the status of the person addressed. Some parts of language are wholly social and carry no information (even if we include giving orders, etc., within information) at all. Examples are *Good morning, How are you?*, and all the Englishman’s remarks about the weather. In some societies replies and questions are often about the family, but no real information is being sought – the speaker does not want to know about the health of the family of the man he is talking to, but is simply making social contact. Even a great deal of ‘small talk’ at parties is really of the same kind. It is not intended to transmit information, but is simply part of the social activity. As W. S. Gilbert said (*Patience*):

> The meaning doesn’t matter
> If it’s only idle chatter
> Of a transcendental kind.

Lyons (1977: 643) has suggested that we should draw a distinction between sentence meaning and utterance meaning, the sentence meaning being directly predictable from the grammatical and lexical features of the sentence, while utterance meaning includes all the various types of meaning that we have just been discussing. The distinction is a useful one, but there are two reservations. First, we cannot always clearly decide what is sentence meaning and what is utterance meaning. In principle it could be argued that the intonation of a sentence is part of its grammatical form, and that intonation signals sentence meaning, not utterance meaning, a sarcastic intonation having the same function as a negative. Yet in practice the prosodic and paralinguistic features are so varied and so variable in what they signal that it is advisable not to attempt to include them within the grammatical analysis. Equally it could be argued that presuppositional meaning is contained in the lexical and grammatical characteristics of the sentence: *stop* includes in its meaning that the activity was being carried on previously, while any noun phrase, such as *The King of France*, indicates that the item referred to exists (see 7.4). Secondly, the term ‘utterance’ is a little misleading. Utterances are usually taken to be unique speech events and no two utterances are the same. But the linguist is concerned with making generalisations about them and should not be misled by Heraclitus’ dictum ‘You can’t step into the same river twice.’ When he generalises, he talks about sentences. If then I say ‘It’s a fine day’, although this may be a single utterance, it is interesting only as an instance of the sentence *It is a fine day*. Indeed an utterance cannot even be recognised (though it can be stored on a tape) without being presented in sentence form. What Lyons means by utterance meaning, then, is the part of the meaning of a sentence that is not directly related to the grammatical and lexical features, but is obtained either from associated prosodic and paralinguistic features or from the context, linguistic and non-linguistic, in which it occurs. But he is still generalising. He is not concerned with a particular utterance ‘There is a bull in the field’ which was uttered as a warning at a particular time by a particular person, but with *There is a bull in the field*, or at least with the CLASS of utterances that can be identified in
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terms of the sentence *There is a bull in the field* and are used as a warning. With these reservations the distinction is a useful one, and I shall use 'Utterance meaning' as the title of Chapter 7, where all the types of meaning that we have been considering will be discussed in detail.

For some scholars it is not the sentence but the proposition that is the basic unit of semantics. One reason for this is the belief that semantics must be truth-conditional, and that propositions, unlike sentences, can always be characterised as true or false (see 8.5). One argument in favour of the distinction is that a sentence such as *I was there yesterday* may be uttered at different times and different places by different people, and may, for instance, assert that Bill Smith was in London on 18 January 1980 or that Mary Brown was in Bristol on 18 August 1981. This sentence cannot, therefore, be said to be true or false, but the various propositions that it states (concerning Bill Smith and Mary Brown) can be. Logic, moreover, which is truth-conditional, is not concerned with the grammatical and lexical forms of the sentence, but essentially with its propositional meaning. Thus *Every boy loves some girl* is grammatically unambiguous, but for the logician it expresses two quite distinct propositions - either that every boy loves a different girl or that every boy loves the same girl. This is important because different logical inferences can be drawn from these distinct propositions.

It has also been pointed out that we seem to distinguish between sentences and propositions in the distinction between direct and indirect speech. Thus, while *John said 'I'll come on Tuesday'* is true only if 'I'll come on Tuesday' were his actual words, *John said he would come on Tuesday* is true if the information is correct. John may have said 'I'll be there on Tuesday' or he may have spoken in French. The verb *say* is thus ambiguous: it may refer either to the actual words that were spoken (which will be shown in quotation marks) or to the propositional content of the words uttered (usually introduced by *that*).

There are, however, grave difficulties in restricting semantics to propositions. To begin with, all the kinds of utterance meaning that we have discussed will be outside semantics. More seriously, we shall be restricted to statements, while questions and commands are excluded even though, in actual language, questions and commands are just as important as statements. Language is not simply concerned with providing information. We should have nothing to say, moreover, concerning modality (6.8) - the judgments we make about possible states of affairs as in *John may be in his office*, which indicates the speaker's attitude towards the probability of John being in his office. Even the argument concerning *I was there yesterday* can be turned on its head and used against the notion of proposition, for there are very serious doubts whether sentences containing words such as *I, there* and *yesterday* (these are called deictics - see 3.5), which take their meaning from the context, can ever be accurately stated in propositional terms. If that is so, semantics restricted to propositions will be extraordinarily limited, for ordinary language is full of such deictic terms.

Finally, it is obvious that when we wish to refer to propositions we normally do so in terms of sentences - as is clear from all our examples. Even if logical formulae are used, they are no more than translations of sentences into a logical 'language'. This should make us wonder whether propositions are either necessary or justified. The only real advantage they offer is that they may avoid some ambiguities, but that can be done no less easily by talking about 'sentences with a particular interpretation', by recognising, that is to say, and indicating precisely, those ambiguities that may be troublesome.
3 Context and reference

This is the first of two chapters to deal with lexical semantics. Its unifying theme is the idea that we can state the meaning of words in terms of their association with other words.

4.1 Paradigmatic and syntagmatic

Many of the basic ideas in this chapter derive from de Saussure's notion of value. He pointed out (1916: 153 [1959: 110]) that a knight on a chess board is a knight not because of any inherent quality (shape, size, etc.), but because of what it can do in relation to the other pieces on the board. He stressed this relational aspect of language, saying that there were 'only differences and no positive terms'. For instance, he argued that sheep in English has a different value from mouton in French because English has also the word mutton. Similarly, plural in Sanskrit has a different value from plural in French (or English), because in Sanskrit it belongs to the three-term system singular, dual, plural, while in French it belongs to a two-term system of singular and plural only. He further argued that if we consider synonyms such as dread, fear, be afraid of, we can say that if one of these did not exist its 'content' would go to one of the others; in other words, the field of 'fearing' is divided among three verbs (or more, of course, in actual fact), but if one were absent it would be divided between two only.

De Saussure also made the distinction between paradigmatic and syntagmatic relations. The paradigmatic relations are those into which a linguistic unit enters through being contrasted or substitutable, in a particular environment, with other similar units. The examples we have been
considering are all of a paradigmatic kind. Syntagmatic relations are those that a unit contracts by virtue of its co-occurrence with similar units. Thus, in a red door and a green door, red and green are in a paradigmatic relation to each other, while each is in a syntagmatic relation with door.

4.2 Semantic fields

In the discussion of semantic fields in this section we shall be concerned with paradigmatic relations (but see 4.4). The most famous example of field theory is that of Trier (1934) who compared the field of the 'intellectual' aspect of the German of around 1200 with that of around 1300, though there are some doubts about the accuracy of Trier's observations (see Ullmann (1962) for details). In the earlier period the field was divided into kunst and list, the former referring to courtly qualities and the second to non-courtly skills. The term wisheit was used to cover the whole. In the later period, however, the field was divided into three - wisheit 'religious experience', kunst 'knowledge' and wizzen 'art' (one new term, one term lost and wisheit now only one part, not the whole). This is shown diagrammatically in Figure 2.

Trier's example compared a single language at two different periods. We can also compare two languages to see the way in which they divide up a particular field. An often quoted example is that of colour terms. The Danish linguist Hjelmslev (1953: 33), argued that we could compare the colour system of English and literary Welsh along a single dimension (Figure 3). We shall discuss colour in more detail in 4.3.

There are many other similar examples. Nida (1964: 50) discusses, in terms of 'class', the words in a Mexican language for noise; there are six 'noise' words, referring to children yelling, people talking loudly, people arguing (or turkeys gobbling), people talking angrily, increasing noise and funeral noise. Similarly he noted in Maya three words for searching, (a) to select good from bad, (b) to search in a disorderly way, (c) to search in an orderly way; and in Shilluk (Africa) three 'break' words, one for breaking sticks, etc., one for string, one for eggs. We can add to this list a number of familiar classes: the metals iron, copper, etc., the mammals lion, tiger, etc., types of motor-car and so on.

In all these examples we have a list of words referring to items of a particular class dividing up a semantic field. In almost all cases, moreover, the words are incompatible. We cannot say This is a red hat and of the same object This is a green hat. Nor shall we allow a creature to be described both as a lion and as an elephant. The incompatibility of terms within a linguistic field is often clearly indicated in language. Thus It was on Saturday that she went there implies that she did not go there on Monday or any other day of the week (but not that she did not go there in August), while Bill punched Mary (with contrastive stress) implies that he did not kick her
or slap her: punch, kick and slap all belong to the same semantic field (Lyons 1977: 288). We can, however, recognise terms that seem to be mixtures: a hat can be orange-red, while a tigon is the cross between a lion and a tiger. But by introducing such terms we merely increase the words within the field and divide the field up more finely. In some cases the distinction between the terms in the field is clear, and reflected by clear distinctions in experience; this is so, with few exceptions, with the animal names. In other cases, e.g. Nida’s ‘noise’ words, the distinctions are far more blurred.

Generally, too, the items in the field are ‘unordered’; that is to say there is no natural way, as far as their meaning is concerned, of arranging them in any kind of order. If we wanted to list them we should probably do so in alphabetical order. Admittedly, the scientist will have a framework for the classification of metals or mammals, but that is a different matter; there is no way in which, in terms of an obvious meaning characteristic, we can arrange elephant, giraffe, rhinoceros. But there are some groups of words that seem to have some ‘order’. The days of the week and the months of the year form sets of incompatible items, for we cannot say This month is November and it is also March. But they also have sequential relations such that Sunday comes immediately before Monday – Sunday is the day before Monday, etc. Similarly, measurements such as inch, foot, yard can be put in order, starting from the smallest one. The numerals one, two, three, etc., are another obvious example. Nida quotes a rather different counting system from a Brazilian language in which the terms are (roughly translated) ‘none’, ‘one or two’, ‘three or four’, ‘many’. The field is divided very differently from the way in which it is divided in other languages, but the basis of the sequencing, involving the notion of ‘more than’, is clearly the same.

4.3 Colour systems
A whole section is devoted to colour here because, while it has been handled in terms of field theory, it raises some interesting general problems of semantics.

We saw that Hjelmslev proposed a simple one-dimensional field that is said to be divided up differently by English and literary Welsh. He was thus able to place the colours in order. Yet this does not seem to be reflected in the language. We have no adjective to say that Red is more — than orange and Orange is more — than yellow, etc. The ordering is not reflected in English as is that of the days of the week or the months of the year. But if we are to look for the physical characteristics of colour, Hjelmslev’s account says too little rather than too much. Colour is not to be accounted for in terms of a single dimension. It involves three variables. The most obvious is that of hue, which can be measured in wave-lengths and is seen in the spectrum or the rainbow. Another is luminosity or brightness and a third saturation, the degree of freedom from white. Thus pink differs from red mainly in that it has low saturation (it has a lot of white in it). We probably think of colour mainly as hue, but this may not be true of all societies. It has often been noted that Homer referred to the sea as ‘wine-coloured’, which is very odd if we think of its hue, but completely understandable if we think of its luminosity and saturation, which are very similar to those of a deep red wine.

It does not appear, however, that there is always a close relation between these physical features and the colour system of a particular language. Thus in a language of the Philippines, Hanunoo, described by Conklin (1955), there are four basic colour terms that may be roughly translated ‘black’, ‘white’, ‘red’ and ‘green’. But the distinctions between them are of three kinds. First, light and dark essentially distinguishes ‘black’ and ‘white’ (all light tints being ‘white’, but violet, blue, dark green, being ‘black’). Secondly, the distinction between ‘red’ and ‘green’ is largely in terms of the fact that all living plants are ‘green’, even slimy but light brown bamboo shoots. Thirdly, a distinction is made in terms of deep indelible colours ‘black’ and ‘red’
versus the weaker 'white' and 'green'. It is clear that the colour system is not solely based upon the physical features of colour, but is partly determined by the cultural needs, the need, for instance, to distinguish living and dead bamboo, one 'green' the other 'red'.

Even in English colour words are not always used in ways that correspond to their scientific definition. The use of green has some similarity to that found in Hanunóo, since dried peas are green in colour, but would not be referred to as green peas, while green is often used of unripe fruit - it may seem odd, but I should be understood, if I referred to some green-gages as being 'still green' and therefore inedible. Similarly (see 4.5), white is brown when relating to coffee, yellow when referring to wine and pink as applied to people. Modern Welsh, more surprisingly, has colour terms corresponding to those of English (not the older system described by Hjelmslev), yet uses the word glas to refer to grass and other growing things, though glas otherwise translates English blue.

Of course, some of these usages are rather specialised and a matter of particular collocations (see 4.4). The fact that I talk of white coffee does not suggest that I cannot use white in its stricter sense, any more than the fact that huntsmen refer to their bright red jackets as 'pink' suggests that they are colour-blind. Nevertheless, together with the observations of Hjelmslev and Conklin, we might well conclude that different languages deal with the field of colour in radically different ways.

A completely opposite view of colour terms is presented by Berlin & Kay (1969). On the basis of investigation into ninety-eight languages, with detailed research into twenty of them, they claim that there is a universal inventory of only eleven colour categories, from which all languages derive eleven or fewer basic colour terms. English has eleven - white, black, red, green, yellow, blue, brown, purple, pink, orange and grey. They also claim that there is a partial ordering of these categories, so that it can be predicted that, if a language has a certain colour term, it will have certain other ones. There is a simple rule:

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[ white ] < [ red ] < [ green ] < [ blue ] < [ brown ] < [ purple ]
[ black ] < [ yellow ] < [ pink ] < [ orange ] < [ grey ]
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The sign < means that if a language has a term to the right it will have all the terms to the left. Thus, if it has 'green', it will have 'red', and, if it has 'brown', it will have 'blue'. Some of the terms are not ordered, but grouped together. In fact, all languages have 'black' and 'white', but some languages have 'green' without 'yellow' and others 'yellow' without 'green'. The last four colour terms usually occur together, although some languages have fewer than all four. The rule gives us a possible set of only twenty-two language types, though several of those that involve the last four terms are not attested. As examples, we are told that some languages of the New Guinea Highland group are Type 1 with only 'black' and 'white', while Plains Tamil (India) is Type 6 with 'white', 'black', 'red', 'green', 'yellow' and 'blue'. More recently Kay (1975) has slightly modified the system and the rule, to allow for 'grue' which combines 'green' and 'blue', but this is a matter of detail that does not affect the main argument. It is also suggested that we may set up seven evolutionary stages of language, according to the number of colour terms, and it is said that there is some evidence that children acquire colour terms in the same order.

Of course, if one language has only two or three colour terms, the range of each term is likely to be much wider than that of a language with the total of eleven. 'Black' will probably include all the dark reds, browns, greens, blues and purples, which the other languages will distinguish. This might seem to make it impossible to identify colours across languages and to support a view of the kind suggested by
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Hjelmslev. But Berlin & Kay argue that their informants were able to recognise not only the full range of each colour term, but also its focus, the most typical example of the colours represented by the term. Thus, in a language with three terms only, ‘red’ will spread over a much wider area than that of red in English, but the foci will be very similar; and we can thus establish, for all the languages, a set of focal areas for the colour categories within which the foci for the colour terms will be found. These generalised foci are, moreover, discrete, except that there is a slight overlap for ‘yellow’ and ‘orange’ (Tzeltal and Cantonese ‘yellow’, Arabic and Swahili ‘orange’), and take up only a small part of the total area of colour.

Berlin & Kay argue that colour categorisation in languages is not random and that their results argue against any ‘strict relativity hypothesis’ in favour of a ‘weak universalist one’. The notions of focus, of a limited set of basic terms and of their partial ordering are clearly in direct conflict with any view that says that colour is categorised arbitrarily in different languages.

Their claims are not accepted by all scholars. They themselves are aware of some counter-examples, e.g. that Russian and Hungarian have twelve basic terms: Russian has two for ‘blue’ and Hungarian two for ‘red’. There is also some question whether we really can distinguish basic colour terms from other colour terms in a language, though they offer some fairly plausible tests for this. There are problems with the data too. Direct evidence was available for speakers of only twenty languages and these, with one exception, all lived around San Francisco and may well have adapted their native systems to that of English or been influenced by modern fashions in colour. In particular, it is even possible that the measure of agreement concerning foci has resulted from the world-wide use of modern synthetic dyes (McNeill 1972).

Moreover, some colours are more obviously familiar in our experience. Red is the colour of blood, green of living plants, blue of the sky and the sea, and it would be curious, therefore, if a language lacked terms for these, but had a word for ‘orange’.

Colour terminology is interesting and important in semantics because it is one of very few areas in which it is possible to compare a linguistic system with a system that can be both delimited and analysed in objective (physical) terms, though even here it must be conceded that the psychological recognition of colours may well not accord very closely with their physical characteristics. (Another area in which it is possible to compare the linguistic system with some kind of objective ‘reality’ is that of kinship; see 5.7.) This makes it possible to investigate the opposing claims of Hjelmslev and Berlin & Kay. It raises, as we have noted, the issue of the universality of semantic categories. We shall return to this in 5.8.

4.4 Collocation

Field theory as proposed by Trier is essentially concerned with paradigmatic relations. About the same time Porzig (1934) argued for the recognition of the importance of syntagmatic relations, between e.g. bite and teeth, bark and dog, blond and hair. In a slightly different way Firth (1951: 124[1957a: 195]; 1957b: 11[1968: 179]) argued that ‘You are constrained, to some degree, to see colours as we do and so to label them in a somewhat consistent fashion. But we should not ignore the cultural relevance of colour categorisation. Even where languages have the ‘same’ terms, they may not apply them to exactly the same range of colours. Thus, the traditional Japanese ‘red’ and ‘blue’ would be orange and turquoise in English (because those were the colours of the vegetable dyes they used). Similarly, the Navaho system of basic colours ‘white’, ‘black’, ‘red’, ‘blue-green’ and ‘yellow’ is related to the use of objects and colours used in ceremonials (McNeill 1972).

Moreover, some colours are more obviously familiar in our experience. Red is the colour of blood, green of living plants, blue of the sky and the sea, and it would be curious, therefore, if a language lacked terms for these, but had a word for ‘orange’.

Colour terminology is interesting and important in semantics because it is one of very few areas in which it is possible to compare a linguistic system with a system that can be both delimited and analysed in objective (physical) terms, though even here it must be conceded that the psychological recognition of colours may well not accord very closely with their physical characteristics. (Another area in which it is possible to compare the linguistic system with some kind of objective ‘reality’ is that of kinship; see 5.7.) This makes it possible to investigate the opposing claims of Hjelmslev and Berlin & Kay. It raises, as we have noted, the issue of the universality of semantic categories. We shall return to this in 5.8.
shall know a word by the company it keeps. His familiar example was that of ass which occurred (in a now defunct variety of English) in You silly —, Don't be such an — and with a limited set of adjectives such as silly, obstinate, stupid, awful and (occasionally!) egregious. For Firth this keeping company, which he called COLLOCATION, was part of the meaning of a word. As we have seen, meaning was also to be found in the context of situation and all the other levels of analysis as well.

It is, of course, obvious that by looking at the linguistic context of words we can often distinguish between different meanings. Nida (1964: 98), for instance, discussed the use of chair in:

(1) sat in a chair
(2) the baby's high chair
(3) the chair of philosophy
(4) has accepted a University chair
(5) the chairman of the meeting
(6) will chair the meeting
(7) the electric chair
(8) condemned to the chair

These are clearly in pairs, giving four different meanings of the word. But this does not so much establish, as illustrate, differences of meaning. Dictionaries, especially the larger ones, quite rightly make considerable use of this kind of contextualisation.

Collocation is not simply a matter of association of ideas. For, although milk is white, we should not often say white milk, though the expression white paint is common enough. Some of Porzig's examples seem more concerned with association of ideas. How often, one wonders, is lick actually collocated with tongue? More importantly, perhaps, although collocation is very largely determined by meaning, it is sometimes fairly idiosyncratic and cannot easily be predicted in terms of the meaning of the associated words. One example is Porzig's blond with hair. For we should not talk about *a blond door or *a blond dress, even if the colour were exactly that of blond hair. Similarly rancid occurs only with bacon and butter, and addled with brains and eggs, in spite of the fact that English has the terms rotten and bad and that milk never collocates with rancid but only with sour. We shall see (6.5) that pretty child and buxom neighbour would normally refer to females; here it is relevant to point out that we should not normally say pretty boy or buxom man, though pretty girl and buxom woman are quite normal. This characteristic of language is found in an extreme form in the collective words — flock of sheep, herd of cows, school of whales, pride of lions, and the rather more absurd examples such as chattering of magpies, exaltation of larks. Here we should also include dog/bark, cat/mew, sheep/bleat, horse/neigh, etc.

It is also the case that words may have more specific meanings in particular collocations. Thus we can speak of abnormal or exceptional weather if we have a heat wave in November, but an exceptional child is not an abnormal child, exceptional being used for greater than usual ability and abnormal to relate to some kind of defect (though, oddly, for 'euphemistic' reasons, exceptional is now being used by some people, especially in America, in place of abnormal).

It would, however, be a mistake to attempt to draw a clear distinguishing line between those collocations that are predictable from the meanings of the words that co-occur and those that are not (though some linguists have wished to restrict the term collocation to the latter). For one can, with varying degrees of plausibility, provide a semantic explanation for even the more restricted collocations, by assigning very particular meanings to the individual words. Thus it could be argued that rancid is to be defined in terms of the very specific, unpleasant, taste associated with butter and bacon that is 'off', that pretty describes only a feminine kind of beauty. We can also redefine our terms. We can thus explain white coffee, white wine and white people by suggesting that white means something like 'with the lightest of the normal colours associated with the entity'. There is some
plausibility in accounting for dogs bark, cats mew in terms of
the kind of noise made, since bark can also be used of other
animals, e.g. squirrels. This should not, however, lead us to
conclude that all of these restricted collocations can be
accounted for semantically. For, not only is some of the
semantic explanation a little implausible, but there are other
examples where it would seem totally inappropriate. It is
difficult to see any semantic explanation for the use of the
collective terms. The only difference between herd and flock
is that one is used with cows and the other with sheep.

In any case, it is often difficult, even in principle, to decide
whether a collocation is or is not semantically determined,
because the meaning of one of the collocated terms seems to
depend upon the collocation. Thus Porzig (1934: 78) noted
that the German verb reiten 'to ride' was originally restricted
to riding a horse, but can now be used to denote sitting
astride a beam. By contrast, the English verb ride is now used
for riding a bicycle, but not sitting astride a beam (Lyons
1977: 263). We can see in these examples a widening of both
the meaning and of the collocation, but it would be difficult
to decide which of these two is the more basic. It might seem
reasonable, at first, to say that the widening of the meaning
has permitted the new collocation, but it is not obvious how
the widened meanings can be stated except in terms of the
new collocations – 'riding' the beam, riding a bicycle.

Another difficulty that arises from any attempt to separate
collocation and semantics is the fact that a word will often
collocate with a number of other words that have something
in common semantically. More strikingly (for negative ex­
amples often make the point more clearly), we find that
individual words or sequences of words will not collocate
with certain groups of words. Thus, though we may say The
rhododendron died, we shall not say The rhododendron passed
away, in spite of the fact that pass away seems to mean 'die'.
But equally, of course, we should not use pass away with the
names of any shrubs, not even with a shrub whose name we
had heard for the first time. It is not very plausible to say that:

pass away indicates a special kind of dying that is not charac­
teristic of shrubs. It is rather that there is a restriction on its
use with a group of words that are semantically related. The
restrictions are, it has been suggested (McIntosh 1961), a
matter of range; we know roughly the kind of nouns (in
terms of their meaning) with which a verb or adjective may
be used. So we do not reject specific collocations simply
because we have never heard them before – we rely on our
knowledge of the range.

We can, perhaps, see three kinds of collocational restric­
tion. First, some are based wholly on the meaning of the item
as in the unlikely green cow. Secondly, some are based on
range – a word may be used with a whole set of words that
have some semantic features in common. This accounts for
the unlikeliness of The rhododendron passed away and equally
of the pretty boy (pretty being used with words denoting
females). Thirdly, some restrictions are collocational in the
strictest sense, involving neither meaning nor range, as
added with eggs and brains. There are borderline cases. It
might be thought that rancid may be used with animal pro­
ducts of a certain type – perhaps butter and bacon have
something in common. But why not rancid cheese or rancid
milk?

4.5 Idioms

We cannot predict, for any given language, whether a par­
ticular meaning will be expressed by a single word or by a
sequence of words. Thus English PUNCH and KICK have to be
translated into French with donner un coup de poing and
donner un coup de pied. In these French examples we clearly
have instances of collocations that involve some association
of ideas, and the meaning of the entire expression can be
predicted from the meaning of the individual words.

Idioms involve collocation of a special kind. Consider, for
instance, kick the bucket, fly off the handle, spill the beans, red
herring. For here we not only have the collocation of kick and
the bucket, but also the fact that the meaning of the resultant
combination is opaque (2.4) – it is not related to the meaning of the individual words, but is sometimes (though not always) nearer to the meaning of a single word (thus kick the bucket equals die).

Although an idiom is semantically like a single word it does not function like one. Thus we will not have a past tense *kicked the bucket. Instead, it functions to some degree as a normal sequence of grammatical words, so that the past tense form is kicked the bucket. But there are a great number of grammatical restrictions. A large number of idioms contain a verb and a noun, but although the verb may be placed in the past tense, the number of the noun can never be changed. We have spilled the beans, but not *spill the bean and equally there is no *fly off the handle, *kick the bucket, *put on good face, *blow one’s top, etc. Similarly, with red herring the noun may be plural, but the adjective cannot be comparative (the *er form). Thus we find red herrings but not *redder herring.

There are also plenty of syntactic restrictions. Some idioms have passives, but others do not. The law was laid down and The beans have been spilled are all right (though some may question the latter), but *The bucket was kicked is not. But in no case could we say It was the — (beans that were spilled, law that was laid down, bucket that was kicked, etc.). The restrictions vary from idiom to idiom. Some are more restricted or ‘frozen’ than others.

A very common type of idiom in English is what is usually called the ‘phrasal verb’, the combination of verb plus adverb of the kind make up, give in, put down. The meaning of these combinations cannot be predicted from the individual verb and adverb and in many cases there is a single verb with the same or a very close meaning – invent, yield, quell. Not all combinations of this kind are idiomatic, of course. Put down has a literal sense too and there are many others that are both idiomatic and not, e.g. take in as in The conjuror took the audience in, The woman took the homeless children in. There are even degrees of idiomaticity since one can make up a story, make up a fire or make up one’s face. Moreover, it is not only
In this chapter we shall be looking at some relations between words that are of a semi-logical kind, those that are, on a narrow interpretation, ‘sense’ relations. (For an excellent discussion see Lyons 1968.)

5.1 Some simple logic
Since some of the relations we are to consider are of a logical (or semi-logical kind) it would be useful to have some simple way of formalising them. This will be done in a simplified form of predicate calculus (see 6.6 and 8.3).

If we take a simple sentence such as John is a man we have a predication in which it is said of the individual John that he has the property of being a man. It is possible to symbolise this with $\text{M}(a)$, where $\text{M}$ stands for the predicate ‘is a man’ and $a$ refers to the individual ‘John’. We can extend this symbolism to deal with relations where more than one individual is concerned. Thus John loves Mary may be symbolised as $\text{L}(a,b)$, where $\text{L}$ stands for the predicate ‘loves’ and $a$ and $b$ for ‘John’ and ‘Mary’. The difference between this and the previous formula is that we have not one, but two, arguments, $a$ and $b$. It is important to add that the arguments are ordered, since John loves Mary ($\text{L}(a,b)$) is not the same as Mary loves John ($\text{L}(b,a)$). Other predicates may take even more arguments, e.g. give has three. Thus John gave Mary a book may be shown as $\text{G}(a,b,c)$.

The purpose of this symbolisation, however, is to show relations that hold between sentences (or propositions). Thus we might want to say that, if John is a bachelor, he is unmarried. This could be achieved by $\text{B}(a) \rightarrow \text{U}(a)$, where the
house, whose meaning is ‘inn’. This is not a total idiom like red herring, since the meaning can in part be related to public and house, but one could certainly not predict from the words themselves the existence of the compound. Then there are words such as blackbird and greenhouse which are similarly formed from other words, also without the possibility of predicting that they could be formed with their particular meanings. But the distinction between what is one word and what is two is not wholly clear (see 2.4). Finally, there are the derivatives, words formed by the use of suffixes, which differ from the grammatical formations in that they are not regular, either in formation or semantics. Thus we can contrast boy/boyish with the purely grammatical boy/boys. Here, too, we cannot predict that a form will exist with a certain meaning for though we have boyish, girlish, childish, etc., there is no *dogish or *catish. Nor shall we find a constant meaning associated with any one suffix. Chomsky (1970: 212) notes that readable is more restricted in meaning than ‘able to be read’ and that there are other restrictions with other words ending in -able (commendable, abominable, irreplaceable, incomparable, despicable, decidable, laudable, insufferable, noticeable, changeable, etc.).

In all these cases there is a degree of idiomaticity. It might be added, too, that even where we have transparency in Ullmann’s terms (see 2.4), there may still be some idiomaticity, though this depends on precisely what is meant by that term. Consider again chopper (vs. axe) and German Fingerhut (vs. thimble). There are two issues here. First, in neither case can we predict that the form will occur (for we have no transparent -er forms for hammer or chisel). Secondly, the meaning is almost wholly predictable in chopper, but has to be inferred or guessed in Fingerhut. The first issue is perhaps more a matter of collocation, the latter of idiomaticity. This is not, however, to say that we can make no generalisation about the semantics of derivatives and compounds. On the contrary, a great deal can be said; indeed books have been written on the subject.

LEXICAL SEMANTICS: SENSE RELATIONS

In this chapter we shall be looking at some relations between words that are of a semi-logical kind, those that are, on a narrow interpretation, ‘sense’ relations. (For an excellent discussion see Lyons 1968.)

5.1 Some simple logic

Since some of the relations we are to consider are of a logical (or semi-logical kind) it would be useful to have some simple way of formalising them. This will be done in a simplified form of predicate calculus (see 6.6 and 8.3).

If we take a simple sentence such as John is a man we have a predication in which it is said of the individual John that he has the property of being a man. It is possible to symbolise this with M(a), where M stands for the predicate ‘is a man’ and a refers to the individual ‘John’. We can extend this symbolism to deal with relations where more than one individual is concerned. Thus John loves Mary may be symbolised as L(a,b), where L stands for the predicate ‘loves’ and a and b for ‘John’ and ‘Mary’. The difference between this and the previous formula is that we have not one, but two, arguments, a and b. It is important to add that the arguments are ordered, since John loves Mary (L(a,b)) is not the same as Mary loves John (L(b,a)). Other predicates may take even more arguments, e.g. give has three. Thus John gave Mary a book may be shown as G(a,b,c).

The purpose of this symbolisation, however, is to show relations that hold between sentences (or propositions). Thus we might want to say that, if John is a bachelor, he is unmarried. This could be achieved by B(a) → U(a), where the
symbol → indicates entailment. B stands for 'bachelor' and U for 'unmarried', and the whole formula says that John is a bachelor entails John is unmarried. However, since our purpose here would be to discuss the relation between bachelor and unmarried, we want rather to say that for ANY individual, not just John, being a bachelor entails being unmarried. Instead of using a, b and c (individual constants), which refer to specific individuals, we use the letters x, y, z as individual variables to refer to any individual and we further introduce the universal quantifier ∀('for all'). We can now symbolise ∀x (B(x) → U(x)), which is to be read 'For all x, if x is a bachelor, x is unmarried'. We might further wish to treat unmarried as 'not-married', and this can be done by using the sign for negation, ~: ∀x (B(x) → ~ M(x)) (where M stands for 'married').

Where we have predicates with two or more arguments (two- and many-place predicates), we can regard the predicates as expressing relations between the arguments. With two-place predicates the relations may be characterised in several ways, notably in terms of being symmetric, transitive and reflexive. A relation is symmetric if it holds for the arguments in both directions, i.e. if for a relation R, it is the case that ∀x ∀y(R(x, y) → R(y, x)). Obvious examples in English are be married to and cousin: if John is married to Mary, Mary is married to John, and, if Bill is Fred's cousin, Fred is Bill's cousin. A relation is transitive if, for three arguments x, y and z, the relation that holds both for x and y and for y and z, also holds for x and z, e.g. ∀x ∀y ∀z(R(x, y) & R(y, z)) → R(x, z). Many of the spatial terms are transitive – if John is in front of Harry and Harry is in front of Bill, John is also in front of Bill. The same is true for behind, above, below, north of, south of and inside. This does not, of course, hold for opposite, which is symmetrical (if No. 21 is opposite No. 22, No. 22 is opposite No. 21), but not transitive. (It must be noted that transitive and transitivity are used in a completely different sense in grammar – see 6.4.) A relation is reflexive if it relates an argument to itself, i.e. if ∀x (R(x, x)). It can be

5.2 Hyponymy

In 4.2 we discussed classes or sets of incompatible items. But there are also words that refer to the class itself. HYponymy involves us in the notion of inclusion in the sense that tulip and rose are included in flower, and lion and elephant in mammal (or perhaps animal – see below). Similarly scarlet is included in red. Inclusion is thus a matter of class membership. The 'upper' term is the superordinate and the 'lower' term the hyponym.

In 4.2 we were concerned with members of a class, with, that is to say, co-hyponyms. Yet oddly there is not always a superordinate term. Lyons (1963: 70–1) observed that in Classical Greek there is a superordinate term to cover a variety of professions and crafts, 'carpenter', 'doctor', 'flute player', 'helmsman', 'shoemaker', etc., but none in English. The nearest possible term is craftsman, but that would not include doctor, flute player or helmsman. Similarly, and rather strangely, there is no superordinate term for all colour words, red, blue, green, white, etc.; the term coloured usually excludes black and white (and grey too), or else (used to refer to race), means 'non-white'. The same term may appear in several places in the
5 Lexical semantics

5.2 Hyponymy

They are used only for plural reference (though, of course, we need the superordinate term quite commonly for the plural). Thus, though we may say Those are cattle to include Those are cows, Those are bulls, we have no single term to put in the frame That is a —. The most likely term here would be cow. (We might find it difficult to say That is a cow of a bull, but would not be unhappy with the definition of a bull as a male cow.) With poultry the situation seems to vary according to interest and dialect. The terms cock (or cockerel and, in America, rooster), hen and chick are available, but many people use hen or chicken as the superordinate term, though would not, I suspect, ever wish to refer to the male bird as a hen. In my own native dialect there is no problem — the superordinate term is fowl.

As we might expect, hyponymy relations vary from language to language. We have seen one example — that Greek has a superordinate term to include a variety of occupations. Another example is that in German ‘potato’ Kartoffel is not included among ‘vegetables’ Gemüse.

Hyponymy involves entailment. To say This is a tulip entails This is a flower, and This is scarlet entails This is red. We can formalise the relation between tulip and flower as $\forall x (T(x) \rightarrow F(x))$, though such a formula by itself will not bring out the hierarchical classification involved in hyponymy, for since a tulip and a flower are also plants, we can say $\forall x (T(x) \rightarrow P(x))$ and $\forall x (F(x) \rightarrow P(x))$, but it must not follow from this that tulip and flower are both co-hyponyms of plant. We need further to specify that flower is an immediate hyponym of plant and that tulip is an immediate hyponym of flower.

This kind of analysis forms the basis of Carnap’s (1956) meaning postulates, where it is suggested that the meaning of lexical items can be stated in terms of such entailments. Thus, as we saw, $x$ is a bachelor entails $x$ is unmarried ($\forall x (B(x) \rightarrow \neg M(x))$). In this sense, of course, being a bachelor is hyponymous to being unmarried. Meaning postulates thus essentially treat hyponymy as the basic sense relation.
5.3 Synonymy

SYNONYMY is used to mean 'sameness of meaning'. It is obvious that for the dictionary-maker many sets of words have the same meaning; they are synonymous, or are synonyms of one another. This makes it possible to define *gala* as *festivity* or *mavis* as *thrush*, though there is little use in this method if neither word is known to the reader, e.g. if *hoatzin* is defined as *stink-bird*; or *neve* as *fim*. Of course, dictionaries seldom rely solely on synonymy, but add descriptive details to enlighten the reader. We can, in fact, define synonymy as symmetric hyponymy. Thus, if *mavis* and *thrush* are synonymous, we can say $\forall x(M(x) \rightarrow T(x))$ and $\forall x(T(x) \rightarrow M(x))$, i.e. that all mavis are thrushes and all thrushes are mavis. But this does not solve the many practical problems that we must face.

It has often been suggested that English is particularly rich in synonyms for the historical reason that its vocabulary has come from two different sources, from Anglo-Saxon on the one hand and from French, Latin and Greek on the other. Since English is considered to be a Germanic language from a historical point of view, with Anglo-Saxon as an earlier stage of its development, the 'Anglo-Saxon' words are often considered to be 'native' while those from French, Latin or Greek are 'foreign', 'borrowed' from these languages. But the terms 'native' and 'foreign' are misleading. For whatever their origins, most of the words are an essential and wholly natural part of the English language; moreover, even some of the 'native' words may well have been 'borrowed' from some other language at some time in the more remote past. Unfortunately, there are often moves to remove the 'foreign' element from languages. Frenchmen deplore 'Franglais' (the English words that are now common in colloquial French), while the Welsh spend time and scholarship to find substitutes for the 'English' words in the language, though they are quite happy to retain the 'Latin' words that entered an earlier form of the language at the time of the Roman Empire.

Nevertheless, it is true that there are pairs of 'native' and 'foreign' words. Thus we have *brotherly* and *fraternal*, *buy* and *purchase*, *world* and *universe*, and many others. The 'native' words are often shorter and less learned; four-letter words (in the quite literal sense) are mostly from Anglo-Saxon. There are examples too of triples, one 'native', one from French, one directly from Latin – *kingly*, *royal*, *regal* (though with this set it is the word of French origin, *royal*, that is today in more common usage).

It can, however, be maintained that there are no real synonyms, that no two words have exactly the same meaning. Indeed it would seem unlikely that two words with exactly the same meaning would both survive in a language. If we look at possible synonyms there are at least five ways in which they can be seen to differ.

First, some sets of synonyms belong to different dialects of the language. For instance, the term *fall* is used in the United States and in some western counties of Britain where others would use *autumn*. The works of dialectologists are full of examples like these. They are especially interested in the words to do with farming; depending where you live you will say *cowsed*, *cowhouse* or *byre*, *haystack*, *hayrick* or *haymow*. Even the domestic *tap* is either a *faucet* or a *spigot* in most of the United States. But these groups of words are of no interest at all for semantics. Their status is no different from the translation-equivalents of, say, English and French. It is simply a matter of people speaking different forms of the language having different vocabulary items.

Secondly, there is a similar situation, but a more problematic one, with the words that are used in different styles (3.5). A *nasty smell* might be, in the appropriate setting, an *obnoxious effluvium* or an *'orrible stink*. The former is, of course, jocularly very 'posh', and the latter colloquial. Similar trios (though not with quite the same stylistic characteristics, but differing rather in degrees of formality) are *gentleman*, *man* and *chap*, *pass away*, *die* and *pop off*. These are more difficult to deal with because there is a far less clear distinction...
between the styles than between the geographically defined dialects and, as we saw in 3.5, there is a theoretical problem whether such stylistic differences should be regarded as within semantics or treated as features of different ‘languages’.

Thirdly, some words may be said to differ only in their emotive or evaluative meanings. The remainder of their meaning, their ‘cognitive’ meaning, remains the same. Some semanticists have made a great play with the emotive difference between politician and statesman, hide and conceal, liberty and freedom, each implying approval or disapproval. The function of such words in language is, of course, to influence attitudes. There are far more subtle ways than saying something is good or bad or even of choosing a ‘good’ or a ‘bad’ word. In politics particular words are often chosen simply for the effect they are likely to have. Fascist no longer refers to a member of the fascist parties, it is simply used to condemn and insult opponents. Words may have different emotive meanings in different societies. On the whole liberal is a ‘good’ word in Great Britain – even used by Winston Churchill of himself when he was politically a Conservative, but it is a ‘bad’ word in South Africa and in some political circles in the United States. Nevertheless, it is a mistake to attempt to separate such emotive or evaluative meaning from the ‘basic’ ‘cognitive’ meaning of words for three reasons. First, it is not easy to establish precisely what cognitive meaning is, and certainly not reasonable to attempt to define it in terms of reference to physical properties. On such a definition, most verbs and adjectives would have little or no cognitive meaning. Secondly, there are words in English that are used purely for evaluative purposes, most obviously the adjectives good and bad, but it is not normally assumed that they have no cognitive meaning. Such words are of interest to moral philosophers, but should not, I believe, have any special place in linguistics. Thirdly, we make all kinds of judgments and do not merely judge in terms of ‘good’ and ‘bad’. We judge size and use the appropriate terms – giant/dwarf, mountain/hill, etc., and we make other kinds of judgments in our choice of words. The meaning of words is not simply a matter of objective facts; a great deal of it is subjective and we cannot clearly distinguish between the two.

Fourthly, some words are collocationally restricted (see 4.4), i.e. they occur only in conjunction with other words. Thus rancid occurs with bacon or butter, addled with eggs or brains. This does not seem to be a matter of their meaning, but of the company they keep. It could, perhaps, be argued that these are true synonyms – differing only in that they occur in different environments.

Fifthly, it is obviously the case that many words are close in meaning, or that their meanings overlap. There is, that is to say, a loose sense of synonymy. This is the kind of synonymy that is exploited by the dictionary-maker. For mature (adjective), for instance, possible synonyms are adult, ripe, perfect, due. For govern we may suggest direct, control, determine, require, while loose (adjective) will have an even larger set – inexact, free, relaxed, vague, lax, inattentive, slack, etc. If we look for the synonyms for each of these words themselves, we shall have a further set for each and shall, of course, get further and further away from the meaning of the original word. Dictionaries, unfortunately (except the very large ones), tell us little about the precise connections between words and their defining synonyms or between the synonyms themselves.

It would be useful if we had some way of testing synonymy. One way, perhaps, is substitution – substituting one word for another. It has been suggested that true or total synonyms are mutually interchangeable in all their environments. But it is almost certainly the case that there are no total synonyms in this sense; indeed this would seem to be a corollary of the belief that no two words have exactly the same meaning. What we shall find, of course, is that some words are interchangeable in certain environments only, e.g. that deep or profound may be used with sympathy but only deep with water, that a road may be broad or wide but an accent only
broad. But this will give us little measure of synonymy or of similarity of meaning; it will merely indicate the collocational possibilities, and these do not seem necessarily to be always closely related to nearness of meaning.

Another possibility is to investigate the 'opposites' (the antonyms, to be discussed in 5.4). Thus superficial is to be contrasted with both deep and profound, but shallow is, for the most part, in contrast only with deep. Perhaps the fact that two words appear to have the same antonyms is a reason for treating them as synonyms, but the examples we have just discussed show that we shall again arrive at the words that are interchangeable in certain environments, for it is precisely in the context in which deep and profound are interchangeable that they have the antonym superficial.

Synonyms are often said to differ only in their connotations. This is not a very useful term. It often refers to emotive or evaluative meaning which, I have argued, is not usefully distinguished from cognitive meaning. It is also used to refer to stylistic or even dialectal differences or even to the small differences that are found in near-synonyms. But there is a further rather interesting use. It is sometimes suggested that words become associated with certain characteristics of the items to which they refer. Thus woman has the connotation 'gentle' and pig the connotation 'dirty'. Such connotations were the subject of Osgood's investigations (1.4). Strictly, however, this is not a matter of the meaning of words or even of meaning in general. It rather indicates that people (or some people) believe that women are gentle and pigs dirty. It is true that people will change names in order to avoid such connotations, and there is a natural process of change with taboo words such as those mentioned in 1.3. Because the word is associated with a socially distasteful subject, it becomes distasteful itself, and another word, a 'euphemism', takes its place. But the process is, of course, unending since it is essentially the object and not the word that is unpleasant. Words even become taboo when the distasteful object is referred to by the word in a different sense (whether it is homonymous or polysemous – see 5.6). Thus we are unwilling to talk of intercourse to mean social or commercial relationships, and it has been often pointed out that it is for similar reasons that in America the male domestic fowl is a rooster.

There are two phenomena that are sometimes handled under synonymy that have not yet been considered in this section. The first is context-dependent synonymy where two items appear to be synonymous in a particular context. Examples are dog and bitch in My — has just had pups and buy and get in I'll go to the shop and — some bread (Lyons 1968: 452–3). But this does not seem to be an argument for the synonymy of the words. On the contrary they are related in terms of hyponymy (see 5.2), one term being more specific than the other. The context, however, supplies the specific information that is lacking in one of the examples: having pups indicates that the dog is female, going to the shop suggests that the bread is to be bought. But this is not part of the meaning. The dog might not be female (remarkable though it would be), and I might steal the bread. The fact that information can be gleaned from the context does not affect the meaning of items. For consider the book and the red book. These could well be contextually synonymous (if we had already mentioned a red book – or, non-linguistically, if there was one, red, book before us). Yet we should not wish to say that these have the same meaning. The second kind of 'synonymy' is that between bull and male adult bovine animal. The test of interchangeability would rule these out completely as synonymous, for one would hardly say There is a male adult bovine animal in the field, even though in some sense the two items seem to have the same meaning. But this is not a natural linguistic phenomenon; it is created by the linguist or lexicographer for the purposes of definition and paraphrase. It relates, moreover, more to componential analysis (5.7) than to synonymy.
5.4 Antonymy

The term ANTONYMY is used for ‘oppositeness of meaning’; words that are opposite are ANTONYMS. Antonymy is often thought of as the opposite of synonymy, but the status of the two are very different. For languages have no real need of true synonyms, and, as we have seen, it is doubtful whether any true synonyms exist. But antonymy is a regular and very natural feature of language and can be defined fairly precisely. Yet, surprisingly, it is a subject that has often been neglected in books on semantics and it is not even usually given a place in dictionaries. However, there are different kinds of ‘oppositeness’ and we must clearly distinguish them.

To begin with, English abounds in pairs of words such as wide/narrow, old/young, big/small, etc. These, all of them adjectives, have in common the fact that they may be seen in terms of degrees of the quality involved. Thus a road may be wide or very wide and one road may be wider than another. We have, that is to say, gradation of width, age, size, etc., all indicated by such adjectives as these.

Sapir (1944 [1949]) argued that we should handle all these words in terms of GRADING. The comparative forms of the adjectives (those ending in -er or occurring with more) are EXPLICITLY graded, since to say that one road is wider than another, one boy is older than another or one book is bigger than another is to place them in a graded scale for comparison. Sapir went on to argue that although these comparative forms are preceded linguistically by the simple forms (i.e. formed from them by adding -er or more), they precede them logically in that wide, old and big can only be understood in terms of being wider, older, bigger than something – some norm or other. They are thus, said Sapir, IMPLICITLY graded antonyms.

Not only are these adjectives gradable, but they are graded against different norms according to the items being discussed. For instance, if I say that not many people were present, this might mean five or six if we were talking about an intimate party, but perhaps as many as twenty thousand if we were talking about the attendance at an important football match at Wembley. The norm is set by the object being described. A stripe on a dress may be wide if it is only two inches wide, but a road would have to be many yards wide before it could be so described. This accounts for the apparent paradox of a small elephant being bigger than a big mouse for small means ‘small as elephants go’ and big ‘big as mice go’.

For most antonyms a set of relationships hold between the comparative forms such that all of the following are mutually implied:

- The road is wider than the lane.
- The lane is narrower than the road.
- The road is less narrow than the lane.
- The lane is less wide than the road.

These are related both in terms of simple reversal with switch of antonyms, and the ‘more’ and ‘less’ relationship (again involving switch of antonyms). Not surprisingly, since antonyms are gradable, there are often intermediate terms. Thus we have not just hot/cold, but hot/warm/cool/cold, with the intermediate warm and cool forming a pair of antonyms themselves.

A further point is that in each pair one of the terms is the MARKED term and the other UNMARKED in that only one is used simply to ask about or describe the degree of the gradable quality. We say How high is it? How wide is it? It is three feet high, It is four yards wide, with no implication that it is either high or wide. But the other term of the pair is not so used – it is the marked term. Thus How low is it? How narrow is it? imply that the object in question actually is low or narrow and we would not say (except jocularly) *It is three feet low or *It is four yards narrow. Notice also that the same member of the pair is used to form the nouns, height and width, which are equally neutral as compared with lowness and narrowness. In the English examples it is the ‘larger’ term...
that appears to be unmarked, but this does not appear to be a universal feature. Where English talks of a *thickness gauge*, Japanese talks of a 'thinness gauge'.

We may, perhaps, also include here pairs of the type *male/female, married/single, alive/dead*. These Lyons (1968: 460) treats in term of *complementarity*, the items being complementary to each other. Strictly these belong to the set of incompatible terms that were discussed in 4.2, but with one specific characteristic – that they are members of two-term sets instead of the multiple-term sets that we discussed there. But they are in some ways similar to our gradable antonyms. Both exhibit incompatibility. To say that something is wide is to say that it is not narrow. To say that someone is married is to say that he is not single. But there is one striking difference between the two types. With the pairs we have introduced it is also the case that to say something is not the one is to say that it is the other. If Peter is not married, he is single, and vice versa. This results, of course, from the fact that there are only two possibilities (it would not be the same with the multiple sets). With the gradable antonyms, in contrast, although there are only two terms, it is not the case that to say something is not (for instance) wide is to say that it is narrow, or that to say it is not narrow is to say that it is wide. The possibility of being neither wide nor narrow is left open.

Antonyms and complementaries do not lend themselves very easily to the kind of logical formalisation suggested earlier. For antonyms we wish to say that if something is *A* it is not *B* (and vice versa), while for complementaries we have to say, in addition, that if it is not *A* it is *B* (and vice versa). Thus for the antonyms *wide* and *narrow* we have $\forall x(W(x) \rightarrow \neg N(x))$ and $\forall x(N(x) \rightarrow \neg W(x))$ (though this follows logically), while for the complementaries *male* and *female* the formulae are $\forall x(M(x) \rightarrow \neg F(x))$ and $\forall x(\neg M(x) \rightarrow F(x))$ together with $\forall x(F(x) \rightarrow \neg M(x))$ and $\forall x(\neg F(x) \rightarrow M(x))$ (which also follow from the first two). But this is not sufficient to characterise complementaries and antonyms. In both cases we must also show that they belong to the same semantic system or field (4.2). For, to take complementaries first, it is not true to say that, if something is not male, it is female, since it could also be inanimate. The complementarity of *male* and *female* is restricted to the discussion of animates. Similarly, we should not regard *simian* and *ferrous* as antonyms, in spite of the fact that if something is a monkey it is not iron (and vice versa). Moreover, with antonyms it is not enough that the terms also belong to the same system. For *equine* and *bovine* are not antonyms. The notion of gradability is also essential.

A further interesting point is that there is no absolute distinction between these two types. We can treat *male/female, married/single, alive/dead* as gradable antonyms on occasions. Someone can be *very* male or more married and certainly more *dead* than *alive*. More obviously, some gradable antonyms have some characteristics of the dichotomous pairs:

1. There are some pairs of adjectives, e.g. *honest/dishonest, obedient/disobedient, open/shut* that are gradable in terms of more and less, yet in which the denial of one is usually taken to assert the other. Thus though we may say *Bill is more honest than John, Bill isn't honest* implies that *Bill is dishonest,* and *Bill isn't dishonest* implies that *Bill is honest.* These are, that is, explicitly gradable, but they are not usually treated as implicitly gradable.

2. Some pairs of antonyms are, in Sapir's terms, not 'symmetrically reversible'. That is to say the more and less relationship cannot be applied to them. An example is the pair *brilliant* and *stupid*, since more brilliant does not equal less stupid or more stupid, less brilliant. The terms, though gradable, also have an absolute value at one of the 'ends' of the scale.

### 5.5 Relational opposites

A quite different kind of 'opposite' is found with pairs of words which exhibit the reversal of a relationship between
items (or argument – see 5.1). Examples are buy/sell, husband/wife. If John sells to Fred, Fred buys from John; if Bill is Mary’s husband, Mary is Bill’s wife. Lyons (1968: 467) suggests the term CONVERSENESS for these, but I am more concerned to point out their essentially relational characteristics, and would thus prefer RELATIONAL OPPOSITION.

There are several verbs that are pairs in this way – buy/sell, lend/borrow, rent/let, own/belong to, give/receive. There are also nouns – husband/wife, fiancé/fiancée, parent/child, debtor/creditor, and, possibly, teacher/pupil. A number of terms referring to spatial position also belong here – above/below, in front of/behind, north of/south of, etc. In grammar, too, active and passive exhibit relational opposition, for if Tom hits Harry, Harry is hit by Tom.

Terms involved in relational opposition may be transitive, e.g. both above and below. If the picture is above the table and the table above the carpet, the picture is above the carpet (and similarly for below). They cannot, of course, be symmetric, for symmetric relations are those in which, by definition, the same relation holds between the arguments in both directions, so that only one term, not two, is required. Whereas relational opposites involve two relations R and R’ such that \( \forall x \forall y (R(x,y) \rightarrow R'(y,x)) \), symmetric relations involve only one, such that \( \forall x \forall y (R(x,y) \rightarrow R(y,x)) \). Examples of terms in a symmetric relationship are married to, beside, meet.

Kinship terms are especially interesting in a discussion of relational opposites for two reasons. In the first place many of them indicate not only the relationship, but the sex of the person concerned. Thus father is the male parent, daughter a female child and so on. This blocks reversibility. For to say that John is Sam’s father does not entail that Sam is John’s son – Sam could be his daughter. We therefore have pairs indicating the same relationship but a different sex: father/mother, son/daughter, uncle/aunt, nephew/niece. There are also pairs of words that would be symmetric were it not for their indication of sex. An example are brother and sister. It does not follow that if John is Sam’s brother, Sam is John’s brother (she might be his sister). Only a small number of terms in English do not indicate sex – cousin (which is symmetric) and parent and child, together with grandparent and grandchild (which are not). There are other terms that avoid sex reference and so are symmetric, but are mostly used only by anthropologists – spouse for husband/wife and sibling for brother/sister. But there are no similar terms for uncle/aunt, nephew/niece. Secondly, whether a term is symmetric or not is a matter of the language. Thus be married to is symmetric in English because, like spouse, it does not indicate sex. But in many languages a different term is used for husband and wife, quite often the active form of the verb for the husband and the passive term for the wife – John ‘marries’ Mary but Mary ‘is married’ to John. (In English marry and be married to are used for either partner, and so are both symmetric.) Similarly, many languages have no symmetric term cousin; the sex has to be indicated in these languages, or the precise relationship of the parents. There may be other complications too. The brother and sister relationship in some languages is bound up not only with the sex, but also the age of the child; thus if two girls are sisters, one is the ‘elder sister’, one the ‘younger sister’ of the other.

There are some other terms that are not strictly related as relational opposites, but nevertheless differ in spatial direction in some way. We have already discussed come and go (3.5), and there are other pairs of words that seem to be related in similar ways. Thus ask expects reply and offer, accept. These are not examples of relational opposites, but of a temporal relationship. Moreover the relationship between the members of each pair is not the same. Ask and offer may ‘expect’ reply and accept, but the ‘expectation’ may be disappointed – there may be no reply or acceptance (though, for offer, there is also the term refuse). But reply and accept also ‘presuppose’ that there has been an act of asking or giving (see 7.4); this is a natural result of the temporal relationship.

Finally, it is worth noting that the ‘true’ gradable
antonyms can be handled in terms of relational opposites. For we saw that *wide* can be seen as wider than the norm and that if *a* is wider than *b*, *b* is narrower than *a*. The comparative forms *wider* and *narrower* (the explicitly gradable forms) are thus relational opposites; they are, moreover, transitive (if *a* is wider than *b* and *b* is wider than *c*, *a* is wider than *c*), but not symmetric or reflexive. Notice, however, that *as wide as*, *as narrow as*, etc., are symmetric, transitive and reflexive.

5.6 Polysemy and homonymy

Sameness of meaning is not very easy to deal with but there seems nothing inherently difficult about difference of meaning. Not only do different words have different meanings; it is also the case that the same word may have a set of different meanings. This is POLYSEMY; such a word is POLYSEMIC. Thus the dictionary will define the word *flight* in at least the following ways: ‘passing through the air’, ‘power of flying’, ‘air journey’, ‘unit of the Air Force’, ‘volley’, ‘digression’, ‘series of steps’. Yet there are problems even with this apparently simple concept.

To begin with, we cannot clearly distinguish whether two meanings are the same or different and, therefore, determine exactly how many meanings a word has. For a meaning is not easily delimited and so distinguished from other meanings. Consider the verb *eat*. The dictionary will distinguish the ‘literal’ sense (see below) of taking food and the derived meanings of ‘use up’ and ‘corrode’ and we should, perhaps, treat these as three different meanings. But we can also distinguish between eating meat and eating soup, the former with a knife and fork and the latter with a spoon. Moreover, we can talk about drinking soup as well as eating it. In one of its senses, then, *eat* corresponds to *drink*. The problem, however, is to decide whether this represents a distinct meaning of *eat*; for an alternative solution is that the meaning of *eat* merely overlaps that of *drink*, but that each covers a wide semantic ‘area’ (a great deal of which does not overlap). If we decide, however, that there are two meanings of *eat*, we may then ask whether eating jelly is the same thing as eating toffee (which involves chewing) or eating sweets (which involves sucking). Clearly we eat different types of food in different ways, and, if we are not careful, we shall decide that the verb *eat* has a different meaning with every type of food that we eat. The moral is that we ought not to look for all possible differences of meaning, but to look for sameness of meaning as far as we can, and to accept that there is no clear criterion of either difference or sameness.

A more practical problem is that if one form has several meanings, it is not always clear whether we shall say that this is an example of polysemy (that there is one word with several meanings) or of HOMONYMY (that there are several words with the same shape). For instance we noted earlier that the dictionary treats *flight* as a single (polysemic) word. But it recognises no less than five words (i.e. five homonyms) for *mail*—‘armour’, ‘post’, ‘halfpenny’, ‘payment’ and ‘spot’ (the third meaning is shown as ‘obsolete’ and the last two are ‘Scottish’, but the important point is that they are not shown as different meanings of the same word). The dictionary has to decide whether a particular item is to be handled in terms of polysemy or homonymy, because a polysemic item will be treated as a single entry, while a homonymous one will have a separate entry for each of the homonyms. This does not mean, of course, that we can decide between polysemy and homonymy merely by consulting the dictionary, for we must question the reasons for the decisions made by the dictionary-maker and, in some cases, these seem to be quite arbitrary.

There is some complication in the fact that we do not make the same distinctions in writing and speech. Thus *lead* (metal) and *lead* (dog’s lead) are spelt in the same way, but pronounced differently, while *site* and *sight*, *rite* and *right* are spelt differently but pronounced in the same way. For the former the term HOMOGRAPHY may be used, for the latter HOMOPHONY. Curiously there are some homonyms and
homophones that are also (very nearly) antonyms, e.g. *cleave* 'part asunder' and *cleave* 'unite' and *raise* and *rase*.

The problem, however, is to decide when we have polysemy and when we have homonymy. Given that we have a written form with two meanings, are we to say that it is one word with different meanings (polysemy) or two different words with the same shape (homonymy)? There are a number of possible ways of answering this question. First, dictionaries usually base their decision upon etymology. If it is known that identical forms have different origins they are treated as homonymous and given separate entries; if it is known that they have one origin, even if they have different meanings, they are treated as polysemic and given a single entry in the dictionary. This is, however, far from satisfactory, for the history of a language does not always reflect accurately its present state. For instance, we should not usually relate *pupil* (=student) with the *pupil* of the eye, or the *sole* of a shoe with the fish *sole*. Yet historically they are from the same origin, and as such are examples of polysemy. Yet in the language of today they are pairs of unrelated words, i.e. homonyms. On the other side we find that we speak of the *hands* and *face* of a clock, the *foot* of a bed or of a mountain, the *leg* of a chair or table, the *tongue* of a shoe, the *eye* of a needle or a potato, as well as using the same terms for parts of the body, and similarly have the word *ear* used of the *ear* of corn. These would all seem to be examples of metaphor and, so, of polysemy. Yet the etymologists tell us that the *ear* of corn is in no way related (historically) to the *ear* of the body. Historically, then, they are homonyms. But most people today would regard them as the same word with different meanings, i.e. as examples of polysemy. There are other examples — *corn* (=grain) and *corn* on the foot, *meal* (=repast) and *meal* (=flour), each of which has a different etymology. But are they different words for us today? History can be misleading.

Curiously, a difference of spelling does not always indicate a difference of origin. Thus even what are today homophones may be derived from the same original form. Examples are *metal* and *mettle*, *flour* and *flower*. These pose real problems for the semanticist. For if he relies on his historical knowledge, they are the same word, merely examples of polysemy, even though they are spelt differently. Yet this is odd. Can we consider words that are spelt differently to be the 'same' word? Yet we find that difference of spelling does not guarantee difference of origin. Does the dictionary-maker then treat these as different words because they are spelt differently, or as the same word because they have a single origin? In practice he usually (but not always) allows the spelling difference to decide, because he needs to keep words in their alphabetical position.

Secondly, we may ask whether we can make any general remarks about difference of meaning. Are regular types of difference found in the meaning of various words? For it is reasonable to suggest that where the differences are regular and to some degree predictable, we have polysemy rather than homonymy. One of the most familiar kinds of relationships between meanings is that of metaphor where a word appears to have both a 'literal' meaning and one or more 'transferred' meanings. The most striking set of examples is found with the words for parts of the body, *hand*, *foot*, *face*, *leg*, *tongue*, *eye*, etc. Intuitively it is clear enough which is the literal sense, and our intuitions are supported by the fact that the whole set of words applies only to the body; only some of them can be transferred to the relevant object — the clock has no legs, the bed no hands, the chair no tongue, etc.

Metaphor is, however, fairly haphazard. It may seem obvious that *foot* is appropriate to mountains, or *eye* to needles, but a glance at other languages shows that it is not. In French the needle does not have an 'eye', and in many languages (e.g. the Ethiopian languages or some of those of North America) the mountain does not have a 'foot'. Moreover, in English *eye* is used with a variety of other meanings, e.g. the centre of a hurricane or a spring of water, which are not so obviously related semantically to the organ of sight, yet it is not used for
the centre of a flower or an indentation, though these might seem intuitively to be reasonable candidates for the extension of the meaning.

There are some other kinds of 'transference' that are more regular. Thus many adjectives may be used either literally for the quality referred to or with the transferred meaning of being the source of the quality. Thus a person may be sad and a book may be sad, while a coat may be warm in the two senses (either that it is of a certain degree of temperature or that it keeps one warm). The language recognises the difference of meaning in that we cannot say John is as sad as the book he was reading. This is similar to the traditional grammarian's concept of ZEUGMA (She was wearing a white dress and a smile on her face), for in each case one word co-occurs with two other words and these two each require the first to have a different meaning, and this the language does not allow. Similarly, many nouns have a concrete and an abstract sense. Thus we may compare The score of the symphony is on the table and The score of the symphony is difficult to follow. Notice once again that we cannot say The score is on the table and difficult to follow. Similar contrasts hold for thesis, book, bible, etc.

However, it is not always easy to decide whether a relationship is regular or not. English has intransitive and transitive (in the grammatical not the logical sense) uses of verbs such as open and ring – The door opened, I opened the door, The bell rang, I rang the bell (see 6.4). Slightly different are the basic and causative forms of march, walk, run – He marched/ walked/ ran a mile vs. He marched them up to the top of the hill, He walked the dog, He ran the children to school. Now it would seem reasonable NOT to recognise homonymous pairs here and not, therefore, to say that there are two verbs open, two verbs march, etc. Yet the meaning relations are not wholly regular: does walk the dog mean 'cause the dog to walk'? Certainly run the children does not mean 'cause the children to run'. Moreover, not all verbs function in a similar way. We have no intransitive *The man wounded and no causative *He swam them across the river. An even less regular relationship is that found with taste, feel and smell, which may mean either 'have the sensation' or 'act to acquire the sensation' as in I tasted salt in the porridge and I tasted the porridge. But for the senses of sight and hearing we have different verbs to express these related meanings – see and look at, hear and listen to. Do we then decide that there are two verbs taste?

A third, and rather different way of attempting to establish polysemy rather than homonymy is to look for a central meaning or a core of meaning. This is possible where we have examples of metaphor or of the 'transferred' meanings we noted for sad and score. But in general it is very difficult to decide whether there is any central or core meaning. It is obvious enough why key is used not only for key of the door, but also for a translation or a keystone (one 'unlocks', the other 'locks'), but it is by no means easy to see why it is used for the keys of a piano and, therefore, not at all clear that this is an example of polysemy. Nor is there any obvious relation between air 'atmosphere' and the meanings of 'manner' and 'tune'. With verbs the problem is often even greater. Charge is used of electricity, of charging expenses, of a cavalry attack and of an accusation. These are quite far apart in their meanings. Can we discover a central or core meaning?

If we look at what has happened in history we see why the problem has arisen. Words change their meaning in quite surprising ways. Thus arrive is derived from Latin ripa 'a shore', and originally meant 'reach shore', while rival comes from Latin rivus 'a stream', rivals originally being people who shared the same stream. With such changes it is not surprising that meanings of charge should have so diverged – its earlier meaning is 'load', and it is related to car and even, in a less direct fashion, to cargo.

Fourthly, we can, perhaps, use the test of ambiguity. I went to the bank seems to be clearly ambiguous, since bank can mean either river bank or the place that deals with money. But decisions are not always easy. Kill is used to refer either to murdering or killing accidentally. The commandment Thou shalt not kill is to be understood in the first sense,
but The motorist killed the child in the second. Yet we should not wish to say that John killed Bill is ambiguous. Slightly more difficult is I heard the girl crying. Here it is far less clear whether the two senses of cry (‘weep’ and ‘shout’) make us conclude that there is ambiguity. Indeed, we shall be back with precisely the kind of problem with which we started this section — that of deciding whether there is or is not a difference of meaning.

It has been suggested that one test of ambiguity is the ‘co-ordination test’. The sentence John and Bill went to the bank cannot, it is argued, be taken to mean that one went to the river and the other to the financial institution. Similarly, The room and the furniture were light cannot be taken to mean that the room was bright and the furniture not heavy. A particular version of this is the ‘do so’ test — the fact that we should not say John went to the bank and so did Bill with the two meanings of bank. But these tests do not help, for judgments about co-ordination depend upon judgments about sameness of meaning, and the doubtful cases remain. If we judge that Mary cried and so did Ruth is acceptable in the sense that Mary wept and Ruth shouted, it will be because we do not regard cry as ambiguous. In any case, the co-ordination test will force us to make too many distinctions. There is something curious about John likes brunettes and marshmallows and I saw Helen and a football match this afternoon, but these would hardly lead us to say that there are two verbs like and two verbs see. As we have already seen, too, we cannot say The score is on the table and difficult to follow; yet this would (wrongly) suggest two distinct lexemes score.

It is not even the case that ambiguity itself is sufficient to establish homonymy. Kempson (1977: 81) considers He ran the race for Hampshire, which may mean either that he was a competitor or that he organised the race. But since the two meanings of run here are related in terms of causativity like those of walk and march, it would be curious to suggest that we have two lexical items. Ambiguity can result from grammatical as well as lexical differences. Thus, They hit the ball is ambiguous between present and past tense, while Flying planes can be dangerous (Chomsky 1965: 21) is ambiguous because flying planes has two possible grammatical structures (with the meanings ‘the act of flying planes’ and ‘planes that are flying’). The two meanings of run are of a semi-grammatical kind, run being in one case intransitive (though taking a so-called ‘internal object’ like race) and in the other transitive. Nothing is gained by treating these two uses of run as different lexical items, and no dictionary-maker would wish to do so.

However, a word that is polysemic will, naturally, have a variety of synonyms each corresponding to one of its meanings. It will often also have a set of antonyms. Thus fair may be used with (1) hair, (2) skin, (3) weather, (4) sky, (5) judgment, (6) tackle. The obvious antonyms would seem to be (1) dark, (2) dark, (3) foul, (4) cloudy, (5) unfair, (6) foul. (It is also used with work or performance, but there it is a middle term, ‘neither good nor bad’ and has, thus, no antonym.) It can be seen that fair with hair and fair with skin have the same antonym (dark), and so do fair with weather and fair with tackle (foul). We might be tempted to say that where the antonym is the same we have polysemy, and that difference of antonym implies homonymy. But this will suggest that fair with weather is more like fair with tackle than fair with sky. Intuitively, sky is more closely related to weather and tackle to judgment, but the antonyms do not provide evidence for this.

There may, in a few cases, be formal reasons for recognising homonymy. The French word poli means polished either in the literal or the transferred sense. This would seem to be a clear example of polysemy, but in the literal sense the word is linked with dépolir (‘take polish off’) and polissage (‘polishing’), while in the other sense it goes with impoli (‘unpolished’ or ‘impolite’) and politesse (‘politeness’). This seems to suggest that there are two different words that belong to two different related sets.

Notice, finally, that multiplicity of meaning is not confined to the words of the dictionary. It is also found with
grammatical elements—the English past tense has two different meanings (3.1). So do some prefixes; in- usually means 'not', but this is not so in inflammable. (This word has led, through misunderstanding resulting from the ambiguity of the prefix, to some unfortunate accidents, and on the advice of Whorf it has become the practice in the USA to use the invented word flammable instead.) There is, as we have seen, similar ambiguity in syntax. Familiar examples are The old men and women and Visiting relatives can be a nuisance. Both can be analysed differently in syntax with accompanying difference of meaning. Multiplicity of meaning is a very general characteristic of language.

5.7 Components
In the previous sections we considered various sense relations without generally trying to relate them except by using the simplified logical formulae. A very different approach, it might seem at first sight, is analysis in terms of COMPONENTS—the total meaning of a word being seen in terms of a number of distinct elements or components of meaning. The notion of component does not introduce a further kind of relation; rather it purports to offer a theoretical framework for handling all the relations we have been discussing. The idea that semantics could be handled in terms of components has been argued with the investigation of kinship terms. It was noted that in Spanish, for instance, the sex of the people involved is clearly marked—ending -0 for male, -a for female as in (Lounsbury 1956: 158):

<table>
<thead>
<tr>
<th>Spanish</th>
<th>English</th>
<th>Spanish</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>tío</td>
<td>'uncle'</td>
<td>tía</td>
<td>'aunt'</td>
</tr>
<tr>
<td>hijo</td>
<td>'son'</td>
<td>hija</td>
<td>'daughter'</td>
</tr>
<tr>
<td>abuelo</td>
<td>'grandfather'</td>
<td>abuela</td>
<td>'grandmother'</td>
</tr>
<tr>
<td>hermano</td>
<td>'brother'</td>
<td>hermana</td>
<td>'sister'</td>
</tr>
</tbody>
</table>

English has no markers of sex, of course, though the ending -ess occurs in baroness, tigress, lioness, duchess, etc. But if we are concerned with semantics that is not particularly relevant. There is no reason why we should not attempt to classify the English kinship terms with reference to categories such as sex, even if the language does not mark these terms in the form of the words.

Sex therefore provides one set of components for kinship terms; generation differences and degrees of relationship provide two others. Thus for generation differences we need at least five generations which may be labelled $g_1$, $g_2$, $g_3$, $g_4$, $g_5$. Then grandfather is $g_1$, father, uncle, etc., $g_2$, brother, cousin, $g_3$, son, niece $g_4$, and grandson $g_5$. On such a system the 'ego' (the person for whom the relationships hold) is, obviously $g_3$. Of course we would need others to deal with great grandfather, etc. Degrees of relationship involve LINEALITY—DIRECT for grandfather, father, COLINEAL for brother, uncle (but with different generation) and ABLINEAL for cousin. Given these three sets of components all the English kinship terms can be handled. Aunt is thus female, $g_2$ and colineal, cousin male or female, $g_3$ and ablineal. However, although this kind of approach to kinship has been important in the history of components, there are considerable doubts about its own 'reality' and about its relevance to the systems actually found in language (see 5.8).

We can most easily recognise components where words can be set out in a diagrammatic form to represent some kind of 'proportional' relationship. In English (and the same is true of many other languages) there is a three-fold division with many words that refer to living creatures:

<table>
<thead>
<tr>
<th>English</th>
<th>woman</th>
<th>child</th>
</tr>
</thead>
<tbody>
<tr>
<td>man</td>
<td>calf</td>
<td></td>
</tr>
<tr>
<td>bull</td>
<td>cow</td>
<td></td>
</tr>
<tr>
<td>ram</td>
<td>ewe</td>
<td></td>
</tr>
<tr>
<td>boar</td>
<td>sow</td>
<td></td>
</tr>
<tr>
<td>piglet</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Thus bull is to cow as ram is to ewe—or in mathematical terms bull::cow::ram::ewe. In the light of relationships such as these we can abstract the components (male) and (female), (adult) and (non-adult), plus (human), (bovine), (ovine) and (porcine). Strictly these examples do not distinguish (male) and (female) in full conjunction with (adult) and (non-adult),
since that would imply four possibilities and we only have three. But all four are to be found in:

man  woman  boy  girl

However, even with the other examples, it is more plausible to make both distinctions than to say that there are simply three possibilities – (male), (female) and (non-adult).

Analysis of this kind (COMPONENTIAL ANALYSIS) allows us to provide definitions for all these words in terms of a few components. Thus *boar* is (porcine), (male), (adult) and so on. There are, as we saw earlier, gaps in the system – there are no terms to distinguish between the male, female and the young with giraffes or rhinoceroses. Often the distinction is made by using a term taken from another set in conjunction with the generic one – *bull elephant, cow elephant and elephant calf*. Badgers are similarly *boars* and *sows* (though the young are presumably *cubs*); the male fox is a *dog* or *dog-fox*, but the female has a specific term *vixen*.

In many cases there is an appropriate word in the language to label the component. *Male* and *female* are obvious examples. But it would be a mistake to suppose that if we use such terms to define a common word that the resultant phrase is semantically identical with it. Thus *boar* is not the same as *male adult porcine animal* (see 5.3); it is important to note that in the vocabulary of English we have words such as *boar* and *bull*, whereas with *giraffe* we can only use the phrase *adult male giraffe*; the difference is relevant to the semantic structure of English.

Such labels are not, however, always readily available. We have noted the semantic relationship (3.5):

\[
\text{come} \quad \text{go} \\
\text{bring} \quad \text{take}
\]

We noted that *come* is to *go* as *bring* is to *take* and we could therefore distinguish components X and Y and A and B such that *come* is XA and go XB, *bring* YA and *take* YB. But what could be the names of the components? It is difficult to provide an answer, for they cannot be identified with features that have any simple kind of physical reality. We may, perhaps, assume that all societies distinguish between male and female and that thus (male) and (female) are universal components of language. But the *come, go, bring, take* examples show that not all components are related to simple physical features such as sex, and it becomes less plausible to assume that they are universal (see 5.8).

A particular characteristic of componential analysis is that it attempts as far as possible to treat components in terms of ‘binary’ opposites, e.g. between (male) and (female), (animate) and (inanimate), (adult) and (non-adult). In this it clearly gives emphasis to the relation of complementarity (5.4). Notationally there is an advantage in such binary terms in that we can choose one only as the label and distinguish this in terms of plusses and minuses. Thus (male) and (female) are written as (+male) and (−male) and so on. We can, moreover, refer to the lack of a sex distinction as ‘plus or minus’ with the symbol (+male). But this works well only where there is a clear distinction; often there is indeterminacy, as with *tar* and *porridge* in relation to (solid)/(liquid).

In practice componential analysis has not been used simply in order to restate the relations discussed in earlier sections. Rather it has been used to bring out the logical relations that are associated with them. Thus by marking *man* as (+male) and *pregnant* as (−male), we can rule out *pregnant man*. Similarly by marking *boy* as (+male)(−adult)(+human) and *child* as (−adult) and (+human), we can establish that *There were two boys* entails *There were two children* and *Children are a nuisance* entails *Boys are a nuisance* (though the rules of entailment are obviously fairly complex).

Yet componential analysis does not handle all semantic relations well. First, it is difficult to reduce the relational opposites to components. For the relation of *parent/child* cannot simply be handled by assigning components to each, unless those components are in some sense directional. We could, that is to say, treat these as having the same
Lexical semantics

components, but in a different 'direction'; but by introducing 'direction' into components we are, in effect, admitting that they ARE relational and not simply 'atomic' components of meaning. Secondly, the componential analysis cannot remove the hierarchical characteristic of hyponymy. For the distinction (+male)/(-male) applies only to living (animate) things. Distinction in terms of these components, e.g. between ram and ewe, will hold only for items that are also marked as (+animate). In a straight hierarchical diagram this is easily shown, and is a natural consequence of the hierarchy. In a componential analysis it still has to be stated, for it is necessary to rule out not only *pregnant ram but also *pregnant table; the point here is that the component (-male) is restricted to those items which have (+animate). Componential analysis therefore has to state that, only if something is animate, may it be male or female with a formula such as (+animate ±male). Again it will be obvious that such rules (called 'redundancy rules') are simply a disguised way of stating the hierarchical nature of the semantic distinctions. Componential analysis can thus handle all the relations we have discussed, simply because it can be made to do so, with the relevant modifications. But it is doubtful whether it makes them clearer; it seems rather to obscure their differences.

The componential approach to semantics is basic to Katz & Fodor's 'The structure of a semantic theory' (1963). This work has been of such interest that it deserves some consideration here and, although Katz (1966: 151-75) modified his views, I shall use it as the basis of the discussion. As we have already seen (2.3), Katz & Fodor are concerned essentially with ambiguity, anomaly and paraphrase. The arguments are, however, very largely based upon ambiguity — upon showing that a sentence may have two readings. Thus The bill is large is ambiguous until it is disambiguated by . . . but need not be paid.

Turning to the structure of vocabulary, they point out that a dictionary would distinguish between four meanings of the word bachelor — (1) a man who has never married, (2) a young knight serving under the banner of another, (3) someone with a first degree, (4) a young male unmated fur seal during the mating season. These four meanings can, moreover, be partly differentiated by what they call 'markers' which are shown in round brackets, e.g. (human) (animal) and (male), together with some specific characteristics which are called 'distinguishers' and placed in square brackets, e.g. [first degree] in the case of the academic. The semantics of bachelor can thus be set out in a tree diagram (Figure 6). An important question, however, is 'How do we establish which precisely are the markers?' The answer that is given is that they are those features that allow us to disambiguate a sentence. An illustration provided by the authors is The old bachelor finally died. This cannot refer to the fur seal, because such bachelors are by definition young. It follows from this that (young) must be a marker for the fur seal, and that it must now appear not among the distinguishers as in Figure 6, but as a marker.

![Figure 6](image_url)

The theory has one major drawback. There is, in theory, no limit to the number of markers that can be established. For (as we saw earlier in 3.2) any piece of information can be used to disambiguate and can thus function as a marker. For instance, The bachelor wagged his flippers is hardly ambiguous — it must refer to the fur seal. The bachelor got his hair wet, on
the other hand, cannot refer to the fur seal, though it might refer to any of the other three. If we use the disambiguation test we have, for the fur seal, the markers (having flippers) and (not having hair) – and the list is endless. Katz (1966: 154–5) dropped the distinction between marker and disinguisher, but the difficulty remains. However we tackle the problem, we shall be faced with an infinite set of components, because in principle any piece of information may be used to disambiguate a sentence.

5.8 The problem of universals

We have already noted several times that there is a question about the universality of semantic features – whether they or some of them at least occur (and even must occur) in all languages. At one extreme there is the Sapir–Whorf hypothesis (3.1), which suggests that each language may 'create' its own world and so its own semantics. At the other it could be argued that such components as (male) and (female) are found in all languages and that there are many others too, e.g. the basic colours (4.3) and kinship relations (5.7).

The simplest form of the universalist view is that there is a universal inventory of semantic features (components). But what is the relation between this inventory and the set of features found in individual languages? The strongest claim would be that all languages make use of the whole inventory and so have the same features. A weaker claim is that each language uses only some of the features in the total inventory. The first answer seems highly implausible in view of what seem to be very obvious differences in languages; it can only be made to work by arguing that all the semantic features can be exhibited somehow in each language, though some will be more central. (This is tantamount to saying that if something can be said in one language, it can be said in another.) The second answer might seem more plausible – all languages have 'male', 'female', 'black', 'white', etc., but many other features are found only in some languages. But neither this view nor the stronger view makes a verifiable claim unless a finite inventory of features is produced. For let us suppose that we discover a language which appears to have features that have never been noted before. If we simply add them to the inventory, the claim about the universality of the inventory becomes quite trivial. The claim cannot be disproved, even in principle, if every counter-example can be dealt with in this way.

A still weaker claim is that only some features are universal, while the rest are characteristic of individual languages. This may well be true, though it may not even be that the 'universal' features are exactly the same in each language. This seems to be the case with the colour terms and categories. We do not find identity, but only close similarity.

Let us, however, accept the weakest universalist claim – that languages share some semantic features. What kind of explanation can we give? There are at least five answers:

1. 'The world is like that.'
2. The structure of the minds of all people is basically the same.
3. The cultural needs of different societies are similar.
4. There is or has been contact between different societies with different languages.
5. The languages of the world all have a common origin.

There may be some truth in all of these answers, and it is not at all easy to separate them.

The first two replies (in terms of the world and mind) raise the philosophical problem of objective and subjective reality. Is our experience like it is because that is what the world is like, or because that is how our minds interpret it? Nevertheless, we can sometimes distinguish between what would seem to be physical reality and psychological reality. The sex distinctions in 'male'/'female' have an objective, physical basis, as do the differences indicated by cow, horse, elephant, etc., whereas if it is true that different people make (roughly) the same colour distinctions, these do not 'exist' in physical
terms but are part of the psychology of perception (and the same is certainly true of our perception of speech sounds).

It is very important to recognise that the fact that there is some kind of physical reality does not necessarily make it the basis of a semantic analysis. A good example of this is kinship terminology. Since most societies have fairly strict rules of 'kindred and affinity' (as the Book of Common Prayer calls them), kinship relations can usually be stated wholly in terms of a family tree which depends on the parent–child and the husband–wife relationships. But there are two objections to the type of componential analysis suggested in 5.7. First, there are alternative, equally plausible, analyses of the same relationships. Secondly, and more importantly, in some languages the linguistic system bears very little resemblance to any of these analyses. Thus in Pawnee the term that we might translate as 'father' is used of all the males whose relationship is traceable through the father, while 'uncle' is used of the males traceable through the mother, and conversely, all the females traceable through the mother are 'mother' and all the females traceable through the father are 'aunt'. The rules for 'son', 'daughter', 'nephew', 'niece' are the converse of these (Lounsbury 1956).

We must not, of course, ignore the influence of cultures upon the linguistic systems, and it is likely that kinship terminology, for example, will be much more a reflection of them than of the actual objective relationships. But it will not always be easy, or even possible, to distinguish between cultural reality and physical or psychological reality.

In the case of colour terminology, too, there may be three factors at work. First, there are some objective features - the green of living plants, the red of blood, the blue of the sky. Secondly, it may be that there is some psychological reality to the foci. Thirdly, cultural considerations may make certain colour distinctions important, as was shown for Navaho (4.3).

Finally, it may be that some apparent universals are no more than an accident of the history of languages in either of the two ways indicated by the last two replies. It would appear that the modern Welsh system of colour is now much more like that of English, as a result of increasing bilingualism. We cannot be sure how far similar contacts have brought other linguistic systems closer. Certainly it is the case that in most semantic areas (and certainly in colour systems) the languages of Europe have much in common. Nor can we be sure about the historical relationship of languages. For the language families for which we have evidence, we can go back only a few thousand years, and it could be that all the extant languages of the world have a common ancestor (and that need not make any assumptions about the origin of language itself). If so, some, at least, of the universal-like features of language may simply be accidental in the sense that our languages could also have developed in quite different ways and from quite different origins.
Grammar and semantics are often thought of as separate levels of linguistics. Nevertheless, it is clear that grammatical categories often have meaning, that we must have a place for sentence meaning (see 2.5) and that the sentence is essentially a grammatical unit.

6.1 Formal grammar

Most of the traditional grammarians assumed that grammatical categories were essentially semantic. Nouns were defined as names of things, gender was concerned with sex, while plural simply meant ‘more than one’.

On the other hand, many linguists have argued that grammar must be kept distinct from semantics and that grammatical categories must be wholly defined in terms of the form of the language, the actually observable features. (It is unfortunate that the term form is also used for form words as opposed to full words. This is a completely different and much more restricted use of the term and must not be confused with its use here.) One of the earliest statements is in Sapir (1921: 33, 59ff.), but Sapir, it will be remembered, believed in linguistic relativity (3.1), and his point was essentially that, since each language had a different formal structure, it presented a different world. Bloomfield (1933: 140) took a similar line for a different reason (3.4) – that we must be ‘scientific’ and that the study of meaning was a weak point in linguistic theory. He insisted, therefore, that formal features, not meaning, should be the starting point of a linguistic discussion.

There are two good arguments for excluding meaning from grammar, i.e. in favour of formal grammar. The first is that meaning is often very vague and meaning categories are not easily delineated. Moreover, because of this vagueness, what might seem to be obvious semantic categories are often in fact definable only in terms of the formal features of a language (to this extent Whorf may have been right). If, then, the grammatical categories are given semantic definitions, the definitions are circular. An excellent example is the definition so often found in grammar books of a noun as ‘a word used for naming anything’. The difficulty is that we have no way of establishing what ‘anything’ may be. To be of any value the definition must establish independently of the language what are ‘the things’ that may be named. We find that in English such things include fire, speed, place, intelligence, suffering, as well as objects such as tables and chairs. Moreover, they include redness and blackness, but not ‘red’ and ‘black’. What reason have we for believing that these are all ‘things’ and how, in particular, do we know that redness and blackness are names of ‘things’, while red and black are not? Similarly, why does rain refer to a ‘thing’, while It’s raining does not? It is reported that there are some languages in which words for ‘river’, ‘spring’, etc., are essentially verbs so that a literal translation would be ‘It’s rivering’ rather than ‘There’s a river’ (see 3.1). How, then, do we recognise ‘things’? The answer is painfully simple – ‘things’ are what are designated by nouns. The definition of the noun in terms of ‘naming anything’ is thus completely circular; the circularity arises because we have no non-linguistic way of defining ‘things’.

A second argument for formal grammar is that, even when we can establish semantic and grammatical categories independently, they often do not coincide. One of the best known examples is that of wheat and oats, where there is a clear lack of correspondence between grammatical number, singular and plural, with numerical quantity. That these are singular and plural respectively is shown not so much by the -s ending of oats as by the agreement with the verb - The wheat is in the
barn. *The oats are in the barn.* Yet in terms of ‘one’ and ‘more than one’ *wheat* and *oats* cannot be distinguished. No one, surely, would seriously argue that *wheat* is a single mass, while *oats* consist of a collection of individual grains. There are many other similar examples. *Hair* is singular in English, but French and Italian have a plural noun, *cheveux, capelli*; it is not to be supposed that there is any difference in the way we look at hair. Similarly gender and sex are distinct in German and French. The German words for ‘young woman’ are neuter, *Mädchen* and *Fräulein*, while the feminine *la sentinelle* in French may refer to a strapping young male. In English tense is not directly related to time since the past tense is used for future time in e.g. *If he came tomorrow...* (see 3.1). It is clear from such examples that the basic grammatical categories of a language must be established independently of their meaning. It is not surprising that different languages have different grammatical systems.

 Nevertheless, once we have established the formal categories, we can proceed to discuss their meaning. We shall then find that there is some correlation between e.g. gender and sex, tense and time, grammatical number and enumeration, though the correlation will never be exact. Thus in French the nouns referring specifically to females are always feminine, even though feminine nouns may refer to males, and in English **one** of the functions of tense is to refer to time. Indeed it is only because there is some correlation that the labels ‘gender’, ‘tense’, etc., have any usefulness at all; the danger is that we should think that such labels are semantic definitions.

 It is, however, as so often in semantics, a mistake to draw a very clear distinguishing line. As we go into more detailed investigation of grammar, we find the correlation between grammar and semantics becomes closer and closer, until we reach a stage where it is difficult, if not impossible, to declare whether the categories are formal or semantic. For consider *John is seeming happy.* We could say this is ungrammatical on the grounds that the verb *seem* does not occur in the progressive (continuous) form is *seeming*. But is this in fact a grammatical rule or is it the case that for semantic reasons *John* cannot be in a continuous state of seeming? There is no clear answer – the line between grammar and semantics is not a clear one. Similarly, let us compare *John is having gone there* and *John continued having gone there*. There is little doubt that the first is ruled out grammatically by a simple rule that puts auxiliary *have* before auxiliary *be* and so allows only *John has been going there*. But it is not clear whether we ought to say that there is a grammatical rule that prevents *continue* from being followed by a form of auxiliary *have*, or whether we should say that it makes little sense semantically.

 We find, then, that there are two rather puzzling aspects of the relation between grammar and meaning. First, although we can, and must, set up formal categories, they will be found to have some correlation, but not one-to-one, with semantics. Secondly, we find that there is a difficult borderline area. There is a third point – that some of the major categories seem to be found in all languages. As far as we know, there is no language that does not distinguish in some way between nouns and verbs, even though some may not have different word-classes (parts of speech). The similarities between languages support some kind of universalist view, even if only a weak one. It is also not surprising if some of the more important semantic categories, e.g. those relating to sex, quantity, time, are found to be represented in many grammatical systems. But grammar is learnt by succeeding generations and is thus to some degree a matter of convention. This accounts for the ‘oddity’ of *oats* and *wheat* and of the ‘female’ neuter nouns in German.

 The controversy about semantics and formal grammar was revived a few years ago in terms of ‘interpretive’ and ‘generative’ semantics within transformational-generative grammar. Chomsky (1965: 16ff.) had argued that there is a syntactic **DEEP STRUCTURE** and that it is at this level that we can relate active and passive sentences, and, indeed, that the only
difference between an active and its related passive sentence would be the absence or presence of an element \textit{Passive}. Thus \textit{John played the piano} is to be analysed in terms of \textit{John}, \textit{play}, \textit{past tense}, \textit{the piano} while \textit{The piano was played by John} is to be analysed in terms of \textit{John}, \textit{play}, \textit{past tense}, \textit{the piano} and \textit{Passive}. (This is a grossly oversimplified account, but illustrates the points that are relevant here.) Similarly, we can relate the statement \textit{John is coming} and the question \textit{Is John coming?} in terms of the presence or absence of \textit{Q (Question)}. The difference in the order of the words (as well as other differences) in the paired sentences is a matter of their \textit{surface structure}.

In these examples the surface structures are very different, but the deep structures are similar and differ only in the presence or absence of a single element. There are other pairs of sentences with similar surface structures but quite different deep structures. One well-known pair is \textit{John is eager to please and John is easy to please}. The deep structures will have to indicate that \textit{John} is the ‘deep’ subject of \textit{please} in the first and the object of \textit{please} in the second, and also that while \textit{John} is the subject of \textit{is} in the first, the subject of \textit{is} is ‘—please John’ in the second. Very roughly, we need deep structures to suggest \textit{John is eager (John please —) and (— please John) is easy} (the blanks indicating unstated subjects and objects).

Part of the syntax is concerned with rules (transformational rules) that convert deep structures into surface structures. It is essential that given the deep structure these rules will automatically generate the correct surface structure. The deep structures are generated by the base which consists of two components – the \textit{categorial component} and the \textit{lexicon}. The former contains the whole of the grammatical apparatus and the latter the inventory of all the lexical items. Thus the deep structures will contain all the necessary grammatical and all the necessary lexical information. Thus to return to our first pair of examples, we need to take into account the presence of the lexical items \textit{John}, \textit{play}, \textit{piano}, but also the grammatical status of \textit{John} and \textit{the piano} as noun phrases and \textit{play} as a verb (for without this we might generate such non-sentences as *The piano is Johnned by play). The first set of information is provided by the lexicon, the second by the categorial component of the base.

The information contained in the deep structures will allow us to do two things. First, we can generate the surface structures. Thus the presence of \textit{Passive} will ensure that \textit{The piano is placed in initial position and John is placed after by}. Secondly, we can arrive at the semantics from the deep structure by rules of semantic interpretation. Given, that is to say, the grammatical and lexical information that the deep structure of a sentence provides, we can in theory say what that sentence means. It is in this sense that Chomsky’s model is ‘interpretive’.

Other scholars argued that, if there is a deep structure, it must be much deeper, so deep, in fact, that it is essentially semantic and not syntactic. In that sense the semantics is not interpretive; since it is the actual source of the syntax, it is ‘generative’. The arguments are many and complex. One of the most striking is that the deep structure analysis of the active/passive relationship seems to break down with \textit{Many men read few books} and \textit{Few books are read by many men}. For these are clearly different in meaning. The first says that lots of men read very little, but the second that there are few books (e.g. the Bible, Shakespeare) that are read by a lot of people. There is a similar difference between \textit{Many arrows didn’t hit the target} and \textit{The target wasn’t hit by many arrows}. To analyse such pairs of sentences as having the same deep structure, except for the presence of the passive marker, is clearly most unsatisfactory. The deep structures, it is argued (Lakoff 1971a: 238–45), must be the semantic structures, which, in effect, say, ‘The men who read few books are many’ and ‘The books that many men read are few’. A rather different argument (Lakoff 1968) suggested that \textit{Seymour sliced the salami with a knife} should be related to \textit{Seymour used a knife to slice the salami}, and that they have essentially the
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same deep structure. (Fillmore's case theory (6.7) is also within generative semantics.)

The controversy is now largely dead, because both sides have abandoned their positions, though Chomsky still maintains that syntax is AUTONOMOUS, i.e. independent of semantics (cf. Chomsky 1977: 36–9). But generative semantics was almost certainly doomed to failure, because of the impossibility of using semantics as a basis for grammar. The arguments in favour of formal grammar ought to have served as a warning.

6.2 Grammatical categories

Let us now look briefly at some familiar grammatical categories—gender, number and person.

We shall not expect to find an exact correlation between gender and sex. Indeed sometimes we have a surprising contrast as in the French for ‘the male mouse’ which is la souris mâle (‘the (feminine) male mouse’), for souris is a feminine noun. Similarly we noted Mädchen and Fräulein and la sentinelle in the previous section. Yet although in some cases the gender is wholly idiosyncratic, we can at other times see some regularity. The German words are neuter because all words with the diminutive ending -chen and -lein are neuter, while in French occupational names such as sentinelle are all feminine. The explanation then lies in historical facts, which have overruled the obvious semantic probability that male creatures will be referred to by masculine nouns and female creatures by feminine ones.

There is no real problem in English, for English has, strictly, no grammatical gender at all. It has, of course, the pronouns he, she and it, but these are essentially markers of sex. The first two, he and she, are used if the sex is specifically indicated or known; otherwise it is used. There is, however, one qualification. There is a difference between the use of the pronouns for animals and for humans. It may be used for animals, e.g. to refer to a dog, and so may he or she if the sex is known. However, with humans it cannot be used, even if the sex is unknown. For the indefinite unknown human the forms they, them, their are used in colloquial English (even for singular) as in Has anyone lost their hat? If anyone comes tell them to go away. This is frowned on by some grammarians, but seems to me to be a useful and wholly acceptable device for avoiding the indication of sex. For reference to a specific human whose sex is unknown, e.g. a baby, it is sometimes used, but it is probably wiser to ask the mother first ‘Is it a boy or a girl?’

Many languages have noun classes that function grammatically like the gender classes of the Indo-European and Semitic languages. Thus, in Swahili, there are classes of animates, of small things and of big things, each class clearly indicated formally by an appropriate prefix and requiring agreement with adjectives and verbs. These are often referred to as ‘gender classes’. If we are thinking primarily of the grammatical function, that they are classes of nouns that require agreement with adjectives and verbs, the term ‘gender’ is appropriate, since that is essentially the grammatical function of gender in the more familiar languages. But, of course, it may be argued that some other term that does not suggest a relation with sex should be found (though the purist might be reminded that etymologically gender is not related to sex, but merely means ‘kind’). Even with noun classes of the type that are not related to sex we find that there is no precise correspondence between formal class and its meaning. Not all the nouns of the ‘small things’ class in Swahili are small, while Bloomfield (1933: 272) relates that in the Algonquian languages of North America there is a grammatical distinction between animate and inanimate nouns, but that both ‘kettle’ and ‘raspberry’ belong to the class of animates, though ‘strawberry’ is inanimate.

We have similarly noted anomalies with number. Semantically, the question of enumeration does not seem to be a very important one. Many languages have grammatical number systems, but others in various parts of the world (e.g. South-East Asia, West Africa) do not. Moreover, it is difficult to see
why semantically the essential distinction should be between singular ('one') and plural ('more than one'). Many languages make this distinction in their grammar, but not all. Some classical languages — Sanskrit, Greek and Arabic — had, in addition, dual — referring to two objects. Other languages, e.g. Fijian and Tigre (Ethiopia), have distinctions of ‘little plurals’ and ‘big plurals’ too. If we look at the problem of counting objectively it is not at all obvious that there are any ‘natural’ numerical classes that might be expected to be shown in the grammar of all or most languages.

More important, perhaps, is the need to distinguish between individual and mass. This is a distinction that English makes quite clearly, though it is often ignored in the grammar books. The category is referred to as COUNTABILITY, with the noun classes of COUNTABLES and UNCOUNTABLES or COUNT and MASS. Examples of count nouns are cat and book, while butter and petrol are mass nouns. Formally the two classes are easily distinguished. Count nouns alone may occur in the singular with the indefinite article a — a cat (but not *a butter), while only mass nouns may occur with no article or with the indefinite quantifier some (not some in the sense of ‘some or other’) — Butter is..., some butter (but not *Cat is..., *some cat). Some nouns, e.g. cake, fish, belong to both classes.

The semantic difference between these two classes is clear enough. The count nouns ‘individuate’ — they indicate individual specimens, while the mass nouns refer to a quantity that is not individuated in this way. But the distinction does not correspond closely to any semantic distinction in the world of experience, and this should be no cause for surprise. It is true that liquids are always referred to by mass nouns because they cannot be individuated. There is no obvious object that can be described as *a water. But there is no explanation in semantic terms why butter is a mass noun while jelly is count as well as mass; there is no semantic reason why we can refer to a single mass of jelly as a jelly but not to a mass of butter as *a butter. On the other hand, while cake is count as well as mass, for the obvious reason that individual cakes can be recognised, bread is only mass — we cannot talk of *a bread, but have to use a different word, loaf. A foreigner could not guess, then, whether such words as soap, trifle, cheese would be count nouns in English. He has, moreover, to learn the ‘individuating’ nouns loaf of bread, cake of soap, pat of butter.

The count/mass distinction is a fairly clear one — it classifies English nouns, though some belong to both classes. But mass nouns can, nevertheless, function as count nouns. Two obvious functions are, first, the use of such expressions as a butter, a petrol to mean ‘a kind of butter’ or ‘a kind of petrol’, and secondly a coffee, a beer to mean ‘a cup of coffee’ and ‘a glass of beer’. It is best to treat these nouns as ‘basically’ mass nouns and these functions as types of individuation that can be applied to them for specific purposes — to indicate kinds and, with liquids, familiar quantities. Similarly, count nouns that refer to creatures may function as mass nouns to indicate the meat; we find not merely familiar usages such as chicken, rabbit, fish but can also freely form mass nouns elephant, crocodile and even dog (The Chinese eat dog) to refer to the meat. (But we have, of course, the specific words beef, mutton, pork, venison for the flesh of cattle, sheep, pigs and deer.)

Semantically, mass nouns are nearer to plurals than to singular forms of count nouns. This accounts for the anomaly of oats and wheat — there is little difference, unless it is clearly specified, between a large number of grains and a mass of them. In some languages liquids are not mass nouns, but plurals, e.g. in Bilin the word for ‘water’.

The term ‘count’ is relevant to the fact that most count nouns can be counted — one book, two/three/four books. But there are two reservations. First, English has the words scissors, trousers, shears, tongs, etc., which are formally plural, but cannot be enumerated except by using another noun a pair of —; this is formally like the individuators of the mass nouns, a cake of soap, a pat of butter. Secondly, although English uses the plural form with numerals above one, not all
languages do. In Welsh, for instance, ‘four dogs’ is *pedwar ci*,
though ‘dog’ is *ci* and ‘dogs’ *cwn*. In Tigre there are many
mass nouns which have a singulative (individuating) form
made by a suffix, e.g. *nahb* ‘bees’, but *nabbät* ‘a bee’. But the
singulative form is the form used with all numerals, not merely ‘one’ — *hätte nabbät* ‘one bee’, *sülbis nabbät* ‘three bees’,
etc. What seems to be important here is not plurality, but
individuation.

The category of person (first person *I*, *we*, second person
you, third person *he*, *she*, *it*, *they*) is often closely associated
with number and with gender in the verbal forms of lan-
guages. (In Western Indo-European languages only number
and person are marked in the verb, but in Semitic languages
and Eastern Indo-European languages gender is also associ­
ated with it.) But, as we saw in 3.5, person is essentially a
deictic category.

The precise function of any set of person markers, usually
the pronouns, but also the endings of verbs in some lan-
guages, may vary from language to language, but all can
basically be interpreted in terms of speaker, hearer, and
those who are non-participants in the conversation or written
 correspondence, and this is the basis of first, second and third
person.

There are some complications. First, languages have plu-
ral person markers, and it might be assumed that these refer
simply to several speakers, several hearers and several non-
participants. But this is not always so. It is rare for there to be
several speakers, except in chorus as, for instance, a crowd at
a football match crying *We want another* or an impatient
group singing *Why are we waiting?* *We* usually refers not to a
plurality of speakers (‘I and I and . . .’) but to speaker and
hearer (‘I and you’), speaker and non-participant (‘I and
he/she’ or speaker, hearer and non-participant (‘I and you
and he/she’), plus any further combinations involving more
than one speaker, hearer or non-participant. *You* may well
refer to several hearers, but it may also be used to refer to
hearer (or hearers) plus non-participant (or non-participants)

('you and he/she', etc.). *They* alone will always refer simply to
a number of non-participants. There is in fact a simple rule
with the plural: the pronoun is determined by the ‘highest’
ranking person included. If *I* is included, use *we*; if it is not
but *you* is, use *you*; otherwise use *they*. But some languages
make other distinctions. Not uncommon are distinct forms
for inclusive plural ‘I and you’ and for exclusive plural ‘I and
he/she’. Secondly, as we saw in 3.5, in many languages
person is involved in matters of politeness, and there are
sometimes quite complex reasons for choosing the appropri-
ate form.

There are other forms with deictic functions. We have
already discussed some of these, but the articles are also of
interest. The definite article *the* is used to refer to a single
identifiable item in the context, where it is apparent to
speaker and hearer precisely what that item is. Thus,
although *book* may refer to any book, *the book* refers to a
particular book that both speaker and hearer can identify,
either one that is being talked about or one that is recogni-
sable in the non-linguistic context, e.g. visible on the table
before them. Identification of the item is often simply in
terms of the most familiar. *The Government* will usually refer
to our government, *the moon* to the moon that we see at night.
Similarly *the kitchen* or *the garden* will refer to our own
kitchen or garden, or, if we are in someone else’s house, to
theirs. But this can change – we may be talking about another
government, the moon of another planet or the kitchen and
garden of another house. What matters is that the item can be
identified in the context without misunderstanding.

Because of its function the article does not normally occur
with names (proper nouns). A proper noun such as *Fred,
Professor Brown*, etc., is used simply to identify a particular
person, and the article would thus be redundant (though it is
used, redundantly, in some languages, e.g. Italian). How-
ever, even proper nouns are sometimes used in a non-unique
sense; thus we can talk about *the three Freds* to mean three
people with the name Fred. We can even refer to someone in
one of their aspects, e.g. He’s not the Fred I knew. In such cases we identify a particular Fred or kinds of Fred and the article may be used. There are, however, some idiosyncrasies about the use of the article. Thus rivers are identified with the article – the Severn, the Thames, etc., but cities are not – London, Bristol, etc. (except for The Hague). This is a purely formal grammatical point and has no semantic significance.

It is of some interest that if an item becomes uniquely identifiable the article is dropped. Thus we now have Parliament, not the Parliament and, more surprisingly, perhaps, Bank rate and not the Bank rate. Since there is only one of each, the noun phrase has, in effect, become a name, a proper noun.

6.3 Grammar and lexicon

We noted, in 2.4, the distinction made by Sweet in terms of full words and form words. Full words are essentially those that can be dealt with satisfactorily in the dictionary, while the form words (although always listed in dictionaries) have to be discussed in relation to the grammar of the language. For modern linguists the distinction is between lexicon and grammar. Other scholars have made similar distinctions. An American linguist, Fries (1952: 65ff.), recognised only four ‘parts of speech’ but fifteen sets of ‘function words’. The parts of speech were, in effect, noun, verb, adjective and adverb, though Fries quite deliberately refused to call them by these traditional names; examples from each of the sets of function words are the, may, not, very, and, at, do, there, why, although, oh, yes, listen!, please, let’s.

Grammar, however, is not restricted to the study of form or function words. It is concerned, more widely, with categories such as tense, gender, number and with syntactic functions such as subject and object. Some of these may be marked in a language by form words, but they may equally be marked by morphemes (assuming we accept the suggestions in 2.4) or even by the order of the words. While there is a problem of establishing what are the relevant grammatical categories in any language, it is irrelevant for semantics whether a grammatical category is indicated by a form word, a morpheme or the order of the words. For example, we find that English marks past tense with the past tense morpheme (usually indicated as -ed). But there is no similar morpheme to indicate the future; this is marked by the verbs shall and will or by be going to (it may also be indicated by other verbal forms with the appropriate adverbs as in I’m flying to Cairo tomorrow and I fly to Cairo tomorrow). Other languages may use inflection where English and most familiar languages use form words. Thus the English conjunctions after, when, while, if are translated into Bilin (a Cushitic language of Ethiopia) by endings of the verb. Nearer home, Finnish has a very complex ‘case’ system, containing not only ‘nominative’, ‘accusative’, ‘ablative’ etc., all of which are familiar from Latin, but also ‘elative’, ‘illative’, ‘adessive’, ‘essive’ and others. These last ones would translate English out of, into, on, as.

In modern linguistics the problem of the distinction between the grammar and the lexicon is often posed in terms of the distinction between sentences that are unacceptable or ‘deviant’ for grammatical reasons, and those that are excluded on lexical grounds. There is no apparent difficulty about recognising a grammatically deviant sentence. An example would be *The boys is in the garden. This breaks only one grammatical rule, but we can easily invent sentences that seem to conform to no rules at all as *Been a when I tomato. In contrast we shall rule out on different grounds *The water is fragile, *The flower walked away. With these the issue is one of collocation (see 4.4), which determines the possible co-occurrence of lexical items and here rules out the co-occurrence of water with fragile and flower with walk.

There have, however, been opposing views on the question whether these two kinds of restriction, one grammatical, the other lexical, are, in principle, different. One argument to sustain the difference is that a sentence can be grammatically correct, yet at the same time totally deviant in lexical
terms. Thus Chomsky invented the sentence *Colourless green ideas sleep furiously*, which seems impeccable grammatically, yet is lexically completely unacceptable. If a sentence can thus conform to grammar, but be completely deviant lexically, it would seem that grammar and lexicon are distinct. Earlier, incidentally, Carnap had made the same point by inventing a sentence that does not contain any English word at all yet seems to be quite grammatical in terms of English – *Pirot's karulize elastically* (1937: 2).

Some linguists believed that just as grammar could be wholly formal, and that we need not concern ourselves with the meaning of any of our grammatical categories, so, too, a total statement of all the collocational possibilities of a word would be sufficient to characterise it linguistically. Indeed, some went so far as to believe that the set of collocational possibilities of a word was essentially the meaning of that word for the linguist (Joos 1950 [1958: 356]). It was in that spirit that synonymy was defined in terms of total interchangeability (see 5.3). This is, of course, to take one extreme view of the relation between semantics and collocation, one that makes collocation determine meaning (whereas the other extreme view sees meaning as totally determining collocation).

Rather surprisingly, perhaps, even Chomsky (1965: 95ff.) attempted to handle collocational possibilities within grammar. He advocated a grammar that, given a set of appropriate rules, would generate all and only the grammatical sentences of a language. What is relevant to semantics is that he was concerned with restrictions on the co-occurrence of items within a sentence, so that we shall not permit *The idea cut the tree, *I drank the bread, *He frightened that he was coming, *He elapsed the man. In all these examples it is clear that we have chosen items that, in some way, do not ‘fit’ the verbs. The last examples are clearly a matter of grammar in that *frighten* does not take a *that*-clause, while *elapse* is an intransitive verb that does not take any object at all. With the other two examples it is a matter, however, of the incompatibility of lexical items, of certain nouns (as subjects or objects) with certain verbs. While noting the difference between these two types, Chomsky proposed to deal with them in similar ways. In both cases he stated, as part of the specification of the verb, the environment in which it may occur. Thus *elapse* was shown as not occurring with an object noun phrase, and *frighten* not occurring with a following *that*-clause (or rather it was not shown that they can so occur, since the specification would state what is possible, not what is not possible). Similarly *cut* would be shown to need a ‘concrete’ subject, and *drink* a ‘liquid’ object. This was achieved in terms of components, by stating that the relevant subject and object must have the components (concrete) and (liquid). These are **selectional restrictions**. Any sentence which did not comply to them was ruled out and the grammar would not generate it.

Although this appears very neat it is quite unsatisfactory for a number of reasons. First, we have, once again, the problem of the limitless number of components required (see 5.7). For if we are to rule out all the anomalous sentences, we shall have to include all relevant information – and this is infinite. Secondly, the theory fails to account, without considerable complications, for the many occasions in which such selectional restrictions are legitimately broken. This is possible with verbs of saying, thinking, etc., as in *John thought we could drink bread,* or with some negatives, e.g. *You can't drink bread.* It is obvious that we are concerned here with ‘making sense’, and that is a matter of semantics rather than grammar. For we can be grammatical and still not make sense as Chomsky himself illustrated with his famous *Colourless green ideas sleep furiously* (1957: 15). But the important question is not whether it is possible to handle such restrictions as part of the grammar, but rather whether there is any justification at all for doing so. For we surely do not wish to say that *John drank the meat* is ungrammatical in the same sense as is *The boys is in the garden.* The difference seems clear enough to us as native speakers of the language, for, if
we are confronted with deviant sentences of these two types, our reactions are different. If a grammatical rule is broken, we can, and usually will, correct the sentence, e.g. to *The boys are in the garden*, while if the sentence conforms to no grammatical rules we simply rule it out as gibberish. Where, however, the deviance lies in the collocational (selectional) restrictions, i.e. is lexical, we shall usually try to make sense of the sentence by looking for a context in which it might be used, for we would normally assume that collocations imply some semantic compatibility. For instance, *John drinks fish* might seem to be deviant, until we think about fish soup, and it is by no means difficult to find a poetic interpretation (or even possibly a scientific one) for *The water is fragile*. Even Chomsky's *Colourless green ideas sleep furiously* can be (and has been) given an interpretation, far fetched though it has to be.

The lexical restrictions, it has been suggested (Haas 1973: 147–8), are not a matter of rules but of tendencies, not of Yes/no, but of More/less, when judged in terms of deviance. Unfortunately this leads us to the problem 'When is a rule a rule?', for there is no clear line between grammatical and lexical deviance. Some sentences are clearly ungrammatical and are simply to be ruled out or corrected, while others are odd only in a lexical way and can, with some imagination, be contextualised. But there are others that are half-way, and we are not really sure whether their deviance is lexical or grammatical.

Consider, for example, *The dog scattered*. This is not simply a matter of the collocation of *dog* with *scatter*, for the verb *scatter* is normally used only with plural nouns (*The dogs scattered*), or with collective nouns (*The herd scattered*). It would seem, therefore, that a grammatical rule is being broken and that we should amend to *The dogs scattered* (or *The dog was scattered*). But cannot we imagine a dog with magical powers whose way of avoiding its enemies was to break into many pieces and 'scatter' over a wide area? Indeed we can, and so we have found a possible, if far fetched, contextualisation for *The dog scattered*. The deviance would seem, therefore, to be lexical rather than grammatical. But I am not really sure. Can we say *The dog scattered* even in such a context? Or would *The dog scattered itself* be more appropriate? My indecision here shows that we are on the borderline of grammar and lexicon.

### 6.4 Grammatical relations

Traditional grammars make great use of the notions of subject and object (and also of the distinction between direct and indirect object). This is largely based upon the formal distinctions of noun phrases within a sentence such as *John gave Bill a book*, where *John* is subject, *Bill* indirect object and *a book* direct object, and these are defined by the position of the noun phrases relative to the verb and to one another. In Latin these grammatical relations, as they have been called, are marked by inflection – by the case (in the traditional sense, not Fillmore’s) of the nouns, the subject being in the nominative, the direct object in the accusative and the indirect object in the dative, as in *Marcus (nom.) librum (acc.) Julio (dat.) dedit* ‘Marcus gave Julius a book’.

These grammatical relations are also important when we consider the category of voice (active and passive) in many languages. For, if we compare *John played the piano* and *The piano was played by John*, it is apparent that, while *the piano* is the object in the first sentence, which is active, it is the subject in the second, the passive, while *John* is the subject in the first, but appears after *by* in the second. Intuitively, and informally, what we want to say is that the object of the active sentence becomes the subject of the passive, while the subject moves to the position after *by* or becomes the ‘agent’. If we think in terms of deep structures, we could regard *John* as the deep subject and *the piano* as the deep object, and allow the transformational rules to place them in their correct (but different) position in the surface structures of the active and passive sentences (though in the active sentences the subjects and objects will be in the same position in both deep and surface structure).
There are, however, some complications. In English we find that the indirect object may become the subject of the passive, as in *Bill was given a book by John*, as may the direct object - *A book was given to Bill by John* (though this might perhaps be seen as the passive of *John gave a book to Bill* not *John gave Bill a book*). Moreover, we find sentences such as *The old man was looked after by his daughter* in which the *old man* is not strictly the object of the sentence in the active, but is preceded by the preposition *after*; the solution here is to see *look after* as a single verb. More idiosyncratic is *The bed’s not been slept in* in which *sleep in* again seems to function as a unit (but contrast the unlikely *The office’s not been worked in*). However, we must obviously make special statements for sentences of this kind. In general, the rule about transformations, which involves movement of subject and object, holds good.

As long as the terms ‘deep subject’ and ‘deep object’ are used to deal solely with formal relations of this kind no real problems arise. But we may well be tempted to see the deep subject as the ‘doer’ and the deep object as the ‘sufferer’; some linguists have used the terms *actor* and *goal* to make this distinction. There are, however, difficulties if we attempt to define them in semantic terms. For it is by no means true that the subject of a transitive verb can always be seen as one who ‘does’ something. There are many verbs in English that are not verbs of action but of state, e.g. *like* in *I like ice cream* or even *see* in *I saw the boys*. Indeed with some of these verbs we should not usually ask *What did he do?* (though this, contrary to what some linguists have suggested, is not a very clear test, as the reader can judge for himself with *like* and *see*). Verbs of this kind should deter us from attempting to define *actor* in semantic terms. But even with action verbs, it is not clear that we can clearly establish what is meant by *actor*. For instance, Halliday (1970: 147) quotes as an example of an actor *General Leathwell* in the sentence *General Leathwell won the battle*. But in what sense is he the actor? Did he fire any guns, kill any enemy, advance to the enemy’s lines, or did he merely sit in his HQ and let the troops get on with the battle? We could surely argue that semantically he was not the actor, but the ‘supervisor’!

In spite of the absence of any clear semantic definitions for these grammatical relations some scholars, those who have advocated relational grammar, have argued that they are universal and subject to certain rules. (Although we have talked about deep ‘subjects’ and ‘objects’, this was only an informal description and restricted solely to English – and Chomsky actually saw no reason to use these terms.) One of the main arguments is that the formal differences between active and passive sentences vary considerably in different languages. Although many of them have transformations involving movement of noun phrases, the movements are different, while some languages do not in fact move the noun phrases at all, e.g. Hindi *Ram ne moter celai* ‘Ram drove the car’, *Ram se moter celai gei* ‘The car was driven by Ram’ (Johnson 1974: 271). It is only in terms of subject and object that we can make any general, universal statements about active and passive. For, whatever the apparent differences in the various languages, in all cases the object of the active becomes the subject of the passive and the subject of the active is removed elsewhere.

Most of the arguments in favour of relational grammar are of a technical and syntactic nature, ranging over numerous languages, and cannot be followed up here. But, in general, it seems to be the case that such notions as subject and object are useful in many languages. However, there are some languages which appear to have a different system of grammatical relations. One of the most obvious facts about subject and object in languages like English is that some verbs, those that are transitive, typically have both subjects and objects (e.g. *hit* in *John hit Bill*), while others, the intransitive verbs, have subjects only (e.g. *fall* in *John fell*). In talking about the noun phrase with the intransitive verb as ‘subject’ we are, of course, identifying it, in relational terms, with the subject of the transitive verb, and the justification is found in formal
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features of the language (pre-verb position in English, nominative case in Latin). But there are some languages, the so-called 'ergative' languages, such as Basque, Eskimo and Georgian, in which the noun phrase with the intransitive verb is identified with what we would regard as the 'object' of the transitive verb. In these languages the 'subject' of the intransitive verb and the 'object' of the transitive verb are in the same case, the nominative or the absolutive, while the subject of the transitive verb is in the ergative case. ('Subject' and 'object' are in quotation marks because the whole point about the ergative languages is that these terms are inappropriate to them and can only be interpreted by reference to the 'transitive' languages such as English.) A pair of examples from Basque is gizonak jo du chakurra 'the man has beaten the dog' and gizona datar 'the man has come'; here chakurra ('dog') in the first sentence and gizona ('man') in the second are in the same (nominative) case, while gizonak ('man') in the first is marked by the suffix -k as ergative.

There are some languages, e.g. some of the Semitic languages that have formal devices to mark causativity. Thus Tigrinya (Ethiopia) has zäkkäre 'he remembered' and 'azäkkäre 'he reminded (someone)', where the prefix 'a-' is the mark of the causative. This is of interest to us here because the distinction involved sometimes corresponds to that of intransitive and transitive in English. Thus the contrast between intransitive and transitive bounce in English is found in the basic (non-causative) and causative forms of the verb meaning 'jump'. French and many other languages in a similar way use a verb meaning 'do' or 'make': English intransitive and transitive cook are translated into French by cuire and faire cuire. (English, too, has a few causative forms, though only in a historical sense, e.g. fell in He felled the tree = 'He caused the tree to fall'.)

Some linguists have suggested that the transitivity distinction can be dealt with in terms of causativity, the transitive being seen as the causative of a basic non-causative form. Thus John rang the bell is interpreted as 'John caused the bell
to ring' and, by an extension of this idea, John killed Bill as 'John caused Bill to die'. But there are objections to this. First, there is a difference between this purely semantic analysis of English and the formal features of Tigrinya and French (though this might not disturb the advocates of generative semantics – see 6.1). Secondly, languages have causatives of transitive as well as (basically) intransitive verbs. Tigrinya has sabbare 'he broke (something)' and asbäre 'he caused (someone) to break (something)', while both Tigrinya and Italian would translate English show by what is literally 'cause (someone) to see'. Moreover, there seems to be no obvious motivation for the choice of the intransitive or the transitive as the basic non-causative form. Tigrinya does not, as we might have expected from the arguments about English, treat the intransitive 'break' as basic and the transitive as causative; the intransitive is, in fact, indicated by a form with the passive prefix – tásbäre. Nor does Tigrinya relate 'die' and 'kill' in terms of the formal distinction. More surprisingly, in Classical Greek 'kill' seems to be more basic than 'die', for one can 'die by someone'; this would suggest that 'die' is the passive of 'kill', rather than that 'kill' is the causative of 'die'.

Furthermore, there are degrees of plausibility in the causative analysis of English verbs. A causative analysis of march in The sergeant marched the recruits is more reasonable than a similar analysis of (transitive) ring or kill. It is clear that the recruits actively performed the action of marching and that the sergeant caused them to do so, but bells that are rung and people who are killed do not actively perform the actions of ringing and dying under causation. Even less attractive is a causative analysis of transitive hit, for although we may paraphrase the other examples ('John caused the bell to ring', 'John caused Bill to die'), there is no similar paraphrase for John hit Bill – 'John caused Bill to — (?)'.

6.5 Components and the sentence

We have already seen how components may be used to state
selectional restrictions. All that is needed is that a particular component should be stated as a feature of one of the collocated words and as part of the required environment of the other. Thus beer, but not bread, has the component (liquid), and it is stated for drink that part of its required environment is a following noun with that component. By this means we can rule out *John drank the bread. We can also disambiguate: only bank in the sense of a financial institution will be possible in a wealthy bank, since wealthy will be shown as occurring only with a noun that has certain components, e.g. (human), (institutional), etc.

Katz & Fodor (1963), however, suggest that we can go further and actually derive the meaning of a sentence from the meaning of the words it contains. It is worthwhile looking in detail at their model if only to illustrate how difficult it is to move from word to sentence meaning, and because no one else has made such a clear and detailed proposal. In simple language what they propose is a set of rules to combine the meanings of individual lexical items. The rules are called PROJECTION RULES, the combination is referred to as AMALGAMATION, and the meanings are called PATHS. The paths are no more than the structural analysis of the meaning as shown in Figure 6.5., and the amalgamation is thus a combination of the markers and distinguishers. Projection rules are needed since it is necessary to state what may be amalgamated with what, and in what order. This will be determined by the grammatical status of the elements - we shall combine adjective with noun, noun phrase with verb, and so on.

The example chosen by Katz & Fodor as an illustration of the application of the projection rules is The man hit the colorful ball (since I use their example, I will retain the American spelling). We must first establish the grammatical status of the lexical items, that colorful is an adjective and ball a noun and that together with the they form a noun phrase, and so on, but we need not bother with the details here. We then have to amalgamate the paths of the various lexical items. We begin with colorful and ball. In one path for colorful we find a marker (color) referring to actual colour, but there is another path in which the marker is (evaluative) to deal with the meaning of colorful to refer to the colourful nature of any aesthetic object. Ball has three paths, one with the marker (social activity), the other two with the marker (physical object) but distinguished by the distinguishers [having globular shape] and [solid missile for projection by engine of war]. We are concerned, that is to say, with the ball at which people dance, the ‘ordinary’ round ball and cannon balls. (There is much more information not relevant for our purpose.) But there is a further and vital piece of information; the first colorful is specified as occurring in the environment of either (physical object) or (social activity), the second in the environment of either (aesthetic object) – this is, in fact, irrelevant for us – or (social activity). Although we have three paths for ball and two for colorful, when we amalgamate their paths to produce colorful ball we shall not have six (three times two) amalgamated paths, but only four. The reason is, of course, that the second path of colorful (evaluative) will not amalgamate with that of ball with the marker (physical object). In general terms we are saying that all three balls can be colourful in the literal sense of having colour, but only the ball at which people dance can be colourful in the evaluative sense – the other two balls cannot. (I am not concerned with the factual accuracy of these statements, only with them as examples.)

We now amalgamate colorful ball with hit. Hit has two paths, one indicating collision, the other indicating striking, and both occur in the environment (physical object). We shall not, however, now have eight (two times four) derived paths, since neither will amalgamate with colorful ball with the marker (social activity), since in neither sense of hit can this kind of ball be hit. We shall instead have only four possibilities. Finally, we can amalgamate the path of The man (one path only), and so eventually derive four readings only for the sentence (colliding with or striking either an ordinary ball or a cannon ball).
In our previous discussion we saw roughly how componential analysis has been used to deal with anomalies and selectional restrictions. More precisely, projection rules handle such sentences as *The idea cut the tree or *John drank the bread by assigning them no readings at all. Just as some of the amalgamated paths are ruled out for The man hit the colorful ball, so all paths are ruled out for these anomalous sentences and no readings result. Indeed, an anomalous sentence is to be defined as one that has no readings. We have seen some of the problems with componential analysis in general and with its use in dealing with selectional restrictions. But there are further difficulties in the attempt to use it to move from word to sentence.

First, if we merely add components together as we use the projection rules then it will follow that Cats chase mice and Mice chase cats have exactly the same meaning. The point is clear—chase is essentially relational, just as are the relational opposites of §5.3. Indeed the active/passive relationship is essentially one of relational opposites since Cats chase mice entails Mice are chased by cats. The 'direction' of the relation is important and has to be stated. As we saw in §5.3 it is possible to 'insert' direction into components, but that is essentially to treat them not as components, but as relations.

Secondly, a problem arises in that the same component may at times merely provide the environment for amalgamation, at others be part of the derived path (i.e. part of the meaning of the resultant combination). Consider the word pregnant. If we follow the procedure for colorful ball we shall wish to say that this will occur only in the environment of (−male) so as to permit pregnant woman, but not pregnant man. But we can also say pregnant horse, though horse (unlike mare) is not marked (−male) and, moreover, pregnant horse clearly refers to a female creature and can be combined with ... gave birth. In such an example the (−male) component has come from the adjective not the noun, yet the rules will have made no provision for this (nor can they very easily if, in general, we wish to treat pregnant as compatible only with female nouns). There are many other similar examples — pretty child, buxom neighbour, where the noun phrase is presumably (−male) but the nouns child and neighbour are not. Of course, ways can be found to deal with a problem such as this; one way (Weinreich 1966: 429–32) is to talk about a 'transfer feature' which can be transferred to another word. But such examples show that componential analysis does not provide a simple way of proceeding from the meaning of lexical items to the meaning of sentences by a process of the adding together of the components through amalgamation.

6.6 Predicates and arguments

We have already noted that in a sentence the verb is often best seen as a relational feature and, indeed, that active and passive sentences could be handled as if they were relational opposites. Analysis in relational terms seems to offer a far more satisfactory solution to the problem of sentence meaning than componential analysis. In essence such analysis will have much in common with predicate calculus, which we have already briefly introduced and shall be discussing in more detail in §8.3.

Since we are not concerned here with entailment or any other logical relation between sentences, we do not need formulae that express propositions, but can use what logicians call 'open sentences'. Thus we can characterise walk, love and give in terms of one- two- and three-place predicates — W(x), L(x,y) and G(x,y,z). (To convert such open sentences into sentences expressing a proposition, we must either replace the variables x, y, z with constants, e.g. W(a) 'John walks', or add a quantifier, e.g. Vx(W(x)) 'Everyone walks'.) It will often be convenient to spell out the predicate in full with the relevant English word; when this is done it will be placed in square brackets — [Walk](x), [Love](x,y), [Give](x,y,z). A major advantage of this approach is that it can handle 'atomic' components as well as relational ones. For we may regard such components as a relation involving just one argument. Let us take father as an example. Here we
want to express both the relation of 'parent of' and the component (+male). This can be symbolised as \([\text{Parent}] (x,y) \& M(x)\).

Predicate calculus provides a simple method of dealing with what is known in grammar as SUBORDINATION, by allowing a proposition to function as an argument. Thus we may wish to analyse *Fred thinks that John loves Mary* by saying that the predicate \([\text{Think}]\) has two arguments, *Fred* and the proposition *John loves Mary*. We need to indicate that the whole proposition *John loves Mary* is one of the arguments of \([\text{Think}]\). The structure of this sentence can be given as \([\text{Think}] (x, ([\text{Love}] (y,z)))\), where the round brackets show that \((\text{[Love]} (y,z))\) is a single element, and like \(x\), one of the arguments of \([\text{Think}]\). This illustrates that a proposition with its own predicate and arguments can also be an argument of another 'higher' proposition.

In these examples the semantic interpretation has not been very different from that suggested by the syntax of the sentence. But it is possible to break propositions down into far more basic elements than those indicated by the actual words of the sentence. For instance, we might think of treating *Bill gave Harry a book* in terms of a three-place predicate \([\text{Give}]\) – \([\text{[Give]} (x,y,z)\)]). But we could, instead, interpret the sentence as 'Bill caused Harry to have a book'. The formula then becomes \([\text{[Cause]} (x, ([\text{[Have]}] (y,z)))\]), where the arguments of \([\text{[Cause]}\) are \((x)\) ('Bill') and \([\text{[Have]}] (y,z)\) ('Harry have a book'). Similarly we might treat *kill* as 'cause to die' or 'cause to become not alive'. The latter is more favoured, but it also involves the use of the logical operator \(\sim\) 'not'. The formula for *John killed Mary* would then be \([\text{[Cause]} (x, ([\text{[Become]}] (y,([\sim \text{Alive}] (y))))))\) i.e. 'John caused Mary become Mary not alive'; notice that both \([\text{[Cause]}\) and \([\text{[Become]}\) have a proposition as their second argument.

This kind of analysis is often written out in 'tree diagrams' which are used for syntax. Thus for our last example see Figure 7. The generative semanticists (see 6.3) argued that a representation of this kind did not merely relate to the semantics of *kill*, but was rather its deep structure. The argument was largely based upon the triple ambiguity of *I almost killed him*, where, it is argued, *almost* may qualify cause, become or not alive (cf. Morgan 1969). The first sense applies if I shot at him, but missed (I almost caused the subsequent events, but did not). The second applies if I hit him and he recovered after narrowly avoiding death (he almost became dead). The third applies if I shot him and he was in a state of near death (he became almost dead). On the basis of this it is argued that *kill* must be interpreted in terms of three sentences in deep structure, for this will make it possible to place *almost* in each of these three sentences and thus show whether it qualifies cause, become or not alive.

It is a mistake, however, to confuse such a semantic representation with the syntax of a sentence. In particular *John killed Mary* is not identical with *John caused Mary to become not alive*, since it is (just) possible to say *On Thursday John caused Mary to become not alive on Saturday* but not *On Thursday John killed Mary on Saturday*. The difference lies in the temporal marking of the predicates, and if there is only one verb in the original sentence there cannot be more than one time indication. We have not discussed tense and time, nor can we now do so, but clearly they (as well as all the semantics of place, manner, etc.) have eventually to be accounted for.
6.7 Case grammar

Case grammar was first proposed by Fillmore (1968) as one of the arguments in favour of generative semantics (see 6.1), but is best understood as a version of an analysis in terms of predicates and arguments, in which the emphasis is largely upon the functions of the arguments.

A good starting point is the trio of sentences John opened the door with a key, The key opened the door and The door opened. There is the same verb, open, in all three, and in all three it is active. Yet the grammatical subjects are John, the key and the door respectively. We can account for these facts if we treat open as the predicate, John, the key and the door as the arguments and if, further, we handle John, the key and the door in terms of 'case relations' that are not directly related to grammatical subject and object, the case of each noun being the same in all three sentences. Thus John is AGENTIVE (= 'actor') throughout, the key is INSTRUMENTAL and the door is OBJECTIVE. Similar sets of sentences, and similar analyses, can be provided for other verbs; e.g. break or ring: John broke the window with a stone, The stone broke the window, The window broke. But the categories would still be formal - based only on relations of a transformational kind between sentences.

Fillmore suggests that his case notions are 'a set of universal, presumably innate, concepts' and proceeds to define them in semantic terms. To begin with he suggests six cases, AGENTIVE ('typically animate perceived instigator'), INSTRUMENTAL ('inanimate force or object causally involved'), DATIVE ('animate being affected'), FACTITIVE ('object or being resulting from the action or state'), LOCATIVE ('location or spatial orientation'), OBJECTIVE ('the semantically most neutral case'). In a later work (Fillmore 1971a), we find dative renamed EXPERIENCER and factitive being replaced by RESULT, with the addition of COUNTER-AGENT ('the force or resistance against which the action is carried out'), SOURCE ('the place from which something moves') and GOAL ('the place to which something moves'); in addition he talks of 'agents', 'objects', etc., instead of 'agentive', 'objective'.

The argument for case relations is not restricted to verbs such as open. It is suggested that the converse relationship of teach and learn can be accounted for in John taught French to Mary, Mary learnt French from John, by treating John as the agent, Mary as the experiencer and French as the object. Similarly show needs agent, experiencer and object (one shows something to somebody), while see requires experiencer and object. There is a contrast between see and look (at), in that the latter requires agent and object (with look the person takes an active part, with see he is merely affected).

Case grammar, it is argued, can easily account for the difference between John ruined the table and John built the table. In the first the table is the object; in the second it is the result. More strikingly, we can account for the supposed ambiguity of Peter broke the window (deliberately or accidentally) by assigning Peter to the agent on the one meaning and to the instrument on the other.

As we saw at the beginning, there is no one-to-one correspondence between case and the grammatical subject or object. In our first set of examples the agent (John), the object (the door) and the instrument (the key) all occurred as grammatical subjects. Similarly, the location may be the subject as in Chicago is windy (cf. It is windy in Chicago), as may the experiencer in John believed that he would win (cf. It was apparent to John that he would win). There are, moreover, some rules governing what case will 'surface' as the subject. To begin with, we cannot conjoin two different cases and so cannot say *John and the key opened the door. Secondly, there is a hierarchical ordering of the cases which is, in part, agent > experiencer > instrument > object. This ensures that with open, if the agent (John) is present it will be the subject - John opened the door with a key, but not *The key opened the door by John or *The door opened with a key by John. Similarly if there is an instrument but no agent, the instrument will be the subject - The key opened the door, but not *The door opened
6. Semantics and grammar

with a key. Only if the object is alone can it be the subject — The door opened. As a means of relating sentences such as these, case grammar works well. We could easily produce a comparable set with ring — John rang the bell with a hammer, The hammer rang the bell, The bell rang. This ordering is, however, overruled by a transformation such as the passive, where the object will be the grammatical subject (The door was opened by John with a key), or with certain lexically defined verbs, e.g. please, where the object is again the grammatical subject, although the experiencer is present, e.g. This pleases me.

One major difficulty that seemed to face the early version of case grammar was that it was apparently unable to distinguish between such sentences as John smeared the wall with paint and John smeared paint on the wall, or between John sold a book to Henry and Henry bought a book from John. Fillmore suggests, in a later work (1977: 60), that this is a matter of perspective. In our first examples either the wall or the paint are brought into perspective. With buy and sell we have the buyer, the seller, the goods and the money, and all can be brought into perspective by the choice of verb, for we have not only buy and sell, but also pay (Henry paid five dollars for the book) and cost (The book cost five dollars).

Case grammar is attractive in many ways, but, as the last paragraph shows, the deeper the investigation, the more complex it seems to become. Moreover, there are still plenty of problems. The suggestion that the supposed ambiguity of Peter broke the window is explained by treating Peter as either experiencer or agent seems to be invalid, for we can say Peter and Bill both broke the window, Peter accidentally and Bill on purpose, and we were told that two different cases could not be conjoined. However, the fact that we cannot conjoin does not seem to be wholly determined by case: *I saw Helen and a football match is a very strange sentence, yet both Helen and a football match are here in the object case.

Moreover, case grammar runs into the familiar difficulty of the vagueness of semantic categories. Often it will be difficult to decide, on semantic grounds, what is the case of a particular noun phrase. Fillmore sees the smoke as object in The smoke rose, and the same would be true of the wind in The wind blew. But what, then, shall we say of The smoke rose and blotted out the sun, The wind blew and opened the door? Apart from the fact that both the smoke and the wind are probably simultaneously in two different cases, it seems more reasonable to regard the smoke as instrument than the wind, since the smoke was probably moved by the wind. Moreover, it is not easy to see why the wind is instrument rather than agent.

Animacy and deliberateness have both been suggested as tests of what is agent, and these would rule out the wind. But it would be difficult to reach a similar decision with The virus killed the organism or even The slugs destroyed the cabbages. (Did they do so deliberately?) A particularly difficult problem is My ear is twitching. My ear could be agent since it is ‘doing’ the twitching, or experiencer, or even location (I have a twitch in my ear). It is difficult to see how, even in principle, we can decide, and there is clearly a danger of ever increasing the distinctions and the criteria for them.

6.8 Sentence types and modality

Although it has been pointed out several times (e.g. 2.5) that language does not consist solely of statements, much of what has been said so far, has, in fact, related to declarative sentences, sentences that are typically used to make statements and so belong essentially to the descriptive aspect of language.

We clearly do not simply make statements, we also ask questions and give commands. This threefold distinction, moreover, seems to be reflected in the grammar of the languages with which we are familiar: English clearly distinguishes:

John shut the door.
Did John shut the door?
Shut the door.
We can refer to these as DECLARATIVE, INTERROGATIVE and IMPERATIVE sentences respectively; they are formally distinguished in English, the interrogative being marked by inversion of the verb and subject, and, in certain grammatical contexts, by the introduction of the auxiliary verb do, the imperative by omission of the subject and by absence of tense marking. But we should be warned by the discussion of formal grammar (6.1) not to expect a one-to-one correspondence between the grammatically defined sentence types and their function. That declarative, interrogative and imperative sentences do not respectively give information, ask for information and request action, is clearly shown by the following:

(1) I want to know where you have been.  
    I insist that you stay.  
(2) Have you heard the news that we won?  
    Haven't I told you not to do that?  
(3) Understand that I can't do that.  
    Tell me what you have done.

It would be useful, therefore, to restrict the use of declarative, interrogative and imperative to the description of these sentence types, and to use statement, question and command for the functions. The (1) sentences are declaratives but not statements, the (2) sentences interrogatives but not questions and the (3) sentences imperatives but not commands (cf. Bar-Hillel 1970: 365).

The distinction we have just made is essentially one between sentence meaning and utterance meaning (2.5), but it is not always easy to make the distinction. For what are we to say of a sentence such as John's coming? with a rising intonation? We could argue that this is declarative though a question, or we could say that the intonation is a formal mark of the interrogative, just as the inversion of subject and verb auxiliary is. While there is some attraction in trying to in-
More relevant to the issue of mood (more narrowly defined) is the situation in Hidatsa, a North American Indian language (Matthews 1965: 99-101). Here every sentence contains one of a set of six particles or 'mood morphemes'. 'In general', says Matthews, 'the moods indicate the truth value of the sentence.' The six are as follows, with Matthews' glosses:

- **Emphatic**: 'indicates that the speaker knows the sentence to be true: if a sentence that ends with the Emphatic mood is false, the speaker is considered a liar'.
- **Period**: 'indicates that the speaker believes the sentence to be true: if it should turn out otherwise it would mean that he was mistaken, but by no means a liar'.
- **Quotative**: 'indicates that the speaker regards what he has said to be something that everyone knows'.
- **Report**: 'indicates that the speaker was told the information given in the sentence by someone else, but has no evidence of its truth value'.
- **Indefinite/Question**: 'both indicate that the speaker does not know whether or not the sentence is true. The Indefinite also means that the speaker thinks the listener does know'.

The most remarkable point about Hidatsa is that it is not possible to make what we might call an 'unmodalised' statement at all. The grammar of the language forces the speaker to indicate what is the status of what is being said, in exactly the same way as the grammars of European languages usually compel speakers to indicate the time at which the relevant events took place.

Yet English, too, has ways of expressing degrees and kinds of commitment by the speaker, most obviously in the use of the so-called 'modal verbs' *will*, *shall*, *can*, *may*, *must* and *ought to*. We can distinguish in their use several kinds of modality (using the term *modality* to refer to function, while *mood* is defined in terms of grammatical form (cf. Palmer 1979: 4)). First, there is what has been called *epistemic* modality which expresses the degree of commitment of the speaker to the truth of what is being said. Thus we can distinguish between *He may/must/will be in his office*. These may be roughly paraphrased: 'It is possible that . . .', 'The only possible conclusion is that . . .', 'A reasonable conclusion is that . . .'. Secondly, the modal verbs are used for *deontic* modality which has much in common with the imperative. The speaker can give permission, lay an obligation or give an undertaking, in relation to possible future events with e.g. *You may (or can) /must/shall come tomorrow*. Thus, while epistemic modality is concerned with the speaker's relation to propositions, deontic modality is concerned with his active relation to events. (But here *deontic* is defined more narrowly than is usual – see Palmer 1979: 58-9.)

As the use of the term *modality* is intended to suggest, these do not correspond to any clear grammatical distinction. Indeed, some uses of the modal verbs, e.g. *can* to express ability (*He can run a mile in four minutes*) or *will* for willingness (*He won't do as I ask*), are not really expressions of modality at all. Nevertheless, there are two points to note. First, it is normally only with epistemic modality that the modals occur with *have* - to express judgments about the past, *He may/must/will have been in his office* (except for *ought to have* and a 'future perfect' use of *will have*). Secondly, alongside *may* and *can*, English has *be able to*, and alongside *must* it has *have (got) to*; one clear difference is that the other verbs do not normally express either type of modality. It can even be argued that the essential difference between *will* and *be going to* is that one expresses a modal, the other a non-modal future (Palmer 1979: 108ff.).

The chief moral of this section is that we should not think that the main or only function of language is to make statements. We also ask questions, give commands, etc., and in various ways in various languages the speaker can (or even must) express his commitment or attitude to what is being
said. But the discussion of mood and modality, and especially that of the English modals, illustrates a further point – that we cannot draw a very clear line between sentence meaning and utterance meaning. That is then a useful point on which to end this chapter and begin the next.

In this chapter we shall be discussing several kinds of meaning that are not directly related to the grammatical structure of the sentence. Nevertheless, the choice of the title of this chapter does not assume that a clear distinction can be made between utterance meaning and sentence meaning – see 2.5 and the concluding remarks of the last chapter.

7.1 The spoken language

One important characteristic of the linguistic approach towards the study of language is that it is not concerned merely with the written language, but also (and usually with greater emphasis) with the spoken. There are at least four ways in which the spoken language is ‘prior to’, or more basic than, the written:

(1) The human race had speech long before it had writing and there are still many languages that have no written form.

(2) The child learns to speak long before he learns to write.

(3) Speech plays a far greater role in our lives than writing. We spend far more time speaking than writing or reading.

(4) Written language can, to a large extent, be converted into speech without loss. But the converse is not true; if we write down what is said we lose a great deal.

The fourth point is one that needs further discussion. There are some features of the written form that are not easily (or not at all) represented in speech. For instance, the use of italics in this book to refer to examples would not be