Words, Meaning and Vocabulary

An introduction to modern English lexicology

Second edition

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5 Meaning relations

Chapter overview

This chapter covers:

- words that have the 'same' meaning – synonymy
- words that have 'opposite' meanings – antonymy
- hierarchies of meaning – hyponymy and meronymy
- analysing meanings into components
- grouping words by similarity of meaning – semantic fields
- meaning and word combination – collocation

5.1 What are 'meaning relations'?

A discussion of meaning (e.g. Lyons 1977, Palmer 1981) often begins by drawing a distinction between the 'reference' of a word and the 'sense' of a word. Reference is an external meaning relation; it is the relationship between a word and the entity that it 'refers to' in the physical world, in our mental world, or in the world of our experience. The reference of *tree* is a particular plant which has a trunk, branches, twigs and leaves; the reference of *hostility* is a particular attitude displayed especially by humans and animals that signals hatred and enmity.

5.1.1 Sense relations

Sense is an internal meaning relation. Sense relations hold between words within the vocabulary. The two most obvious sense relations are those of 'sameness' and 'oppositeness', called synonymy and antonymy respectively. Other sense relations – hyponymy, meronymy – relate words hierarchically, showing how a word with a general meaning includes the meaning of other words with more specific meanings. *Hostility* has a relation of synonymy with *antagonism* and *enmity*, and a relation of antonymy with *friendliness*. *Tree* is in a hierarchical relation with *plant*, a more general term, and with *beech* and *oak*, more specific terms.

5.1.2 Collocation

Sense relations are paradigmatic. They are about the choice between words, the substitution of one word for another in a particular contextual slot in a sentence. Words also contract semantic relations syntagmatically, with words occupying other slots in a sentence. Such relations are described in terms of collocation, the mutual expectancy of words, or the ability of a word to predict the likelihood of another word occuring. The verb *flex* in English allows only a limited number of possible words as object in the sentence, primarily *muscles* or parts of the body such as *legs* or *arms*. The adjective *maiden* predicts a limited number of nouns, primarily *voyage* or *flight* and *speech*.

5.1.3 Semantic field

What the existence of these meaning relations shows is that the vocabulary of a language is not an unstructured collection of words. There is some evidence from word association experiments in psychology that these meaning relations are relevant for the way in which we store words in our 'mental lexicon' (Aitchison 2002). Lexicologists also use them to propose descriptions of vocabulary structure. One of the concepts used is that of the semantic or lexical 'field'. The vocabulary is said to be organized into a number of partially overlapping semantic fields. A semantic field contains words that belong to a defined area of meaning (e.g. education). The field then becomes the context within which to establish meaning relations.

There is no agreement among lexicologists on a method for establishing semantic fields. One method suggests that the words in a field share a common 'semantic component'. The term comes from an approach to the analysis of word meaning called 'componential analysis', which seeks to express the meaning of a word in terms of its semantic components. The meaning of *mare* could be said to be composed of the components 'equine', 'adult', 'female'. Besides possibly helping to establish semantic fields, componential analysis could also be a way of establishing, or at least confirming sense relations.

Having introduced the topics that this chapter is concerned with, we will look at each of them in more detail, beginning with the sense relations.

5.2 Synonymy

The term 'synonymy' comes from a Greek word (*sunonumon*) meaning 'having the same name'. It is used in modern semantics to refer to a relationship of 'sameness of meaning' that may hold between two words. Synonymy is a widespread relation in the vocabulary of English, for which good evidence is provided by the many synonym dictionaries and thesauruses (e.g. *The Concise Oxford Thesaurus, Collins Thesaurus*). Here is a list of examples of synonym pairs in modern English:

beseech	implore
glitter	sparkle

havoc	devastation
intricate	involved
lazy	indolent
native	indigenous
near	close
plentiful	abundant
substitute	surrogate
treble	triple.

These have been taken from the synonym essays in the *Longman Dictionary of the English Language* (LDEL) (1991), which attempt to explain the sometimes very subtle differences in meaning between words that are closely related in meaning. For example, *beseech* and *implore* occur in a synonym essay under *beg*:

> **Beg, entreat, beseech, implore, supplicate** and **importune** all signify the making of an appeal which is likely to be refused or demurred at. A person **begs** for what he/she cannot claim as a right; **beg** suggests earnestness, insistence, and sometimes self-abasement. By **entreating** someone, one hopes to persuade him/her by earnest pleading and reasoning. **Beseech** and **implore** convey eager anxiety which seeks to inspire sympathy or pity. **Implore** may be stronger than **beseech**, with a suggestion of tearfulness or evident anguish. **Supplicate** adds to **entreat** a humble, prayerful attitude <*invite, entreat, supplicate them to accompany you* – Lord Chesterfield>. **Importune** denotes persistence with one's requests to the point of annoyance or even harassment. (LDEL 1991: 141)

Such an attempt implies that even between identifiable 'synonyms' there is some, however small, difference in meaning. If we take such a position, there is, arguably, no such thing as true synonymy.

5.2.1 Strict and loose synonymy

Many linguists do take this position and make a distinction between 'strict' or 'absolute' (Cruse 1986) synonymy and 'loose' synonymy. In the strict sense, two words that are synonyms would have to be interchangeable in all their possible contexts of use: a free choice would exist for a speaker or writer of either one or the other word in any given context. The choice would have no effect on the meaning, style or connotation of what was being said or written. Linguists argue that such strict synonymy does not exist, or that, if it does, it exists only as semantic change is taking place.

Strict synonymy is uneconomical; it creates unnecessary redundancy in a language. To have a completely free choice between

two words for a particular context is a luxury that we can well do without. Indeed, it would appear that where, historically, two words have been in danger of becoming strict synonyms, one of them has either changed its meaning in some way or fallen out of use. For example, when the word *sky* was borrowed from Old Norse into English it came into competition with the native English word *heaven*: both words denoted both the physical firmament and the spiritual realm of God and the angels. In due course, *sky* came to denote just the physical, and *heaven* just the spiritual: though each is still sometimes used in the context where the other would normally be expected. Similarly, when *spirit* was borrowed from French (ultimately from Latin), it was in competition with the native English *ghost* (compare: *Holy Ghost, Holy Spirit*): *spirit* has taken over as the term with the more general meaning, and *ghost* is more or less restricted to 'dis-embodied spirit' meanings. Consider also the following archaic or obsolete words, which have fallen out of use and been replaced by the items in brackets:

> culver (pigeon)
> divers (various)
> dorp (village)
> erst (formerly)
> fain (willing)
> levin (lightning)
> trig (neat)
> warrener (gamekeeper)
> wight (human being)
> yare (readily)

When we speak of synonymy, then, we mean varying degrees of 'loose' synonymy, where we identify not only a significant overlap in meaning between two words, but also some contexts at least where they cannot substitute for each other. Take the synonyms *find* and *discover*: they are substitutable in the context *Lydia found/discovered the ball behind the garden shed*; but not in the context *Marie Curie discovered radium in 1898* or in the context *Franz found it easy to compose sonatas*. As is evident in this case, synonyms may be substitutable where their meaning overlaps, but where a meaning falls outside of the shared area (*discover* = 'be the first one to come across something', *find* = 'experience something in some way') one cannot be used instead of the other. Synonyms may overlap in meaning to a greater or lesser degree, though it is not clear how this might be measured, nor whether there is a limit at which the notion of synonymy becomes meaningless.

5.2.2 Distinguishing synonyms

The question that we wish to answer now is: can we make any generalizations about the different kinds of contexts in which the meanings of synonyms may differ? The answer is that we can make some generalizations, but they do not cover all the cases, as the need for the synonym essays in the LDEL demonstrates.

Some synonym pairs differ in that they belong to different dialects of English. The dialects in question may be one of the national standards, e.g. British, American or Australian English; or they may be a regional dialect within a country or area, e.g. Tyneside, West Midlands, South-West dialects of British English. Here are some examples of synonym pairs in British and American English:

bonnet (car)	hood
caravan	trailer
drawing pin	thumbtack
farm	ranch
lawyer	attorney
lift	elevator
pavement	sidewalk
refuse/rubbish	garbage
tap	faucet
windscreen	windshield.

Now here are some synonym pairs from standard British and northern British English:

anyway	anyroad
armpit	oxter
brew (tea)	mash
child	bairn
frightening	fleysome
money	brass
nothing	nowt
passageway	ginnel/snicket
sandwich	butty
splinter	skelf.

A second general way in which synonyms may be distinguished relates to the style or formality of the context in which a word may be used. One of a pair of synonyms may be used in a more formal context than the other; or one of the pair may belong to slang or colloquial English, while the other is in more general use. Here are some

examples of synonym pairs, where one of the pair is usually used in an informal or less formal context and the other in a more formal context:

archer	toxophilite
argument	disputation
beauty	pulchritude
cross	traverse
die	decease
give up	renounce
letter	missive
praise	eulogy
warning	caveat
western	occidental.

Now here are some synonym pairs from standard English and from English slang:

astonished	gobsmacked
crash	prang
destroy	zap
drunk	sloshed, etc.
face	phizog
heart	ticker
insane	barmy, etc.
money	rhino, spondulix, etc.
prison	clink
steal	nick, etc.

For some ordinary language words, such as *drunk*, *insane*, *stupid*, or *money*, slang synonyms proliferate.

A third way in which synonym pairs may be distinguished is where connotations differ. Two words may largely share a denotation, in referring to a particular entity, but they may have divergent associative or emotive meanings. Take the words *push* and *shove*: their denotation largely overlaps – forceful propulsion forward; but *shove* connotes roughness or haste, which *push* does not. Here are some further pairs of synonyms that differ in their connotations (in brackets):

ambiguous	equivocal (deliberately)
famous	notorious (disreputably)
hate	loathe (with repugnance or disgust)
misuse	abuse (of privilege or power)
new	novel (strikingly)

obtain	procure (with effort)
persuade	inveigle (with ingenuity or deceit)
proud	haughty (with disdain)
recollection	reminiscence (with pleasure)
simulate	feign (with craftiness).

Arguably, both members of each pair of synonyms belong to the same dialect (the standard) and to the same level of formality. It is the connotation of the second member of each pair that distinguishes them.

5.2.3 Why so many synonyms?

English is a language particularly rich in pairs of synonyms. The primary reason for this has to do with the history of the language and especially with the wholesale borrowing from other languages, especially French and Latin. Chapter 2 traced this history. We can now see the consequences for the meaning relation of synonymy. In the list below, the words on the left have their origin in Old English, those on the right were borrowed from French (F) or Latin (L):

ask for	request (F)
din	commotion (L)
drive back	repulse (L)
drop	globule (L)
glove	gauntlet (F)
need	require (F)
pock (mark)	pistule (L)
rope	cable (F)
slake	satisfy (F)
smother	suffocate (L).

You will notice that the words from Old English are generally shorter than their French or Latin synonyms. They also tend to belong to the ordinary, colloquial language, whereas their Latinate synonyms belong to a more formal context.

Words borrowed directly from Latin may sometimes be more formal or technical than a synonym that entered English as a consequence of the Norman French invasion. Here are some examples of this case, with the French-derived word on the left and the Latin-derived word on the right:

commencement	inception
devise	excogitate
generous	munificent

imprison	incarcerate
mount	ascend
pardon	amnesty
urgency	exigency.

It is not always the case that the Latin-derived word will be more formal and less familiar. In the course of history, some words derived directly from Latin have found their place in the common language, but the clear tendency is for words derived from Latin, especially where these were borrowed into Latin from Greek, to belong to formal and often technical styles.

EXERCISE 5/1

Write a synonym essay in the style of the LDEL for the following set of synonyms:

  plentiful, plenteous, ample, abundant, copious.

They all suggest 'more than enough but not too much'.

EXERCISE 5/2

What distinguishes each of the following pairs of synonyms – dialect, formality, or connotation?

1. astonished – flabbergasted
2. chat – gossip
3. earwig – clipshears
4. give – donate
5. hate – loathe
6. ice lolly – icey pole
7. insect – creepy-crawlie
8. much – mickle
9. slippery – slippy
10. throw – hurl

5.3 Antonymy

Oppositeness is perhaps not such a pervasive meaning relation in the vocabulary of English as synonymy, but it has an important role in structuring the vocabulary of English. This is especially so in the adjective word class, where a good many words occur in antonymous

pairs, e.g. *long-short, wide-narrow, new-old, rough-smooth, light-dark, straight-crooked, deep-shallow, fast-slow.* While antonymy is typically found among adjectives it is not restricted to this word class: *bring-take* (verbs), *death-life* (nouns), *noisily-quietly* (adverbs), *above-below* (prepositions), *after-before* (conjunctions or prepositions).

Besides having morphologically unrelated antonyms, as in the examples above, English can also derive antonyms by means of prefixes and suffixes. Negative prefixes such as *dis-, un-* or *in-* may derive an antonym from the positive root, e.g. *dishonest, unsympathetic, infertile.* Compare also: *encourage-discourage* but *entangle-disentangle, increase-decrease, include-exclude.* Similarly, the suffixes *-ful, -less* may derive pairs of antonyms, e.g. *useful-useless, thoughtful-thoughtless*; but this is by no means always the case, e.g. *hopeful* and *hopeless* are not antonyms, *grateful* has no counterpart **grateless, selfless* has no counterpart **selfful.*

5.3.1 Co-occurrence of antonyms

It is often the case that antonyms occur together, either within the same sentence or in adjacent sentences (Fellbaum 1995). One reason is that certain expressions are structured in this way, e.g. 'a matter of life and death', 'from start to finish', 'the long and the short of it', 'neither friend nor foe', 'wanted dead or alive'. A second reason is that antonyms may be used redundantly to emphasize a point, e.g. 'It was a remark made in private, not in public', or to make a rhetorical flourish, e.g. 'Is this the beginning of the end or the end of the beginning?' Another context in which antonyms are typically employed is where reference is to a change of state, e.g. 'The museum opens at nine and closes at four'.

We generally think of antonymy as a relation holding between words belonging to the same word class, but since antonymy is a semantic relation, it may hold between words that belong to different word classes. For example, in 'Lighten our darkness, we pray', a verb and a noun form an antonym pair. In 'She remembered to shut the door but left the window open', a verb and an adjective are in a relation of antonymy. Clearly, oppositeness influences our thinking and communicating to a significant extent, as the widespread use of antonymy demonstrates (Jones 2002).

5.3.2 Types of antonym

Unlike synonymy, antonymy covers a number of different types of oppositeness of meaning. Three types are commonly identified: gradable antonyms, contradictory or complementary antonyms, and

converses. Antonym pairs of these types express oppositeness in rather different ways, though it is not clear that we as speakers are necessarily aware of these differences or that they play a part in how we store antonyms in our mental lexicon.

Gradable antonyms include pairs like the following:

beautiful	ugly
expensive	cheap
fast	slow
hot	cold
increase	decrease
long	short
love	hate
rich	poor
sweet	sour
wide	narrow

These pairs are called gradable antonyms because they do not represent an either/or relation but rather a more/less relation. The words can be viewed as terms at the end-points of a continuum or gradient. The more/less relation is evident in a number of ways: the terms allow comparison, e.g. 'My arm is longer/shorter than yours', 'I love a good book more than a good meal'; the adjectives can be modified by 'intensifying' adverbs, e.g. *very long, extremely hot, extraordinarily beautiful.* The terms do not represent absolute values; for the adjectives the value depends on the noun being described; the length of arms is on a different scale from the length of, say, roads. In such pairs of adjectives, one is usually a marked term, the other unmarked. This manifests itself, for example, in questions such as 'How long is the street?' To ask 'How short is the street?' already assumes that the street has been identified as short. The use of *long* does not make an assumption either way. Also, in giving dimensions, you would use the 'larger' term, e.g. 'The street is 400 metres *long*' (not *short*).

The following are examples of contradictory or complementary antonyms:

asleep	awake
dead	alive
on	off
permit	forbid
remember	forget
shut	open
true	false
win	lose.

These pairs of antonyms are in an either/or relation of oppositeness. An animate being can be described as either *dead* or *alive*, but not as some grade of these or as being more one than the other. The assertion of one implies the denial of the other member of the pair: if you *permit* some behaviour, then it is not *forbidden*; if you *lose* a contest, then you have not *won* it; if a switch is *on*, then it is not *off*.

The following are examples of converse antonyms:

above	below
before	after
behind	in front of
buy	sell
give	receive
husband	wife
parent	child
speak	listen.

For each pair of antonyms, one expresses the converse meaning of the other. In the case of sentences with *buy* and *sell*, for example, the same transaction is expressed from different (converse) perspectives:

Lydia bought the car from Kirsten.
Kirsten sold the car to Lydia.

Similarly with nouns such as *husband* and *wife*, a sentence may express the relationship in one of two, converse, ways:

Margaret is Malcolm's wife.
Malcolm is Margaret's husband.

And the same is also true for prepositions like *above* and *below*.

The spaghetti is on the shelf above the rice.
The rice is on the shelf below the spaghetti.

5.3.3 How pervasive is antonymy?

If you look at any dictionary of synonyms and antonyms, you will find that far more synonyms are given than antonyms. Sameness of meaning seems to be a more pervasive semantic relation than oppositeness of meaning. Why should this be so?

One reason must be the extraordinary synonym richness of English arising from the blending of words from different language sources in its vocabulary. A converse reason is that the number of words and their related concepts that allow an opposite is limited, whereas there is no such theoretical limitation on the relation of synonymy.

As we noted earlier, the largest group of antonyms are to be found in the adjective word class, among the 'gradable' adjectives (deep-shallow, near-far, clean-dirty). Some adjective antonym pairs belong to the complementary type (dead-alive, open-shut, singular-plural). Many adjectives, however, are not gradable, e.g. those referring to material (wooden, plastic, velvet), provenance (African, European, Cameroonian), shape (round, square, oval). Some non-gradable antonymns can, however, be made gradable in an appropriate context, e.g. *She's more English than you or I* (i.e. she behaves in a manner that is more characteristic of English people than you or I do).

Other word classes contain antonym pairs, but to a lesser extent, and only of the complementary and converse types. Gradable antonyms are found only in the adjective class, or among adverbs derived from adjectives (slowly-quickly, frequently-rarely, closely-distantly). The noun class contains some complementary antonym pairs (sloth-diligence, joy-sadness, sleep-insomnia) and some converse antonym pairs (parent-child, teacher-student, employer-employee). Similarly, the verb class contains some complementary antonyms (go-stay, float-sink, gather-scatter), as well as some converse antonyms (send-receive, buy-sell, own-belong to). We have also noted some antonym pairs among prepositions/adverb particles (on-off – complementary, above-below – converse). But in all word classes other than adjectives, the incidence of antonym pairs is restricted.

EXERCISE 5/3

For each of the following words: (a) say whether it has an antonym and give it if it does; (b) say what kind of antonymy is involved (gradable, complementary, converse).

emigrate, equine, freedom, frothy, new, proud, simple, speak, straight, triangular


5.4 Hyponymy and meronymy

This section deals with a pair of sense relations that relate words hierarchically. The underlying observation is that some words have a more general meaning, while others have a more specific meaning, while referring to the same entity. For example, *tree* and *oak* may be used to refer to the same object, but *oak* is a more specific designation of the object than is *tree*. Indeed, *tree* may be used to refer to objects that are not oaks, but which share with them the essential features of

'treeness' (i.e. large plants, with trunk, branches, leaves, etc.). Similarly, a pain in the *foot* and a pain in the *toe* may refer to the same phenomenon; the second is merely a more specific way of designating the location of the pain.

Both *tree* and *oak*, and *foot* and *toe* are related to each other by a hierarchical relation of generality/specificity. However, the two pairs of words illustrate different types of hierarchical relation. In the case of *tree* and *oak*, the relation is a 'kind of' relation: an oak is a kind of tree. This is the relation of hyponymy. In the case of *foot* and *toe*, the relation is a 'part of' relation: a toe is part of a foot. This is the relation of meronymy (Cruse 1986). You can probably begin to appreciate the extent to which these hierarchical relations structure the vocabulary, hyponymy more so than meronymy. These relations, and especially hyponymy, reflect the taxonomies, or classification systems, of the natural sciences, or indeed those that we make informally in talking about the world that we live in and experience. Let us look in a little more detail at each of these relations.

### 5.4.1 Hyponymy – the 'kind of' relation

The relation of hyponymy serves to structure large parts of a language's vocabulary. The organization of a work like *Roget's Thesaurus* (e.g. Kirkpatrick 1995) suggests that it is perhaps an all-pervasive structuring relation. It is most evident in the taxonomies of natural phenomena (see Godman and Payne 1979, McArthur 1981), e.g.
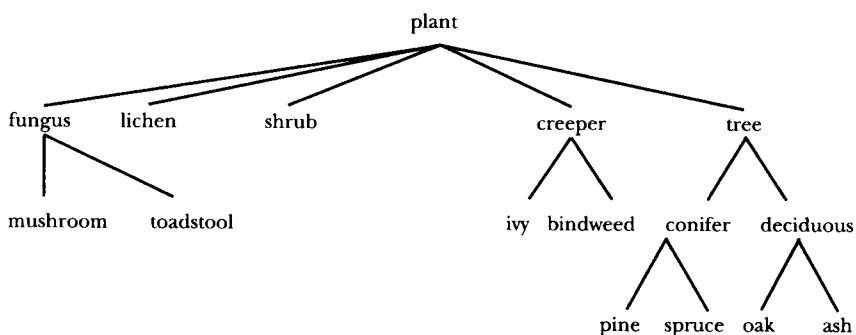
This is not by any means a complete taxonomy, or a very accurate one; it is merely to illustrate the hyponymy relation. The term at the top of the hierarchy (plant) has the most general meaning, and it can be used to refer to all the objects denoted by terms below it. It is a

'superordinate' term. Those immediately below it, the directly 'subordinate' terms (fungus, lichen, shrub, etc.), are its 'hyponyms'. So, *tree* is a hyponym of *plant*, but is in turn a superordinate to its hyponyms *conifer*, *deciduous*; *conifer* is in turn a superordinate to its hyponyms *pine*, *spruce*, etc. Reading up from the bottom of the hierarchy, *pine* is a 'kind of' *conifer*, which is a kind of *tree*, which is a kind of *plant*.

Hyponymy relations are not restricted to the classification systems of natural phenomena. They are found also, for example, in taxonomies of human artefacts, e.g.
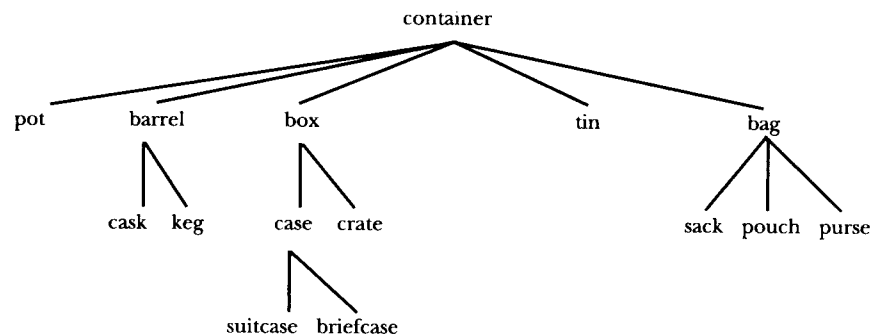

Again, the hierarchy is neither complete nor entirely accurate. For one thing, the term *barrel* probably needs to occur as a hyponym of itself; in other words, *barrel* denotes a class of objects that includes *casks*, *kegs* and *barrels*. *Barrel* has both a more general and a more specific meaning. What this begins to illustrate is that hyponymy hierarchies are not necessarily either complete or neatly arranged. After all, our vocabulary presumably contains the words that we, as members of a particular culture or speech community, need in order to communicate with each other about our environment and our experience. In many instances, we do need words of varying degrees of generality, so that we can refer to classes and sub-classes of entities; but that does not mean that they will always form a neat system of terms. We will explore this point further in 5.4.3 below.

### 5.4.2 Meronymy – the 'part of' relation

Just as the concern of scientists to classify natural phenomena is reflected in the semantic relation of hyponymy, so too their concern to analyse phenomena into their parts is reflected in the semantic relation

of meronymy. The 'part of' relation can similarly be represented by a hierarchy of superordinate and subordinate (meronym) terms, e.g.
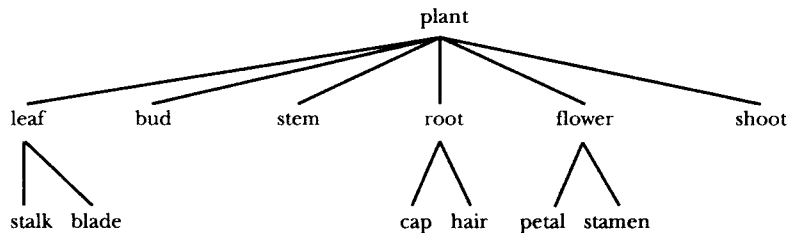
Reading from the bottom of the hierarchy, *petal* and *stamen* are parts (meronyms) of *flower*; *flower*, *root*, *stem*, etc. are parts (meronyms) of *plant*. The superordinate term is not merely a more general way of talking about its meronyms, as in the hyponymy relation, though there is a sense in which the use of a superordinate term includes reference to the meronyms. *Flower* refers to the entity in its totality, including its petals, stamen, stalk, and so on; but these are not more specific kinds of flower, but rather different parts of it that together make up the whole.

Such part/whole relations exist between many words in the vocabulary. Most human artefacts are made up of parts, which we usually want to label with their own terms. A *knife* consists of a *blade* and a *handle*. A *fountain pen* is made up of a *cap*, a *barrel*, a *nib*, a *reservoir* (for the ink); the *cap* is made up of the *cap* itself and the *clip*. Most obviously, the meronym relation applies to entities that have concrete reference. But we also divide more abstract entities into their parts, e.g.
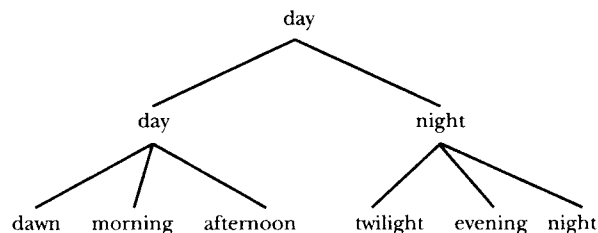

The terms *day* and *night* occur twice in this hierarchy because *day* refers both to the period of twenty-four hours and to the part of that period which enjoys daylight; *night* is in contrast with this second meaning of *day* and also refers to the darkest part of it.

5.4.3 Lexical gaps

When you begin to apply the notions of hyponymy and meronymy to parts of the vocabulary of a language, you soon realize that, as ordinary language users, we do not neatly classify and analyse things in the systematic way that scholars and scientists attempt to do. Consider the parts of the human *finger*: the finger has three joints, but we have a common language term for only one of them, the *knuckle* (see *Oxford-Duden* 1981: 44). This suggests that there are 'lexical gaps' for the other two potential meronyms, but we presumably so rarely need to refer to them that a periphrastic expression will usually suffice, e.g. *the middle joint* or *the joint nearest the nail*.

That was an example from meronymy. Let us now take a more extensive example, using the hyponymy relation, to illustrate the unsystematic nature of hierarchical organization in vocabulary. The superordinate term is *vehicle*, and so we will look at different kinds of vehicle. As a preliminary, we might propose the following hyponyms of *vehicle*.
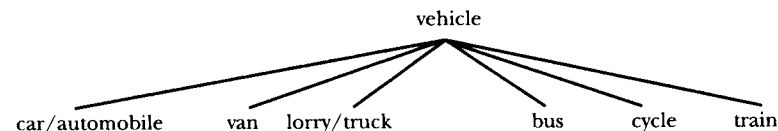
Further hyponyms might include various kinds of *carriage* and *cart*. But a more rational hierarchy might wish to insert an intermediate level of generality, which would distinguish *engine-powered, pedal-powered, horse-drawn, hand-operated/pushed* vehicles. However, these terms are not of quite the same kind as *vehicle, car, van*, etc.: they seem created for the purpose. Moreover, these distinctions would separate pedal cycles from motorcycles, which otherwise could be related thus:
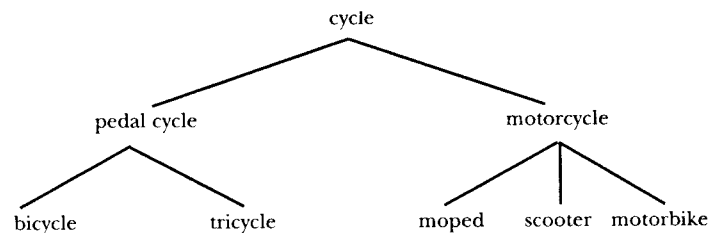
This partial hierarchy is not without its problems either: the terms *motorcycle* and *motorbike* are virtual synonyms and could be

interchangeable, and it is arguable whether *scooter* is a kind of *motorcycle*; *moped* occupies an intermediate position between *pedal cycle* and *motorcycle*, being both pedal-driven and engine-powered. If we attempt to propose hyponyms for *lorry*, we might want to make an initial distinction between *articulated* and *non-articulated* lorries, but English does not have a proper term for lorries that are not articulated. We would then have to find a place in the hierarchy for: *tipper truck*, *pickup truck*, *flat truck*, etc. Now consider how the hierarchy might be expanded under *bus*:
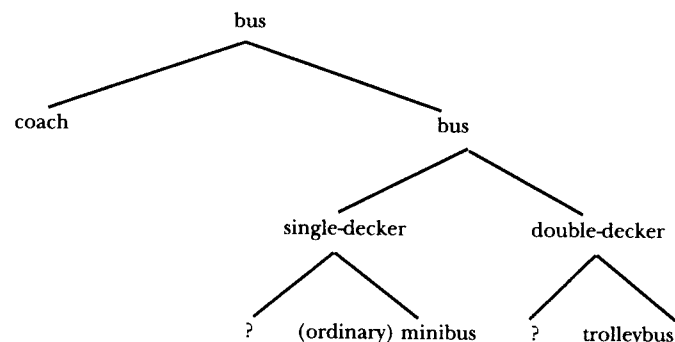
The term *bus* is both the overall term for this kind of vehicle and more specifically differentiates an urban mass passenger vehicle from one used for inter-city travel (coach). A *minibus* is a small *single-decker*, but there seems to be no term for an ordinary-sized *single-decker* as a co-hyponym. Similarly, *trolleybus* is a kind of *double-decker*, though distinguished not by size (as *minibus*) but by method of power. Again, though, there is no co-hyponym for an ordinary *double-decker*. And where would we fit *tram* into this hierarchy?

What this discussion is intended to demonstrate is that, while the hierarchical semantic relations of hyponymy and meronymy are undoubtedly important in the structuring of vocabulary, they do not operate in an altogether systematic and unambiguous way. There are many lexical gaps that are shown up when we begin to build words into hyponymy and meronymy trees, and co-hyponyms may not always be distinguished on the same basis (size, purpose, mode of power, etc.). When a new word is coined, or a new object created and named, consideration is hardly given to its place in the structure of vocabulary. A word is coined because it is needed in some mode of discourse. How it then fits into the vocabulary as a whole is a matter for the lexicologists.

> **EXERCISE 5/4**
>
> Propose a hyponymy tree with *crockery* as the most superordinate term. Can you identify any lexical gaps or where you need to use the same term on more than one level?

> **EXERCISE 5/5**
>
> Propose a meronymy tree for *bicycle*. Can you account for all the parts?

5.5 Analysing meaning

Meanings of words are complex matters. We have already suggested (5.1) that the meaning of a word involves, at least, its reference to an entity in the world of experience, as well as the sense relations it contracts with other words in the vocabulary, and the collocational relations (5.6) that may hold between it and other co-occurring words. From another perspective, some semanticists and lexicologists have suggested that meanings of words can be analysed into a finite number of features or components, which are universal to all languages, and from which the meanings of all words can be composed by new, unique combinations. Such an approach is called 'componential analysis' (Nida 1975, Leech 1981).

5.5.1 Components of meaning

Semantic components are typically represented as binary features, e.g. [+/−ANIMATE]. This means that the meaning of a word may be composed of the component [+ANIMATE] or of the component [−ANIMATE]. For example, the meaning of *vixen* would include the [+ANIMATE] component, while the meaning of *apple* would include [−ANIMATE]. The [+/−ANIMATE] component is one that serves to make a fundamental distinction between one set of words and another in the vocabulary of English, but at a rather high level of generality. Components of a more specific nature are taken to imply or subsume those that are more general; so [+/−FRUIT], for example, would subsume [−ANIMATE], and [+/−MAMMAL] would subsume [+ANIMATE].

Let us attempt a componential analysis of the meaning of *vixen*. A vixen is a female fox and so belongs to the class of mammals: the

component [+MAMMAL] implies the components [+ANIMATE], [+ANIMAL]. We need a component to indicate that *vixen* is the female, in contrast to the *dog fox*; this component is usually marked as [−MALE]. We also need a component to indicate that *vixen* usually refers to a fully grown, adult fox, in contrast to a *fox cub*; this is usually marked as [+ADULT]. So far, our components − [+MAMMAL], [−MALE], [+ADULT] − could apply to a large number of words referring to adult female mammals (e.g. *bitch, mare, cow, sow, doe*). We need a component that will distinguish *vixen* from all of these. We could suggest [+VULPINE], from the Latin genus name *Vulpes*, in the same way that [+CANINE] is used for *dog*, [+BOVINE] for *cow*, [+EQUINE] for *horse*, etc. These components all imply the component [+MAMMAL], which now need not be indicated in their semantic description. What exactly the minus values for these components ([−VULPINE], [−EQUINE]) indicate is not clear, except 'any mammal that is not a fox', which is redundant if all other mammals also have positively valued unique components.

Within a genus, however, these components can usefully distinguish the meanings of the relevant set of lexemes, e.g.

	VULPINE	ADULT	MALE
fox	+	+/−	+/−
(dog) fox	+	+	+
vixen	+	+	−
fox cub	+	−	+/−

The '+/−' indicates that either may apply: *fox* as the general term includes both males and females, young and adult; *fox cub* is not differentiated for gender. Each lexeme has a unique set of components. They all share a plus value for [VULPINE], which is thus a 'common' component. The others serve to distinguish the meanings, and are therefore 'diagnostic' components. From this analysis, *fox*, with its '+ / −' values under [ADULT] and [MALE], emerges as the superordinate term in a hyponymy hierarchy.

One of the early applications of componential analysis was by ethnographers in the study of kinship systems. Using the components [MALE], [ASCENDING GENERATION], [DESCENDING GENERATION], [LINEAL DESCENT], we can account for the following kinship terms in English:

	MALE	ASCEND	DESCEND	LINEAL
father	+	+	−	+
mother	−	+	−	+
uncle	+	+	−	−
aunt	−	+	−	−
brother	+	−	−	+
sister	−	−	−	+
cousin	+/−	−	−	−
son	+	−	+	+
daughter	−	−	+	+
nephew	+	−	+	−
niece	−	−	+	−

The components [ASCENDING GENERATION] and [DESCENDING GENERATION] account for a three-way meaning distinction between 'same generation as self' ([−ASCEND], [−DESCEND]), 'higher generation than self' ([+ASCEND], [−DESCEND]), and 'lower generation than self' ([−ASCEND], [+DESCEND]), The combination [+ASCEND]/ [+DESCEND] is impossible: someone cannot be, for example, both your father and your son, or both your aunt and your niece. Now let us add the terms *grandfather, grandmother, grandson, granddaughter* to the list; we need a component that means 'two generations removed from self'. Such a component could be more easily and economically accommodated if we were to abandon the requirement for components to be binary. A single [GENERATION] component would encompass [ASCEND] and [DESCEND] as well: it would have values such as '0' for 'same generation', '+1' for 'one generation above self', '+2' for 'two generations above self' (i.e. grandparents), '−1' for 'one generation below self', and so on.

Arguably, multivalued components could usefully be employed for analysing the meaning of other lexemes. In the field of vehicle words, a component such as [MEDIUM] would have the values 'land' (for land-based vehicles), 'water' (for ships and boats), and 'air' (for aircraft). A component [MODE OF PROPULSION] would, likewise, be multivalued: e.g. 'engine', 'horse', 'wind', 'human'. As this example suggests, componential analysis may provide a useful tool for differentiating the meanings of lexemes within a semantic field (see Lehrer 1974).

The identification of components may contribute to establishing the essential meaning differences between semantically related lexemes. Much of Lehrer's (1974) discussion is concerned with cooking terms. Consider the following cooking verbs: cook, boil, bake, fry, braise, stew, grill, poach. Components will need to be derived from considerations related to: whether liquid is used, and if so, whether water or fat/oil; whether immersion in liquid is required; whether cooking occurs in an oven or on a hob; whether a covered container is required; and so on.

> **EXERCISE 5/6**
>
> Construct a matrix with binary components only for the cooking verbs above, and then adapt it to one that may use multivalued components. Is one more revealing than the other?

There is no sure way of establishing what the universal set of semantic components might be: [ADULT] and [MALE] seem likely candidates, but [VULPINE] seems rather less obvious. Componential analysis also appears rather Anglocentric, with semantic components labelled in English, and reflecting Anglo-American culture and views of the world. Only the analysis of considerable numbers of lexemes in many different languages will reveal what such a set of components might plausibly look like. And it may well be the case that the meanings of many lexemes, even in English, cannot be exhaustively described by means of semantic components, especially those lexemes that have a more abstract reference (e.g. naive, aware, wise, foolish, sophisticated, etc.). And it is unlikely that very many components will turn out to be universal. Perhaps componential analysis has limited but powerful application to certain areas of semantic description.

5.5.2 Semantic primitives

An alternative approach to the analysis of meaning searches for the words in a language whose meaning is so basic that it cannot be further analysed and by means of which the meanings of more semantically complex words can be expressed (Wierzbicka 1995, 1996). Such an approach recognizes a basic set of meanings that is common to all people as communicating human beings, whatever particular language they may speak. Such meanings relate to innate human concepts. Anna Wierzbicka and her colleagues at the Australian National University in Canberra have so far identified some fifty or so 'semantic primitives', which have been found in a diverse range of languages from a number of different language families (Goddard and Wierzbicka (eds) 1994).

Semantic primitives are concepts that are indefinable, which find expression in words or bound morphemes in all languages. Words expressing such concepts in English include: *someone, something, this, do, happen, want, say, think, know, I, you, big* and *small, good* and *bad, can, not, where* and *when, because, if.* When dictionaries attempt to define such words, they usually either use far more complex language or resort to circularity. For example, *Collins English*

Dictionary (1986) defines *happen* as 'to come about or take place; occur'; and then it defines occur as 'to happen; take place; come about' – a circularity of definition. The same dictionary defines *good* as 'having admirable, pleasing, superior, or positive qualities; not negative, bad or mediocre' – a rather prolix definition for so simple a word. Semantic primitives, because they are basic and innate, cannot be further decomposed or analysed; they are not capable of definition.

The full list of semantic primitives, at the present state of research, as expressed in English, is given in Wierzbicka (1996: 35–6, 73–4) as:

'substantives'	I, YOU, SOMEONE, SOMETHING, PEOPLE
'determiners'	THIS, THE SAME, OTHER, SOME
'quantifiers'	ONE, TWO, MANY (MUCH), ALL
'augmentor'	MORE
'mental predicates'	THINK, KNOW, WANT, FEEL, SEE, HEAR
'non-mental predicates'	SAY, DO, HAPPEN, MOVE, THERE IS, (BE) ALIVE
'evaluators'	GOOD, BAD
'descriptors'	BIG, SMALL
'space'	WHERE, UNDER, ABOVE, FAR, NEAR, SIDE, INSIDE, HERE
'time'	WHEN, BEFORE, AFTER, A LONG TIME, A SHORT TIME, NOW
'partonomy and taxonomy'	PART (OF), KIND (OF)
'metapredicates'	NOT, CAN, VERY
'interclausal linkers'	IF, BECAUSE, LIKE
'imagination and possibility'	IF ... WOULD, MAYBE
'words'	WORD

This list of 55 semantic primitives combines two lists from Wierzbicka (1996), one of 37 'old' primitives, which are deemed well-established, and a second of eighteen 'new' primitives, whose status is less certain, because they have yet to be tested across a wide range of languages.

Semantic primitives can be used to define words with more complex meanings. Wierzbicka (1995: 150) suggests the following analysis of the meaning of *order* in the structure 'I order you to do it':

I say: I want you to do it.
I say this because I want you to do it.
I think you have to do it because I say this.

She contrasts this with the analysis of the meaning of *ask* in the structure 'I ask you to do it':

I say: I want you to do it.
I say this because I want you to do it.
I don't think that you have to do it because I say this.

Wierzbicka (1996: 179) suggests the following analysis of the meaning of *disappointment*:

X feels something
sometimes a person thinks something like this:
something good will happen
I want this
after this, this person thinks something like this:
I know now: this good thing will not happen
because of this, this person feels something bad
X feels something like this.

These do not look like conventional definitions, such as you find in most dictionaries, but they are certainly relatable to dictionary definitions. For example, *disappoint(ment)* is defined in the LDEL (1991) as: 'fail(ure) to meet the expectation or hope of; also sadden by so doing'. Such analyses are also arguably more revealing than the reductive analyses of componential analysis, besides being founded on a more secure empirical basis.

5.5.3 Semantic fields

In semantic (or lexical) field analysis, words are grouped together into 'fields' on the basis of an element of shared meaning. Such a field might comprise words referring to drinking vessels, or verbs of communication (*speak, order, warn, promise*, etc.). There is no set of agreed criteria for establishing semantic fields, though a 'common component' of meaning (see 5.5.1) might be one.

One of the arguments for a semantic field description of vocabulary, as against the description of words in isolation, as in the alphabetical arrangement of conventional dictionaries, is that it makes for a more revealing account of word meaning if a word is considered within the context of the semantic space it occupies with other semantically related words. In such a description, the sense relations play an important part in relating the meanings of words in the same semantic field.

An early example of a semantic field arrangement of English vocabulary is *Roget's Thesaurus* (originally 1852, latest edition Davidson 2002). The *Thesaurus* has a hierarchical organization, akin to the relation of hyponymy; and entries are arranged in two columns on the page, using the relation of antonymy; within the articles, the relation of (loose) synonymy groups words together. Roget divides the vocabulary initially into six broad 'classes': abstract relations, space, matter, intellect, volition, affections. Each of these classes is then sub-divided into 'sections'; e.g. affections has the sections: generally, personal, sympathetic, moral, religious. A further two sub-divisions take place to reach the articles (or semantic fields); moral affections, for example, are sub-divided into: obligations, sentiments, conditions, practice, institutions; and the obligations category, for example, has the articles: right/wrong, dueness/undueness, duty/dereliction and exemption. An article contains lists of words, organized by word class, that would fall under the heading of the article, 'dereliction of duty' for example.

As an attempt to organize the vocabulary of English into semantic fields (a term not used by Roget, incidentally), *Roget's Thesaurus* is a remarkable achievement. But the articles contain only lists of words and expressions. There is no attempt to differentiate the meanings of the words listed. That was not Roget's intention: he wanted to provide for users of the language a practical guide to the available vocabulary to express given ideas. The user of the *Thesaurus* would have a particular idea that they wanted to express, and the *Thesaurus* would tell them the words that were available in English to express that idea. In order to provide such a guide, Roget performed a semantic field analysis of English vocabulary, though his categories were based on a 'philosophical arrangement' (Editor's Preface to the 1879 edition).

A more recent attempt at a semantic field analysis of English is found in Tom McArthur's (1981) *Longman Lexicon of Contemporary English*. McArthur has taken around 15,000 words from the *Longman Dictionary of Contemporary English* (LDOCE) (1978) and arranged them into fourteen semantic fields 'of a pragmatic, everyday nature' (Preface, p. vi), e.g. Life and Living Things; People and the Family; Food, Drink and Farming; Thought and Communication, Language and Grammar; Movement, Location, Travel and Transport. The broad semantic fields are sub-divided; so the Movement field has sub-divisions of: Moving, Coming and Going; Putting and Taking, Pulling and Pushing; Travel and Visiting; Vehicles and Transport on Land; Places; Shipping, Aircraft; Location and Direction. These sub-

divisions are further decomposed into smaller groups of related words; so Travel and Visiting has a group of nine verbs of 'visiting', a group of ten verbs of 'meeting people and things', a group of thirteen nouns of 'visiting and inviting', and so on. Each word has the appropriate dictionary information from the LDOCE (1978), including definitions, grammatical coding and illustrative examples. The user is thus enabled to see how words that are semantically related differ from each other in meaning, often in quite subtle ways.

Arguably, the *Longman Lexicon* is a more interesting and more revealing account of English vocabulary than that found in ordinary alphabetical dictionaries. The semantic field arrangement brings together words that share the same semantic space; it is a record of the vocabulary resources available for an area of meaning; and it enables a user of the language, whether a foreign learner or a native speaker, to appreciate often elusive meaning differences between words. But the *Lexicon* contains only 15,000 words; and it has not been updated with successive editions of the LDOCE (1987, 1995, 2003).

Another, but more specialized, semantic field dictionary, aimed like the *Lexicon* at foreign learners, though predating it, is Godman and Payne (1979). It arranges some 10,000 terms from the vocabulary of science into 125 sets according to subject matter (e.g. Crystal Structure, Plant Tissue, Chromatography, Metabolism, Magnetism). A semantic field arrangement also underlies the *Longman Language Activator* (1993, 2002), a 'production' dictionary to enable learners of English to find an appropriate word for a given context. It is arranged around some 1000 'Key Words', which represent labels for semantic fields, such as: clothes, give, nervous, typical.

Semantic field analysis has, thus, been used to structure descriptions of the vocabulary in dictionaries, though there is, as yet, no general-purpose dictionary that uses the semantic field as its organizing principle. It is, perhaps, an area of lexicology that needs further investigation and elaboration before lexicographers feel confident in applying it more generally to dictionary structure.

EXERCISE 5/7

Suggest the words that might be included in a semantic field of 'drinking vessels'. Can they be organized within the field in some way? Are any of the sense relations relevant?

5.6 Collocation

The meaning relations that we have considered so far in this chapter have been of a substitutionary or paradigmatic nature. They have been concerned with words as alternative items in some context. Collocation refers to a structural or syntagmatic relation, to meaning relations that a word contracts with other words occurring in the same sentence or text. It is concerned with meaning arising from co-occurrence, more specifically to meaning arising from predictable co-occurrence.

5.6.1 A structural relation

Take the noun *kettle*, referring to a device for heating water. If the word *kettle* occurs in a sentence, there is a strong likelihood that the (verb) word *boil* will also occur, e.g.

I'll just boil a kettle.
Is the kettle boiling yet?

The co-occurrence of *kettle* and *boil* has a degree of predictability, and they each thus contribute to the meaning of the other. Part of the meaning of *kettle* is that it co-occurs predictably with *boil*, and part of the meaning of *boil* is that it co-occurs predictably with *kettle*, though the collocation in this direction is less predictable than from *kettle* to *boil*. The number of verbs that regularly co-occur with *kettle* is less than the number of nouns that regularly co-occur with *boil*.

Collocation most clearly occurs between words in specified syntactic relations, e.g. Subject + Verb (kettle + boil), or Verb + Object (boil + kettle), or Adjective + Noun (red + wine). This type of collocation is extensively illustrated in *The BBI Combinatory Dictionary of English* (Benson *et al.* 1986a, and its updated version, Benson *et al.* 1997). However, collocation as a meaning relation of predictable co-occurrence may be found across sentence boundaries (Halliday and Hasan 1976), e.g.

Would you mind filling the kettle and switching it on?
I need boiling water for the vegetables.

Here, *fill* and *switch on* collocate directly with *kettle* in a Verb + Object structure; but arguably *boil*, while collocating directly with *water* in an Adjective + Noun structure, also collocates across the sentence boundary with *kettle*, though less directly.

The kind of collocation that we have been discussing and illustrating is sometimes more explicitly referred to as 'lexical collocation'. This is to differentiate it from 'grammatical collocation', which is a

grammatical rather than a semantic relation. In the narrowest sense, grammatical collocation refers to the specific preposition that must occur after a particular verb, noun or adjective: rely + on, fear + of, fond + of. More widely, it refers to any kind of syntactic element that must accompany a particular word (usually verb, noun or adjective in English), e.g. infinitive clause after *promise* or *attempt*, 'that' clause after *afraid*, and so on (see Benson *et al.* 1986a: ix–xxiii).

5.6.2 A relation of mutual expectancy

Lexical collocation has been called a relation of mutual expectancy or habitual association (McArthur (ed.) 1992). The occurrence of one word predicts the greater than chance likelihood that another word will occur in the context, either in some syntactic construction or across a syntactic boundary. Notice that this expresses the collocation relation in statistical terms: 'greater than chance likelihood of co-occurrence'. From this we might then conclude that the mutual expectancy of two words could be stronger or weaker, depending on both the direction of expectancy and the number of alternative predictable words.

We noted earlier, with *kettle* and *boil*, that the direction of the collocation relation affected the strength of the predictability: the collocation from *kettle* to *boil* is stronger than that from *boil* to *kettle*. Similarly, the collocation from *rancid* to *butter* is stronger than vice-versa, because the number of nouns that are predicted by *rancid* is very restricted, perhaps *bacon* in addition to *butter*, and maybe one or two more. The number of adjectives that may occur with *butter*, on the other hand, is much larger.

The same point can be made by comparing the verbs *wreak* and *settle* and the range of nouns that may occur as the syntactic object of each of them. *Wreak* occurs predominantly with two nouns: *havoc* and *revenge/vengeance*. *Settle* occurs with a whole range of nouns: *dispute, argument, claim, stomach, nerves, child/baby*, and so on. *Wreak* thus has a stronger collocational relation with its object nouns than does *settle*.

Collocation is, thus, a matter of degree, ranging from weak collocation with only the slightest degree of predictability of co-occurrence, to very strong collocation that is to all intents and purposes entirely predictable, giving a 'fixed collocation' (Partington 1998). At this end of the spectrum, we might find a combination such as *confirmed bachelor*, where the choice of an adjective to modify the noun *bachelor* is most likely to be *confirmed*. Similarly, the adverb that could be predicted with a high degree of certainty to accompany the

adjective *disappointed* would be *bitterly*, which, more literally, would also predictably accompany *cold*. Towards the other end of the spectrum, the adjective *self-addressed* has a high predictability of co-occurrence with the noun *envelope*, as does *extraditable* with *offence*.

EXERCISE 5/8

Give what you think are the typical collocations for the words in the following structures. For example, '*false* (Adj) + N' asks for the typical nouns that are modified by the adjective *false*: teeth, eye, passport, number plates, ceiling, etc.

> fundamental (Adj) + N
> spend (V) + Object N
> Adj + trauma (N)
> N + unite (V) + Prep
> behave (V) + Adv
> boost (V) + N

5.6.3 Discovering collocations

The few examples that we have used so far to illustrate collocations have tapped our intuitions about English words. While it is possible to come up with a reasonable amount of widely accepted data by this method, it is not a reliable method for investigating a statistical probability, which implies a degree of accuracy. However, until relatively recently, the intuitive method was the only one possible for lexicologists interested in collocation, and it is the method that is reflected in the content of most dictionaries. To achieve a measure of statistical accuracy, however, an empirical study, based on a corpus of texts, is required. The corpus will have to be quite large in order to provide reliable results, and in order to capture words that appear relatively infrequently. Today, corpora of a hundred million words and more are available on computer (see Chapter 7), and programs (e.g. TACT, MonoConc) have been written that can calculate the collocation relations for any word and their relative strengths (see also *Collins COBUILD English Collocations on CD-ROM*). Here are the results for the word *die/died*, taken from a small (90,000 word) corpus of obituary texts:

Word: die/died

left 2	left 1	right 1	right 2
7 who	8 has	6 aged	5 week
	5 who	5 last	3 the
		5 on	2 78
		2 in	

To the left of the word *die/died*, the relative pronoun *who* occurs 12 times. To the right, the most frequently occurring item is *aged*, then *last* (1) + *week* (2). These collocations betray the type of text from which the data is derived. In an obituary, a typical opening sentence might be: *X, who died last week ...* or *X, who has died aged ...* But the data serve to illustrate the kind of information about collocation that can now be retrieved quite easily using a computer corpus. Here is a further example, for the (adjective) word *political*, from the same corpus:

Word: political

left 2	left 1	right 1	right 2
4 of	4 his	3 career	3 the
2 the	3 a	2 life	3 to
	3 of	2 courage	3 in
	2 into	2 in	
	2 great		

The nouns, indicated at 'right 1', with which *political* collocates in this corpus, are shown as: *career*, *life* and *courage*. The last of these is a little unusual, except perhaps in the context of an obituary, where it is customary to highlight the deceased's strong points.

5.7 Summary

In this chapter, we have considered the relations of meaning that words contract with other words in the vocabulary of a language. In the main we have concentrated on the paradigmatic 'sense relations': synonymy, antonymy, hyponymy and meronymy. The first two refer to relations of 'sameness' and 'oppositeness' of meaning. The second two refer to hierarchical relations between words: the 'kind of' relation of hyponymy, and the 'part of' relation of meronymy.

Before attending to the syntagmatic meaning relation of collocation, we looked at some ways of analysing the meaning relations between words. Componential analysis goes some way to explicating semantic relations, but seems to be limited in its application. Using semantic primes, the irreducible, undefinable universal semantic concepts, seems a more promising way forward. And the arrangement of words into semantic fields enables meaning relations between words sharing the same semantic space to be more adequately ascertained.

Finally, we examined collocation, to see how words may predict the presence of others in a context, because of a meaning relation of mutual expectancy. We saw that collocation rests on a statistical basis, and we explored how reliable data for collocational relations may be obtained from text corpora.