CHAPTER

5 Analysing and distinguishing meanings

CHAPTER PREVIEW

The different sections of this chapter follow three logical steps in meaning analysis. In 5.1, some of the different possible **semantic relations** among words are exemplified and discussed. We concentrate on those relations which are of most use for semantic description:

- **antonymy** (oppositeness; 5.1.1),
- **meronymy** (*part of*-ness; 5.1.2),
- the class-inclusion relations of **hyponymy** and **taxonomy** (*kind of*-ness; 5.1.3–4) and
- **synonymy** (5.1.5).

These meaning relations can be seen as reflecting the presence of various isolable components in the meanings of the related words; accordingly, Section 5.2 introduces the possibility of analysing senses as composed of bundles of **semantic components**, and considers the wider applicability of **componential analysis** as well as the problems it faces. The third section (5.3) discusses the necessity for a theory of meaning to specify the number of senses associated with a lexeme in a rigorous way. In 5.3.1 we distinguish the case where a single lexeme possesses several related meanings (**polysemy**) from two other cases: the case where it possesses only a single meaning (**monosemy**) and the case where it possesses two unrelated meanings (**homonymy**). Section 5.3.2 then shows that any attempt to make these definitions rigorous confronts serious problems, the implications of which are discussed in 5.3.3.

5.1 Lexical relations

Knowing an expression's meaning does not simply involve knowing its definition or inherent semantic content. As well as knowing a word's definitional meaning, a competent speaker knows how it relates to other words of the language: which words are synonyms? Which are antonyms? Which are meronyms, linked by the relation of a part to a whole? And which are hyponyms, linked by the relation *kind of*? Describing and accounting for these relationships has often been taken as one of the principal tasks of lexical semantics. Relationships like synonymy, antonymy, meronymy and so on all concern the **paradigmatic** relations of an expression: the relations which determine the choice of one lexical item over another. In the construction of any utterance, the speaker is typically confronted with a choice between various lexical items. Thus, the highlighted expressions of (1a) stand in various types of paradigmatic relation to those of (1b): *kitchen* is a meronym of *restaurant*; *often* is the antonym of *rarely*, *many* is (in this context) a synonym of *numerous*, and *sushi* is a hyponym of *Japanese food*.

(1) a. *The **restaurants often** have a sort of pan-Asian flair and there are **many** sushi bars.*
b. *The **kitchens rarely** have any sort of pan-Asian flair and there are **numerous** Japanese food bars.*

The choices between different antonyms, meronyms and hyponyms will be made on the basis of the different meanings which they convey: if the speaker utters (1b) instead of (1a), it is because the different paradigmatic choices result in different propositions being expressed. (The choice of one synonym over another cannot be made on the basis of meaning, synonyms being words which have the same meaning: we will consider some of the factors behind synonym choice in 5.1.5.) Antonyms, meronyms, hyponyms and synonyms are only the most important of the lexical relations it is possible to identify within the vocabulary of a language. Their study is important since, as noted by Nyckees (1998: 178), they play a determining role in linguistic intercomprehension:

> It would seem that the members of a linguistic community must be able to construct relations between different expressions in order to understand each other. Being genuinely able to speak a language involves understanding the equivalence or the differences between different phrases, in other words, mastering the relations of synonymy and paraphrase; it involves the ability to draw out the consequences of a given utterance, and the ability to sequence utterances in a reasonably coherent, intelligible way; the ability to reformulate one's own messages in different ways, make one's expression tighter or looser according to the demands of the situation . . .

We will exemplify the four most important types of semantic relation in 5.1.1–5.1.5.

5.1.1 Antonymy

Speakers of English can readily agree that words like *good-bad, love-hate* and *in-out* are opposites or **antonyms**. The notion of oppositeness involved here seems to cover several different types of relation; in general, however, antonymy may be characterized as a relationship of incompatibility between two terms with respect to some given dimension of contrast. Some words seem to have more than one antonym, depending on the dimension of contrast involved (*girl* has both *boy* and *woman*, depending on whether the dimension of contrast is sex or age; *sweet* has both *bitter* and *sour*: see Murphy 2003: 173).

Not every word has an obvious antonym: *library, of,* and *corresponding* are three cases for which there is no obvious relevant dimension of contrast and for which antonyms are consequently hard to identify. And even where an obvious dimension of contrast does exist, antonyms are not always available: *angry*, for instance, does not have any obvious antonym in English even though we can easily conceive of the scale of arousal and calmness to which it belongs.

QUESTION Name ten other lexical items which do not seem to have obvious antonyms. Can you construct contexts in which antonyms become available?

Nevertheless, antonymy is an important relation within the vocabulary of a language. We discuss in Chapter 3 how Warlpiri specifically exploits antonymy in the special Jiliwirri speech style (3.2.2.1). Another mark of the significance of antonymy is the fact that many languages can create antonyms morphologically. English does this productively with the prefix *un-*. In Ancient Greek, antonyms were created through the addition of the prefix *a(n)-*, as in *an-eleutheros* 'unfree' (*eleutheros* 'free'), *an-omoios* 'unlike' (*omoios* 'like') and *an-artios* 'uneven' (*artios* 'even').

When discussing antonymy, the principal distinction we have to make is between **gradable** and **non-gradable** antonyms. Non-gradable antonyms are antonyms which do not admit a midpoint, such as *male-female* or *pass-fail*. Assertion of one of these typically entails the denial of the other. Thus, if someone is female, they are necessarily not male, and someone who has failed an exam has necessarily not passed it. Gradable antonyms, however, like *hot-cold* or *good-bad*, seem to be more common than non-gradable ones. A gradable pair of antonyms names points on a scale which contains a midpoint: thus, *hot* and *cold* are two points towards different ends of a scale which has a midpoint, lexicalized by adjectives like *tepid*, which is used to refer to the temperature of liquids which are neither hot nor cold, but somewhere in between. A consequence of the fact that gradable antonyms occur on a scale is the fact that they are open to **comparison**. Thus, we may say that one drink is *hotter* than another, or that some water is *less cold* than another.

QUESTION List fifteen gradable and fifteen non-gradable antonym pairs.

Gradable antonyms have a number of subtle characteristics. For example, one of the members of an adjectival antonym pair often behaves 'neutrally'

in questions and comparative constructions, in that it simply serves to invoke the dimension of contrast as a whole, without attributing either of the opposed properties to the object it qualifies. In the pair of gradable antonyms *good* and *bad*, for instance, *good* is the neutral or **uncommitted** member. Thus, (2) and (3) do not imply that the film is actually *good* (it might just be average, or even bad):

(2) *How good is that film?*

(3) *The film is better than the TV series.*

The fact that *good* does not commit the speaker here is shown by the following examples:

(2′) A: *How good is that film?*
B: *Really bad.*

(3′) *The film is better than the TV series, but it's still really bad.*

Contrastingly, *bad* and its comparative *worse* do commit the speaker to the badness of the film, as shown by B's denial of this implication in (4), and the oddness of (5)

(4) A: *How bad is that film?*
B: *It's not bad, it's good!*

(5) ?*The film is worse than the TV series, but they're both really good.*

Not all gradable antonyms show these imbalances, however. Some antonyms, like those in (6), are **equipollent**, in other words symmetrical in their distribution and interpretation, with neither member of the pair having an uncommitted ('neutral') use. Thus, both members of the following pair imply an assertion of the mentioned property:

(6) a. *How hot is the saucepan?* [implies that it is hot]
b. *How cold is the saucepan?* [implies that it is cold]

However, such properties seem quite context-dependent. In (7), for example, *hot* functions as the uncommitted member of the pair:

(7) a. *How hot was it last summer?* [doesn't imply that it was necessarily hot]
b. *How cold was it last summer?* [implies that it was cold]

Uncommitted antonym pairs, which are in the minority in English, typically name objectively measurable qualities like size, age and weight (Lehrer 2002: 498). Very little research has been conducted into committedness cross-linguistically. Cruse (1992) investigated antonyms meaning *long-short*, *good-bad* and *hot-cold* in English, French, Turkish (Altaic, Turkey), Macedonian (Indo-European, Macedonia), Arabic and Chinese. For the

adjectives meaning 'longer', 'shorter' and 'better' all languages allow an impartial or uncommitted use, suggesting that antonym behaviour may show some cross-linguistic uniformity. Phenomena like (7), however, suggest that such cross-linguistic findings should be approached with caution. Indeed, one of the main results which cross-linguistic research into antonymy could bring is an appreciation of just how context-dependent committedness is cross-linguistically.

Languages with many adjectives are the most likely to have gradable antonyms. However, languages without adjectives can convey similar contrasts. In Chinese, for example, the same gradable contrasts are represented through static verbs such as *gāo* 'be tall' and *hǎo* 'be good' (Murphy 2003: 190). Similarly, the English verbs *love-hate* show comparable behaviour to many gradable adjectives (Murphy 2003: 190). Thus, they establish points on a scale which admit differing degrees (8a, b), and assertion of one necessitates the denial of the other:

(8) a. *I love/hate him a lot.*
b. *I love/hate him more than you do.*
c. *I love him* entails *I don't hate him*

Question Consider the noun pairs *hero/coward, genius/dolt, giant/shrimp*. Are these gradable antonyms?

A certain number of words in English which have more than one meaning can be given descriptions which make them seem **autoantonymous**, i.e. their own opposites (Murphy 2003: 173). Thus, *temper* means both 'to harden' and 'to soften'; *cleave* means both 'stick together' and 'force apart' and *sanction* means both 'to approve' and 'to censure'. Furthermore, there are many denominal verbs for putting in or taking out things which show similar autoantonymy, (e.g. *to string a bean* vs. *to string a violin*, Clark and Clark 1979). Murphy points out (2003: 173) that contextual factors limit the risk of confusion in many of these cases: if you *temper your comments* you are softening them, not making them harder, whereas *tempering metal* can only refer to hardening it.

There are many other types of relation which are commonly thought of as exemplifying antonymy. Examples include what Lyons (1977) calls *converse opposition*, exemplified by relations like *parent-child, buy-sell, give-receive, above-below*; *directional opposition* such as *north-south*, and *come-go*; and *reversive opposition* like *do-undo*, *colour-bleach*, *build-demolish*. Still other pairs which could be described as antonyms, but do not fall under any of these categories, are *nut-bolt* and *hand-glove* (Murphy 2003: 199). Our initial description of antonymy as incompatibility with respect to a given dimension will cover these examples. Thus, a nut and a bolt are complementary tools which do not fulfil the same function and are therefore incompatible (a nut cannot be used instead of a bolt), and hand and glove show similar complementarity: the visible end of an arm is either a (gloveless) hand or a glove.

A general problem with subtypes of antonymy is that of determining their boundaries. Is *sell-refund* a converse, a reversive, or neither? Cruse

(2002b: 507) defines reversives as a class of verb opposites which 'denote either changes in opposite directions between two terminal states . . . or the causation of such changes'. He notes that 'a test which permits the delimitation (for English) of a fairly coherent set of reversible verbs (that is, verbs which are potential members of reversive oppositions) is the *again*-test. This depends on the possibility of using unstressed *again* without the process denoted by the verb having happened before.' Thus, the following sentences are taken as evidence that *enter* and *leave* are a reversive pair:

(9) a. *The spacecraft left the earth's atmosphere.*
b. *Five days later, the spacecraft entered the atmosphere again.*
c. *The alien spacecraft entered the earth's atmosphere.*
d. *Five days later, the spacecraft left the atmosphere again.*

QUESTION Which of the following verbs is unstressed *again* possible with: *screw-unscrew, do-undo, colour-bleach, build-demolish, fill-empty, clean-dirty, fold-unfold, stand up-sit down, rehearse-perform, plant-harvest*? Can you think of any similar tests for conversives and directionals?

As pointed out by Murphy (2003: 10), the amount of certainty we have in acknowledging a pair of words as antonyms seems to have an important cultural component. Some antonyms, like *hot-cold* or *big-small*, seem well established culturally, whereas others, like *sweltering-frigid* or *gigantic-tiny*, which seem to convey equally 'opposite' notions, have less of an antonymic ring. This leads Murphy to conclude that a speaker's knowledge of the relation of antonymy (as, in fact, of all lexical relations) is **metalexical**: the fact that two words are antonyms (synonyms, etc.) is not, in other words, part of our dictionary knowledge *of* the word's meaning, but part of our encyclopaedic knowledge *about* the word's meaning.

5.1.2 Meronymy

Meronymy (Greek *meros*: 'part') is the relation of part to whole: *hand* is a meronym of *arm*, *seed* is a meronym of *fruit*, *blade* is a meronym of *knife* (conversely, *arm* is the **holonym** of *hand*, *fruit* is the holonym of *seed*, etc.). Surprisingly, not all languages seem to have an unambiguous means of translating the phrase 'part of' (Brown 2002: 482; Wierzbicka 1994: 488–492 disagrees), but meronymy is nevertheless often at the origin of various **polysemy** patterns (where a single word has more than one meaning; see 5.3 below), and an important lexical relation for that reason. Thus, according to the figures given by Brown and Witkowski, roughly one in five of the world's languages use the same term to designate the eye (meronym) and the face (holonym) (Brown and Witkowski 1983). Similarly, slightly fewer than half of the world's languages polysemously relate 'hand' and 'arm' as separate meanings of the same word, and 39 per cent 'foot' and 'leg' (Witkowski and Brown 1985). These figures are only estimations, but polysemy patterns based on meronymy are certainly frequent cross-linguistically. (See 11.4.1 on the semantics of body-parts in the world's languages.)

The definition of meronymy as based on the 'part of' relation is not without problems. Typically, meronymy is taken to be **transitive**: if A is a meronym of B, and B is a meronym of C, then A is also a meronym of C. This follows what seems to be the logical structure of the part-whole relation: if A is a part of B, which is in turn a part of C, then it seems to be necessarily true that A is also part of C. The use of *part of* in English is often consistent with the transitivity of the meronymic relation. Thus, sequences of embedded parts and wholes, such as *seed-fruit-plant*, yield perfectly natural-sounding sentences highlighting the *part of* relation:

(10) a. *A seed is part of a fruit.*
b. *A fruit is part of a plant.*
c. *A seed is part of a plant.*

The transitivity of meronymy also applies for the triple *cuff-sleeve-coat*: a *cuff* is part of a *sleeve*, a *sleeve* is part of a *coat*, and a *cuff* is also part of a *coat*.

But the use of *part of* in natural language does not always respect the logically transitive nature of meronymy. Consider the relation *handle-door-house*. While clearly we can naturally say *a handle is part of a door* and *a door is part of a house*, it seems unnatural to say that *a handle is part of a house*. The chain of meronymies in (11), moreover, is not only unnatural, but also false:

(11) a. *Simpson's finger is part of Simpson.*
b. *Simpson is part of the Philosophy Department.*
c. **Simpson's finger is part of the Philosophy Department.* (Winston, Chaffin and Herrmann 1987: 431)

These facts suggest that the linguistic category *part of* does not have the same properties as its logical counterpart. Lyons (1977: 312) suggested that there are in fact several different types of meronymy in language. Acting on this suggestion, Iris, Litowitz and Evens (1988) isolate four different types of meronymy in English: the relation of the functional component to its whole, such as the relation between *heart* and *body* or *engine* and *car*; the relation of a segment to a preexisting whole (*slice-cake*); the relation of a member to a collection or an element to a set (*sheep-flock*); and the relation they call subset-set (*fruit-food*; this would normally be considered an example of hyponymy, which we discuss below). Transitivity holds for the subset and segmented wholes types of meronymy, but not for the functional part or collection-element types.

For their part, Winston, Chaffin and Herrmann (1987) propose a six-way typology, according to which *part of* has six possible different meanings: component-integral object meronymy (*pedal-bike*), member-collection (*ship-fleet*), portion-mass (*slice-pie*), stuff-object (*steel-car*), feature-activity (*paying-shopping*) and place-area (*Everglades-Florida*). They claim that meronymy is transitive when the same type of meronymic relation is involved in all parts of the chain, as in (12), which contains the component-object type of meronymy:

(12) *Simpson's finger is part of Simpson's hand.*
Simpson's hand is part of Simpson's body.
Simpson's finger is part of Simpson's body.
(Winston, Chaffin and Herrmann 1987: 431)

Contrastingly, (11) above involves component-object meronymy in (a) and member-collection meronymy in (b); hence, transitivity fails.

5.1.3 Hyponymy

Hyponymy (Greek *hypo-* 'under') is the lexical relation described in English by the phrase *kind/type/sort of*. A chain of hyponyms defines a hierarchy of elements: *sports car* is a hyponym of *car* since a sports car is a kind of car, and *car*, in turn, is a hyponym of *vehicle* since a car is a kind of vehicle. Other examples of hyponym hierarchies include

- *blues – jazz – music,*
- *ski-parka – parka – jacket,*
- *commando – soldier – member of armed forces,*
- *martini – cocktail – drink* and
- *paperback – book.*

A standard identification procedure for hyponymy is based on the notion of class-inclusion: A is a hyponym of B if every A is necessarily a B, but not every B is necessarily an A. For example, every car is a vehicle, but not every vehicle is a car, since there are also buses, motorbikes and trucks. Hence, *car* is a hyponym of *vehicle*. Furthermore, hyponymy is usually taken to be transitive: if A is a hyponym of B, and B of C, then A is a (more remote) hyponym of C.

As we will see, hyponymy is a major semantic relation in the grammar of many languages. Furthermore, a particular type of hyponymy, taxonomy, discussed in the next section, is an important aspect of the way we talk about the natural world.

Hyponymy also has a crucial communicative function. It often happens that we are unable to retrieve the most accurate, precise term for the referent we have in mind. At other times, mention of the most precise term would be needlessly informative and thus violate one of the pragmatic constraints which often seem to be operative in communication (see 4.4). In cases like these, the existence of a term (referred to as a **hyperonym**) further up the hyponymic hierarchy allows reference to be accomplished. Thus, wanting to mention the fact that my brother has started learning to play the sackbut, but momentarily unsure of the name of this instrument (or worried that my interlocutor will not know what I'm talking about), I can simply say *my brother is learning a weird musical instrument*, using the hyperonym *musical instrument* to refer to its hyponym *sackbut.* The possibility of referring at a number of different hierarchical levels is also crucial for cross-cultural communication. At specific levels of categorization, languages often lack exactly corresponding terms: Japanese *wasabi*, for example, isn't accurately translated into English by any of the choices

mustard, chutney, vinaigrette, etc. But in order to explain what it is, a combination of modifier and hyperonym can always be found: thus, wasabi can be referred to as a *horseradish condiment*. Similarly, the names of the various female outer garments often worn in Muslim countries lack precise English equivalents. But by adding modifying adjectives to appropriate superordinate terms, translations can be given: *khimar* 'long veil', *chador* 'full-body cloak'.

The concept of hyponymy can be made intuitively clear on the basis of examples like those given above, and hyponyms in other languages are often easy to identify: in Tzeltal (Mayan, Mexico), for example, *chenek'* 'beans', *ixim* 'corn', *ti'bal* 'meat' and *wale'* 'sugarcane' are among the obvious hyponyms of *we'lil uch'balil* 'food' (Berlin 1992: 186). But as soon as one tries to make the notion of hyponymy explicit various problems are encountered. The definition of hyponymy as class-inclusion, for example, seems to be too powerful, since there are many cases which fit the class-inclusion definition which could not be described with the formula *kind/type/sort* (Cruse 1986). For example, as noted by Wierzbicka (1984), every (male) policeman is necessarily someone's son, and not every member of the category 'someone's son' is a policeman, but this doesn't mean that a male policeman is a 'kind of son', and we would not want to describe the relation between *male policeman* and *someone's son* as an example of hyponymy.

Even the linguistic definition of hyponymy as the *kind/sort/type* relation admits instances which seem remote from the standard exemplars of hyponymy because they do not define a hierarchy. In English, for instance, one might very well utter the sentences in (13), for example in the context of an explanation to someone unfamiliar with the word involved:

(13) *A zebra is a kind of horse*
A DVD is a kind of video
A hang-glider is a kind of kite
A koala is a kind of bear
Writing is a kind of drawing
A watch is a kind of clock

In none of these cases, however, would we wish to claim that the nouns related by the phrase *a kind of* are hyponyms. *Kind of*, in other words, seems to have a variety of values in English, not all of which correspond to the strict class-inclusion model: in (13), *kind of* serves to establish a comparison between two terms without introducing any claim of class-inclusion of the sort which could define a hierarchy. This isn't such a problem for determining hyponymy in our native language, but it poses a particular challenge when the lexical structure of an unfamiliar language is under investigation. If English *kind of* seems ambiguous between a 'strict hyponymy' reading and a looser, comparison reading, how can we decide whether the equivalent of *kind of* in an unfamiliar language is being used in a strict or a loose sense? In Tok Pisin (English-based Creole; Papua New

Guinea), for example, we find the translation equivalent of *kind of*, *kain*, used in the following definitions:

(14) a. ***haus kunai***
wanpela kain haus ol i wokim long kunai antap long ruf bilong en na bai i stap 4 yia samting. 'A kind of house which has been made with a grass roof and which will last about four years.'

b. ***haus pisin***
wanpela liklik kain haus ol pisin i wokimm long diwai stik o lip samting. 'A small kind of house which is built by birds out of sticks or leaves.'

c. ***haus sel***
wanpela kain haus ol i putim na rausim kwiktaim long wokim long laplap samting. 'A kind of house which can be put up or taken down quickly which is made of canvas-like material.' <www.sil.org/silewp/1998/002/SILEWP1998–002.html#Greenberg1963>

Judging from the translated definitions, the words concerned are the Tok Pisin translations of 'grass hut', 'nest' and 'tent'. Are they, however, hyponyms of TP *haus*? Without an appreciation of the range of uses of *kain* in TP, we are unable to tell. (The mere fact that the TP definienda *contain* the word *haus* is no evidence: in English, a *publishing house,* a *doll's house* and a *Royal house* are not kinds of *houses*: the first is a kind of company, the second a kind of toy, the third a kind of family.)

Hyponymy is often exploited by languages with classifier systems (Allan 1977; Aikhenvald 2000). In noun-classifying languages, the noun phrase obligatorily contains a morphological element (the classifier) whose choice is determined by semantic features of the referent of the head noun. Often, the semantic basis of this classification is implicitly hyponymic, with a given classifier naming a superordinate class of which the head noun is a particular kind. Thus, noun phrases in Jacaltec (Mayan; central America: Aikhenvald 2000: 285) contain a classifier morpheme which assimilates the noun to a broader set of superordinate kinds or classes. For instance, the person 'John' and the animal 'snake' are implicitly represented in (15) as hyponyms of the classes 'person' and 'animal' through the use of the classifiers *naj*, which classifies the noun as a human, and *no7*, which classifies it as an animal (Aikhenvald 2000: 82):

(15) *xil* *naj* *xuwan* *no7* *lab'a*
saw CL:MAN John CL:ANIMAL snake
'(man) John saw the (animal) snake.'

The number of classifiers may often be quite high: a non-human noun, for example, will be accompanied by one of the eleven following classifiers (Aikhenvald 2000: 285), depending on the semantic kind of which it is a hyponym:

(16) *no7* animal
metx' dog

te7	plant
ixim	corn
tx'al	thread
tx'añ	twine
k'ap	cloth
tx'otx'	soil/dirt
ch'en	rock
atz'am	salt
ha7	water
k'a7	fire

In Burmese (Tibeto-Burman, Myanmar), classifiers are based on the function which the noun fulfils:

(17)

hte	clothing for the body (not headgear or footwear)
sin	cutting tools
si	vehicles
saun	written materials
le'	hand implements (also eyeglasses)
koun	loop-shaped objects that are worn: garlands, necklaces
hsaun	houses, monasteries, royal buildings (Aikhenvald 2000: 291)

Sometimes it is the verb which takes the classifier. This is the case in Ojibway and Cree (Algonquian, Canada), for instance, where verb classifiers categorize the referent of the verbal argument in terms of its shape, rigidity, size, structure, position and animacy, as in (18):

(18) a. *kinw-a:pe:k-an*
long-one.dimensional.and.flexible-it.is
'it is long' (e.g. rope)

b. *kinw-e:k-an*
long-two.dimensional-it.is
'it is long' (e.g. cloth)

c. *napak-a:pi:k-at*
flat-one.dimensional.and.flexible.-it.is
'it is flat' (e.g. ribbon)

d. *napak-(i)minak-isi*
flat-three.dimensional-it.is
'it is a flat "roundish" thing'

e. *w:awi:-(y)e:k-an*
round-two.dimensional-it.is
'it is round' (e.g. cloth) (Aikhenvald 2000: 297)

This classification relies on implicit hierarchies of long, one-dimensional and flexible things, flat and round things, etc. Implicit hyponymic structure is therefore an important principle in the grammatical structure of

classifier languages. Elsewhere, however, it may be the case that hyponymic structure is minimal or even absent for certain lexemes. As Jackendoff (2002: 345) points out, the hierarchical connections of *junk* and *puddle* would not seem to be an important part of their meaning.

5.1.4 Taxonomy

As we saw in the last section, one of the problems in making the notion of hyponymy explicit derives from the equivocal nature of the predicate *kind of*. This seems to denote both the 'strict' hierarchy-defining, class-inclusion relation of the kind *sports car–car–vehicle*, and the 'looser' comparison relation of the sort exemplified in (13). The 'strict' reading of *kind of* is best demonstrated by **taxonomies**, hyponymic hierarchies of names for plants and animals. An English example of a taxonomy, accompanied by various labels discussed below, appears as Figure 5.1.

This taxonomy shows five ranks, each of which includes all those below it: all *swamp white oaks* are *white oaks*, all *white oaks* are *oaks*, all *oaks* are *trees*, and all *trees* are *plants*. Each rank in the hierarchy is thus one particular *kind* of the rank above it. A comparison with the examples in (13) will immediately reveal that the notion of *kind of* found here is clearly different from the one involved in phrases like *a koala is a kind of bear*. Even though we might utter sentences like these for comparative or explanatory purposes, to modern Westerners familiar with scientific classification there is an obvious sense in which a koala is not a kind of bear: a koala is a kind of marsupial. The strict notion of *kind of* operative in taxonomies and the class-inclusion categories it defines seem particularly stable: it is in general hard for us to revise the taxonomies of natural kinds which we have learnt as part of the process of acquiring our native language. We will not, in general, be able to reclassify an oak as a pine, or a lizard as a mammal: the categories in our natural-kind taxonomies are quite rigid and distinct. The arrangement of a language's natural kind terms into taxonomies like this allows speakers to draw important inferences about the distribution of the properties which characterize different features of the natural world. Consider for example the partial taxonomy *animal – mammal – cow*. 'Learning that one cow is susceptible to mad cow disease, one might reasonably infer that all cows may be susceptible to the disease but not that all mammals or animals are' (Atran 1999: 121).

How are taxonomies distinguished from non-taxonomic hyponymies? In non-taxonomic hyponymies, a hyponym (e.g. *mare*) can be replaced by a complex label consisting of a superordinate term and a modifier (e.g.

Unique beginner	*plant*		Level 0
Life-form	*tree*	(other life-forms)	Level 1
Generic	*oak*	(other generics)	Level 2
Specific	*white oak*	(other specifics)	Level 3
Varietal	*swamp white oak*	(other varietals)	Level 4

FIGURE 5.1
Five-level taxonomy (Brown 1986: 2).

female horse; see Cruse 1986: 137–145). Similarly, *gelding*, another non-taxonomic hyponym of *horse*, can be replaced, without any loss of meaning, by *neutered horse*. This possibility does not exist throughout a taxonomy. There are no modifiers that can be added to the superordinate *bird* in order to distinguish the subordinates *robin*, *eagle* or *hawk*. Similarly, the non-taxonomic nature of the category *weed* is revealed by its paraphrase as *unwanted plant*, and that of *vegetable* by *edible plant.*

Question Can you think of any exceptions to this generalization? When you have thought about this, go on to read about the distinction between primary and secondary lexemes a few paragraphs below (after example (19)).

The cross-linguistic construction of taxonomies has been extensively investigated, especially by anthropologists working in the tradition of Berlin (Berlin 1972, 1992; Berlin, Breedlove and Raven 1973). Berlin proposed, mainly on the basis of name-elicitation interviews and grouping tasks with native-speaker informants, that there is a universal taxonomic structure of a maximum of five basic ranks, as shown, arranged into levels, in Figure 5.1. This structure is common to all ethnobiological classifications, and is assumed to reflect universal cognitive patterns. For any given plant or animal in a language, the ranks of the taxonomy to which it belongs need not all necessarily have distinct names; the structure shown in Figure 5.1 illustrates the basic template on which plant and animal taxonomies seem to be patterned cross-linguistically. The most inclusive level of the taxonomy is the *unique beginner* or *kingdom* rank, of which the English categories *plant* and *animal* are examples. This rank is numbered as level 0 in Berlin's system since it is commonly not lexicalized in taxonomies: many languages do not have general words corresponding to English *animal* and *plant*. In Itza (Mayan, Northern Guatemala), for example, there is no single word for *plant*: however, the cognitive reality of this level is suggested by the fact that the numeral classifier *-teek* is used with all and only plants (Atran 1999).

The next level, level 1, is the level of *life-forms*, e.g. categories like *tree*, *grass, vine* or *bird, fish*, *snake* in English. The number of different categories recognized at this level tends to be fairly small. In Hanunóo (Austronesian; Philippines), for example, plants are categorized as *kayu* 'wood', *ʔilamnun* 'herb' or *wakat* 'vine'. The first category includes all plants with typically woody stems, the second all non-woody or very small plants, the third all plants with twining, vinelike stems (Conklin 1954: 92–93, quoted in Berlin 1992: 164). Tobelo people (West Papuan, Indonesia) recognize five animal life-forms: *o totaleo* 'bird', *o dodihna* 'snake', *o nawoko* 'fish', *o bianga* 'mollusc' and a fifth unnamed category including all other animals (Berlin 1992: 165). In Itzaj (Mayan, Guatemala; Atran 1999: 123), plants generally fall under one of four mutually exclusive life forms: *che'* (trees), *pok~che'* (herbs, shrubs, undergrowth), *ak'* (vines), and *su'uk* (grasses). The animal life-forms of Rofaifo (Papua New Guinea) number five; their membership may be surprising to someone used to standard Western classifications:

(19) *hefa* eel, cassowary, larger species of monotreme, marsupial and rodent plus pig, dog, and the larger mammalian species introduced by Europeans
hunembe smaller species of marsupial and rodent
nema bats and all birds except cassowaries
hoifa lizards, snakes, fish other than eels, molluscs, earthworms, leeches, planaria, centipedes, millipedes . . .
hera frogs other than those of the genera *Asterophrys, Xenobatrachus,* and *Barygenys.* (Dwyer 1984: 323, quoted in Berlin 1992: 166)

Below the life-form level is the *generic* level (Level 2): as well as *oak*, English has *elm, gum, maple, poplar*, and many others. Generics may or may not have further levels below them: for some taxonomies this is the last level. The unique beginner, life form and generic level lexemes are usually labelled by what Brown (2002: 474) calls *primary lexemes*, i.e. 'simple unitary words such as *plant, tree, oak, bird* and *robin*'. On lower levels of the taxonomy, one typically finds *secondary lexemes*, which consist of the term for the immediately superordinate class, accompanied by a modifier (e.g. *white oak*, a kind of *oak* (Level 3) and *swamp white oak* (Level 4)). Secondary lexemes are also known as *binomial labels*. Level 4, varietal classes, are rare cross-linguistically, most taxonomies only extending to the third level. Intensively studied systems of ethnobiological classification usually also reveal an *intermediate* rank, located between the life-forms of Level 1 and the generics of Level 2. An English intermediate rank would be *evergreen (tree)*, which includes generic classes like *pine, fir* and *cedar*, and is included in the life-form category *tree*. Intermediate ranks distinguishing different categories of the life-form *bird* have been noted in Kalam (Trans-New Guinea, Papua New Guinea), Wayampi (Tupi, Brazil) and Huambisa (Jivaroan, Peru). Thus, the Kalam life-form category *yakt* 'birds and flying things' is superordinate to an intermediate category *pow*, grouping together two types of nightjar (Berlin 1992: 139–140).

It would appear that taxonomy-*like* structures exist in all of the world's languages. Like Berlin, Atran (1990) argues that multi-level taxonomic structuring like that shown in Figure 5.1 is universal, and he grounds this claim in certain alleged features of human cognition. Human beings, he claims, are cognitively predisposed to believe that each type of living thing has a particular inner nature or essence. For people raised in English-speaking cultures, for example, the oak is inherently seen as having an essence or nature which places it in the class of trees and distinguishes it from the pine; this belief in the inherent essences of living things allows their insertion into taxonomic hierarchies on the basis of their inherent properties. Taxonomic organization like that exemplified in Figure 5.1 is thus an innate mental pattern shared by all human beings:

Meaning for living-kind terms can thus be analyzed in a fundamentally distinct way from the semantics of other object domains, such as the

> domain of artifacts and perhaps that of chemical and physical substances as well. All and only living kinds are conceived as physical sorts whose intrinsic 'natures' are presumed, even if unknown.
>
> (Atran 1990: 6)

Speculations like those of Berlin and Atran on the universal principles of taxonomic structure, however, have been extensively criticized by those who see the naming practices of different languages as arising out of practical, culture-specific forces, rather than putatively universal structuring principles of human cognition (Hunn 1982, Ellen 1993). Researchers working in the tradition of Berlin have been accused of 'attempting to impose a form of taxonomic rigidity on a cultural apparatus the general characteristics of which are quite antithetical: namely fluidity, flexibility and elasticity' (Ellen 1993: 220). The universality – and hence the cognitive basis – of the taxonomic structure shown in Figure 5.1 has frequently been called into question: Malapandaram classifications, for example (Dravidian, India; Ellen 1979: 19), appear highly individualistic, limited in scope, and relatively unconcerned with systematization, and the Malapandaram seem to lack any 'systematic knowledge of their natural environment clearly expressed in formal taxonomies' (Ellen 1979: 19). Discussing Bunaq (Trans-New Guinea, East Timor) classification, Friedberg (1979: 85) states that 'plants appear to be organized more according to a complex web of resemblances and affinities in which individual plants can belong to several categories, rather than according to a tree-like system of hierarchical categories' like the one assumed in Berlin's model.

This controversy over the universality of taxonomic principles is exemplary of the issues and questions raised by any exploration of cross-linguistic semantic universals (see Chapter 11). The fact that, like 'part of', the basic hyponymic/taxonomic notion 'kind of' does not seem to have reliable equivalents in all languages may be a problem for proponents of the universal structure of taxonomies. Ellen (1993: 61), for example, notes that there is no exact term in Nuaulu (Austronesian; Indonesia) for 'kind of'. Furthermore, many of the facts about Nuaulu ethno-classification suggest that neat taxonomies of the sort illustrated in Figure 5.1 are simply irrelevant to the way Nuaulu people actually think and talk about the biological world.

> For example, . . . the question 'what is **asu** (dog, *Canis familiaris*) a kind of?' is culturally inappropriate because it is never, ordinarily, thought of as a 'kind of' anything, except perhaps 'animal'. Yet again, the question 'what is **asuwan** (cassowary, *Casuarius casuarius*) a kind of?' can generate a whole range of possible answers, no one of which is more 'correct' than any other . . . Similarly, to ask an informant how many types of an animal there are is likely to invite an answer where (in a strict taxonomic sense) none is possible. An informant, out of simple courtesy, because the situation demands it and through the creative use of dualism as a linguistic feature, may provide the name of the most closely related animals he or she can think of, and in this circumstance *relationship* can be described in morphological or ecological terms. In one elicitory context

a monitor lizard might appear as 'a type of crocodile', and an earthworm 'a type of snake'.

Ellen (1993: 25–26)

Where class-inclusion arrangements can be discerned, these not infrequently violate taxonomic principles. On Berlin's original approach, for instance, categories of the same taxonomic rank must be mutually exclusive and contrasting: a given tree, for example, must either be an *oak, elm, ash, pine, gum,* etc., but may not be more than one of these; without this constraint, the very notion of a taxonomy breaks down (Berlin 1992: 15). Ellen (1993: 86) found, however, that category boundaries in Nuaulu are not discrete in this way. Thus, the same animal might be classed as either an *imanoma* ('rat') or as a *mnaha* ('mouse') depending on the context, even though these two are recognized as separate categories. According to Ellen (1993: 123), this is because Nuaulu actually has no permanent classificatory principles: animals are simply classified 'according to criteria that seem relevant at the time'. Similarly, ethnobiological terminology often seems to straddle hierarchical levels in a way which runs counter to the presuppositions of Berlin's model. In Yurok (Algic, USA; Bright and Bright 1965, discussed in Berlin 1992: 39–40), for example, the one term *tepo:* means both 'fir tree' (generic level), and 'tree' (life-form level), a circumstance which would seem to provide evidence against Berlin's observation (1992: 31) that the ranks are 'mutually exclusive'.

It would not be appropriate here to talk of either the Ellen or the Berlin approach being proven or disproven by this sort of evidence. Berlin can always make specific adjustments to his model to incorporate phenomena which seem to run against it. It is rather a question of which model seems to square *more* with the facts, and the answer to this will vary from one researcher to another. For many linguists and anthropologists, however, the concentration on putative cognitive universals of taxonomic structure is a distraction from the real business of cross-linguistic research, which should concentrate on the details of how animal and plant terms are actually used, rather than construct abstract taxonomies using formal methods designed to contribute to 'comparative and evolutionary speculation about general mental principles of classification or cognition' (Ellen 1993: 3). We take up the question of cross-linguistic semantic typology again in 11.4.

QUESTION Could artificial objects like *clarinet, beanbag* or *wheelchair* be considered to belong to taxonomies like those of natural kinds? Read Atran (1990: 475–476) when you have thought about the answer.

5.1.5 Synonymy

In discussing synonymy, the relation of meaning identity, an initial distinction needs to be drawn between **lexical synonymy** (synonymy between individual lexemes) and **phrasal synonymy** (synonymy between expressions consisting of more than one lexeme). We will only be concerned here with lexical synonymy, assuming that phrasal synonymy can mostly be derived from the synonymy of the phrases' component lexemes (considered in their associated grammatical structures).

Meaning identity (synonymy) is a part of the metalinguistic stock-in-trade of ordinary speakers of English: we often refer to words as 'having the same meaning'. However, we usually restrict our statement of the synonymy of two words (or phrases) to the utterance level:

> When questions of sameness of meaning arise for unsophisticated speakers, no appeal is made to an abstract entity of 'meaning': a given word or phrase is accepted as having the same meaning as another word or phrase if its substitution for the other in the given context yields an utterance which they will accept as having the same meaning as the first utterance.
>
> (Lyons 1968: 75)

Speakers do not, that is, characteristically seem to base their judgements of synonymy on a 'bottom-up' analysis of the meaning of each of the words involved, concluding that words are synonymous if their separately established meanings are identical. Instead, a top-down procedure often seems to be at work: the fact that two expressions have the same contextual effect is what justifies labelling the substituted words as synonyms in that context.

Lexical synonymy has been variously defined in the semantics literature. The general definition of 'identity of meaning' is mostly accepted (Cruse 2002a: 486 however defines it as 'identity/similarity' of meaning), and it is the one we adopt here. Within this definition, however, there are a number of different terminological conventions. Of course, what is important in such cases is not to decide which of the different possible uses of a technical term like 'synonym' is better (or, even less, correct), but simply to define what is meant by the label in question and to use it consistently and without ambiguity.

For some authors synonymy is a context-bound phenomenon, two words being synonyms in a certain given context, whereas for others it is context-free: if two words are synonymous they are identical in meaning in all contexts. The question of synonymy and grammatical context is another on which disagreements exist. Thus, two words are synonymous for some authors if, like *likely* and *probable* in (20), they have the same meaning, even if they show a different set of grammatical cooccurrence possibilities – here, the possibility of raising the subject of the complement clause in (20a) to the subject of the main clause in (20b), which exists for *likely* but not for *probable*:

(20) a. *It's likely/probable that he'll be late.*
b. *He is likely/*probable to be late.*

For other authors, however, both identity of meaning *and* identity of grammatical properties are required (see Hudson *et al.* 1996 for many other examples).

Another important distinction is between synonymy of words and synonymy of senses. Sense-synonymy is the synonymy of some, but not all, the

senses of a word. Thus, *pupil* is arguably synonymous with *student* with respect to one of its senses ('person being instructed by a teacher'); but with respect to the sense 'centre of the eye' the two words are, of course, non-synonymous. *Pupil* and *student* are thus not lexical synonyms, but they are synonymous with respect to one of their senses. Similarly, Murphy (2003: 30) demonstrates that the pair *baggage/luggage* are synonymous with respect to the sense 'bags' but not with respect to the metaphorical sense 'emotional encumbrances':

(21) a. *Check your baggage/luggage with the gate agent.*
b. *I won't date guys with baggage/*luggage from their divorces.*

Recognizing sense-synonymy as a category implies viewing meaning identity not as a binary property of two words, but as a **graded** one: the more senses two words share, the more synonymous they are.

The limiting case of sense-synonymy is word-synonymy, which is the situation in which two words share *all* their senses. Typically, lexical synonyms are taken to be mutually intersubstitutable in every environment, with each synonym being equally normal in each environment (Cruse 2002a: 488; see box). The clearest examples of word synonymy are trivial ones, where there are alternative pronunciations for what is, in fact, intuitively a single lexeme, such as *(n)either* (pronounced ['(n)iːðə] or ['(n)aɪðə]) and *economics* (pronounced [iːkə'nɒmɪks] or [ɛkə'nɒmɪks]). In both these cases the same meaning is indisputably involved, but it is not clear that two words should be recognized. Some more interesting possible examples would be the pairs *Islamic* and *Muslim*, *Peking* and *Beijing* or *Bombay* and *Mumbai*.

Question Do these examples survive the test of mutual intersubstitutability?

Ullmann (1972: 141–142) points out that one of the few places where full word synonymy seems reasonably common is technical vocabulary, giving as example the fact that in medicine inflammation of the blind gut can be synonymously referred to as either *caecitis* or *typhlitis*.

However, as Ullmann also notes (1972: 142), word-synonymy 'runs counter to our whole way of looking at language. When we see different words we instinctively assume that there must also be some difference in meaning.' Consistently with Ullmann's point, genuine lexical synonyms which are not, unlike the examples just given, proper nouns or adjectives prove extremely hard to find. Once their combinatorial environments have been fully explored, proposed lexical synonyms often prove not to be such. For example, Bolinger (1976, discussed by Murphy 2003: 164) showed that *everybody* and *everyone* are not lexical synonyms since they are not mutually substitutable in every context:

(22) a. *She vowed that it was a delightful ball; that there was everybody that everyone knew . . .*
b. *!She vowed that it was a delightful ball; that there was everyone that everybody knew . . .*

Similarly, *almost* and *nearly* fail the test, as demonstrated by (23):

(23) *I very nearly/*almost forgot my appointment* (Hudson, Rosta, Holmes and Gisborne 1996: 444).

Question Can you find any lexical synonyms in any language you know? Are they really substitutable for each other in every environment?

Very often, the difference between lexical synonyms is not one of denotation but of connotation: the associations and emotional values of a word (see 1.4.2). Thus, the lexemes *doctor* and *quack* both arguably share the definition 'medical practitioner', and would be substitutable in every context but for the fact that they differ in the neutral and pejorative connotations attaching to each respectively. Other examples would be *lunch* and *luncheon* and *fag* and *cigarette*.

Question Consider the pairs of nouns *prize/award*, *couch/sofa*, and *coronary/heart-attack*. Are any of these synonyms? If so, what kind?

Synonymy and 'opaque' contexts

We noted above that lexical synonyms are usually taken to be mutually intersubstitutable in every environment, with each synonym being equally normal in each environment. Note that this does not extend to so-called *opaque* or *de dicto* (Latin: 'concerning what is said') contexts, i.e. contexts which refer to the content of a proposition (which may be the object of a belief, thought or utterance), rather than simply directly referring to their referent. Thus, *Mumbai* is not necessarily a synonym of *Bombay* in the opaque context 'John thinks the biggest city in India is Bombay', since John may not know that Mumbai and Bombay are the same place. If we took opaque contexts into account in testing for synonymy, there would be no true lexical synonyms.

So far, we have concentrated on the place of synonymy within the paradigmatic language system and largely ignored its place in language use. An initial observation on this subject is that, at least in many varieties of educated English written discourse, it is considered good style to avoid the repetition of identical words in nearby contexts. As a result, near-synonyms are often enlisted as equivalents, without any semantic difference between the equivalent terms being intended. The surrounding context thus endows the equivalent words with the temporary status of synonyms, a status which is in no way permanent, and which may be subsequently revoked so that the formerly equivalent terms can be brought into a relation of contrast. Lyons (1968: 80) generalizes this conclusion to *all* lexical relations: 'any meaning relations that are established are established for particular contexts or sets of contexts, and not for the totality of the language'. Thus, *red* has different possible antonyms depending on whether

the context is wine (where the antonym is *white*), traffic lights (*green*), or accounts (*black*).

Second, and lastly, we'll turn to a particularly interesting case of absolute lexical synonymy which has been observed widely in the Aboriginal societies of Australia (Alpher and Nash 1999). In most of these societies, an individual's name would not be used after their death. Furthermore, in many of them, words which sounded similar to that individual's name were also prohibited. This practice would clearly present many inconveniences if there were not some way of replacing the banned vocabulary. The usual practice, resting on the widespread multilingualism that was a standard feature of traditional Aboriginal society in Australia, was to adopt the translational equivalent of the prohibited word from a neighbouring language, and to use it until the old word became reusable (an interval of time which differed according to a number of variables). This process of temporary lexical replacement has resulted in Aboriginal languages possessing a wide range of absolute lexical synonyms. In Warlpiri, for example, a particularly well studied Australian language for which a large corpus of citations exists, facilitating semantic and lexical study, we could give perhaps hundreds of examples of absolute synonyms which appear to be completely equivalent and interchangeable in all contexts. The noun *karnta* 'woman', for instance, has at least the nouns *mardukuja* and *rduju* as absolute synonyms; 'dog' is translated synonymously by *jarntu* and *maliki*; *waku* 'arm' has the absolute synonym *nginyanyka*; and *marlu* 'red kangaroo' has *jurrkapanji*, *wawirri* and *yawarrangi*. Not all of these cases of synonymy are necessarily due to bereavement-induced borrowing: there may be a higher general tolerance of synonyms in Warlpiri than in familiar European languages. While it is possible that the synonymy of some of these examples may not survive the scrutiny of deeper lexicographical investigation, the number of candidates for synonymy in Warlpiri constitutes a striking exception to the pattern observed widely in European languages, which is that a loan-word synonym of an indigenous expression typically develops some semantic difference from the native word. This was the case with the words *beef*, *veal* and *mutton*, all borrowed into English from French, originally synonyms of *cow, calf* and *sheep*, but subsequently specialized to refer simply to the edible flesh of these animals.

QUESTION English has many pairs of near synonyms consisting of a native (Germanic) form and later Latin one. The verbs *begin-commence* and *end-terminate* are good examples. How many more can you find? How synonymous are they?

5.2 Componential analysis

The fact that semantic relations reveal aspects of meaning is one of the motivations for a **componential** approach to semantic analysis. Consider a series of hyponyms like *piece of furniture – chair – armchair*. It is easy to see that each successive level in such a hyponymy simply adds a further semantic specification (or component) to the previous one. Thus, the level

Table 5.1. Componential analysis of English furniture terms.

	with back	with legs	for a single person	for sitting	with arms	rigid
chair	+	+	+	+	–	+
armchair	+	+	+	+	+	+
stool	–	+	+	+	–	+
sofa	+	+	–	+	+	+
beanbag	–	–	+	+	–	–

chair adds a specification which we could describe as 'for one person to sit on' to *piece of furniture*, and *armchair* adds 'with arms' to *chair*. Similarly, we could describe the difference between *chair* and *sofa* through a contrast between the feature 'for one person to sit on' (*chair*) and 'for more than one person to sit on' (*sofa*). Continuing in this way, we could envisage an entire description of the semantic field of words for furniture items based on the presence or absence of a finite number of features, conceived as the 'conceptual units out of which the meanings of linguistic utterances are built' (Goodenough 1956: 196). This is illustrated in Table 5.1.

The information contained in componential analyses like this is essentially similar to the information contained in a definition; in principle, anything that can form part of a definition can also be rephrased in terms of semantic components. Its embodiment in binary features (i.e. features with only two possible values, + or –) represents a translation into semantics of the principles of structuralist phonological analysis, which used binary phonological features like [± voiced], [± labial] [± nasal], etc. to differentiate the phonemes of a language. The use of a restricted number of binary features was one of the most successful innovations of the structuralist programme of linguistic analysis developed in the wake of Saussure by early Prague Schools phonologists like Trubetzkoy and Jakobson, and continued in America in the generative tradition by Chomsky and Halle. The componential analysis of meaning like the one sketched in Table 5.1 is precisely analogous to the feature specifications of phonemes advanced in the structuralist tradition. Thus, just as *sofa* can be described through the use of binary semantic components like [+ with back], [+ with legs], [– for a single person], [+ for sitting], [+ with arms], [+ rigid], so the phoneme /d/ of English would be described (in the system of Chomsky and Halle 1968) as a constellation of the following distinctive features:

(24) /d/ [+ consonantal, – nasal, – sonorant, + anterior, + coronal, + voiced . . .]

These distinctive features serve to differentiate /d/ from the other phonemes of the English consonant inventory; /t/, for instance, shares all the feature specifications of /d/, except that it is [– voiced]:

(25) /t/ [+ consonantal, – nasal, – sonorant, + anterior, + coronal, – voiced . . .]

The use of distinctive binary features as an instrument of phonological analysis proved extremely fruitful and permitted a degree of formalization that many linguists took as a model of successful linguistic theorizing, and it was soon extended to the analysis of morphology (see Lounsbury 1956: 159–162 for details). From this, application of features to semantics was a natural development.

Whereas a standard dictionary represents the contrast between *chair* and *sofa* through differing definitions, as in (26), the componential analysis represents the same difference in meaning simply through the presence or absence of a single feature, [for a single person], an analysis which struck many linguists as superior in terms of its concision.

(26) *chair* 'a separate seat for one person, of various forms, usually having a back and four legs'
sofa 'a long upholstered seat with a back and arms for two or more people' (Concise Oxford 1995)

Some componential analyses went beyond strict feature binarity to include a third value, 0, which indicated that a word was unspecified for a particular feature. Thus, in the analysis of German nouns for sounds given in Table 5.2 (Baldinger 1984: 85–87), a certain word may neither possess nor lack a certain feature, but may simply be unspecified for it. For instance, the superordinate term *Schall* 'sound' neither possesses nor lacks the feature 'self-produced': sometimes the sound referred to by *Schall* is self-produced (in the case of someone shouting, for instance), sometimes it is not (as in the sound of bells). 'Self-produced' is thus irrelevant to *Schall*; describing it as unspecified with respect to this feature allows it to be analysed using the same features as the other terms.

The description in Table 5.2 may 'certainly seem debatable from the point of view of contemporary German' (Coseriu 1971: 181). What is important for our purpose is not whether the analysis is accurate, but the conceptual framework to which it belongs.

Componential analysis was not simply an innovation with respect to preceding modes of semantic analysis. It also crystallized a number of the implicit characteristics of ordinary lexicographical description, particularly the idea (typical of a diverse range of thinkers like Leibniz or the

Table 5.2. Componential analysis of German sound terms.

	audible	self-produced	propagated	echoing	homogeneous
Schall	+	0	0	0	0
Laut	+	+	0	0	0
Hall	+	–	+	0	0
Widerhall	+	–	+	+	0
Klang	+	–	–	0	+
Geräusch	+	–	–	0	–

Port-Royal grammarians in France) that the definitional metalanguage used to describe meanings should ideally be constituted by a fixed number of elementary terms which, in order to avoid circularity, would not themselves be open to further analysis. It is only a small step from such a conception of definition to the formalizations of componential analyses with their fixed repertoire of features, taken to represent the elementary building blocks of meaning.

Despite the popularity it enjoyed for a time, especially in structuralist circles, componential analysis is confronted with a number of serious problems. One important problem is the rigidity of the binary feature system, according to which the only possible value of a specified semantic feature is + or − (or unspecified). This aspect of the analysis came to be seen as increasingly unsatisfactory from the 1970s onward, largely in light of psychological evidence about human categorization which we will discuss in Chapter 7. This was not the only problem, however. Another serious problem was the fact that it seemed simply not to apply to many areas of the vocabulary. Componential analysis is particularly suited to restricted semantic fields from which intuitively obvious semantic distinctions can easily be abstracted. The most obvious types of lexeme to which it can be applied are nouns with obvious properties available for conversion into features ('with legs', 'to sit on', 'for one person', etc.). Elsewhere, however, the utility of features is much less clear. Thus, whereas componential analyses were advanced of words for furniture (Pottier 1964, 1965), of dimension words like *tall, short, long, thick* (Greimas 2002) and, especially, of kinship terms (an area where the binarity of features such as [± female] [± same generation] is particularly justifiable; cf. Goodenough 1956, Lounsbury 1956), not many other areas of the vocabulary proved open to convincing analysis in this method. As a species of definitional analysis, componential analysis inherited the failings of traditional definitions, and words which are hard to produce definitions for are also hard to analyse componentially. The domain of colour terminology is exemplary in this respect, since it does not seem possible to distinguish any inherent components within the meanings of the different colour adjectives, any more than it is to propose definitions of them. What features, for example, could we plausibly advance in order to distinguish *yellow* from *red*? We could always advance the features [± red] and [± yellow], but this sort of move was not considered legitimate: the features were supposed to *analyse* the meanings concerned, not simply treat them as unitary elements (see 2.5 for discussion). Certainly these words do not have any obviously available *conceptual* components of the sort we could discern in the tables above.

Furthermore, many relational ideas which *can* easily be expressed in the propositional format of ordinary language definitions are hard to couch in sets of plausible-sounding binary features. The meanings of the verbs *buy*, *swap*, *sell*, *steal,* for example, do not seem to easily submit to description in terms of any distinctive features – or not, at least, to any distinctive features that would be significantly different from a definition. One could always, of course, develop a description through features like [± exchange] [± price]

Table 5.3. Componential analysis of English transfer verbs.

	transfer of possession	voluntary transfer	exchange	price	subject receives
buy	+	+	+	+	+
sell	+	+	+	+	–
steal	+	–	–	–	+
give	+	+	–	–	–
swap	+	+	+	–	+

Note that these features are meant to apply to transitive, active forms of the verbs: otherwise, the feature [subject receives] will not be an accurate description of the difference between the verbs.

[± transfer of possession] and similar, but the resulting feature decompositions, sketched in Table 5.3, do not seem to gain any explanatory advantage over verbal definitions – in fact, they seem rather less effective in their inability to incorporate the relational ideas which sentential definitions can easily accommodate. For example, the feature [subject receives] seems a clumsy way of capturing the difference between *buy* and *sell*, a distinction which emerges quite naturally from the definitions 'exchange for goods or services', and 'exchange goods or services for money'.

QUESTION Can you formulate a better set of features to describe the meaning of these verbs? What, if any, extra features need to be added in order to account for the verbs *transfer*, *take*, *barter*, *lend* and *hire*?

Another problem with componential analysis as a semantic method can be illustrated by a comparison with phonology, the domain in which the technique was first developed. In phonology, features like [± voice], [± coronal], etc. generally have clear physical definitions: a segment is [+ voice] if the vocal folds are vibrating during its production, and [– voice] otherwise. Whether a segment should be classified as [+ voice] or as [– voice] can therefore, at least in principle, be reasonably unambiguously established. In contrast, the definition of semantic features is much less clear. Consider as an example the case of [+ with legs] in the analysis of the noun *chair*. Many modern types of chair are supported by continuous metal runners which fulfil the same function as traditional legs. Does this type of chair count as [+ with legs] or not? We could, of course, simply stipulate, as a matter of definition, that the feature [+ with legs] applies to this type of chair as well, but if this type of stipulation is necessary too often there is a risk that the features used become arbitrary. Since there are no clear physical or psychological correlates of the semantic features, as there are for the phonological ones, which we could determine experimentally, it is often not obvious how a principled decision is to be reached: we cannot, after all, open up our heads and look inside in order to discover the 'real' nature of the concept involved, in the same way that we can determine observationally whether the vocal folds are usually in operation in utterances of a given segment.

In spite of these problems, the use of distinctive features in componential analysis had some subtle consequences for many linguists' conception of semantics, by making meaning seem something much more concrete and uniform than it had appeared in traditional dictionary definitions. If the definition of *chair* as 'a separate seat for one person, of various forms, usually having a back and four legs' provides an intuitively clear pointer to the word's denotation, it is still thoroughly informal, and open to a large number of different, and equally effective, phrasings. This did not seem to be the case with a componential analysis in terms of features like [+ with back], [+ with legs], [+ for a single person], [+ for sitting], [− with arms], [+ rigid], which brought two important innovations. The first was to suggest that semantic features, like phonological ones, have a higher degree of abstraction and technicality than informal dictionary definitions. Phonological features like [± nasal] or [± coronal] refer to postulated abstract properties of segments which do not have any independent existence: the feature [± nasal], for instance, never exists on its own, but is only found together with other features such as [+ consonant], and is abstracted as the common element from a whole range of sounds like [m], [n] and [ŋ]. Similarly, the adoption of componential analysis encouraged a view of semantic components as abstract, underlying elements of meaning. Given widespread conceptualist assumptions about meanings, it was easy to identify these abstract elements with the conceptual constituents of language (see Lounsbury 1956: 163).

Second, in spite of the fairly small number of words for which successful componential analyses were proposed, componential analysis encouraged the assumption that the same distinctive semantic features would recur again and again in the analysis of a vocabulary; assuming, for example, a feature [± edible] that distinguishes the nouns *beef* and *cow*, one could then use the same feature to distinguish *plant* and *vegetable*. As a result, the underlying semantic content of language was made to seem highly uniform, with word meanings all cut from the same cloth, and it became possible to identify the underlying conceptual content of a language's vocabulary with the finite list of distinctive semantic features required for its componential analysis, in the same way that the set of phonological distinctive features constituted the raw material out of which individual languages constructed their phonemic systems. And just as, in phonology, this repertoire of distinctive features was assumed to be universal, it was easy to assume that all human languages shared the same set of underlying semantic features – even though this was strenuously denied by certain proponents of the method (Coseriu 2001: 360–361).

Question Propose a componential analysis of nouns indicating means of transport (some suggestions: *bike*, *car*, *train*, *pram*, *skateboard*, *rollerblades*, *plane*, *helicopter*, *boat*, *dinghy*, *ferry*, *truck*). What are the advantages and disadvantages of this type of analysis?

Question As noted above, certain words do not seem obviously amenable to analysis in terms of semantic components. Can you advance componential analyses of *special*, *fluffy*, *few* and *Russian*? For each word, what other words can be analysed using the same features?

5.3 Polysemy and meaning division

A number of the analyses presented so far in this chapter necessitate the associated claim that the word under analysis is **polysemous** (Greek 'many meanings'), i.e. that it possesses several distinct senses (as discussed in 10.3, constructions, as well as words, can be polysemous, but we will not pursue this possibility here). To give just one out of several possible examples, the componential analysis of the English furniture terms in Table 5.1 can only be considered valid if certain additional senses of words like *chair* are first excluded from consideration. For example, as well as the meaning in which it refers to an item of furniture, *chair* may also mean 'professorship' and 'head of a committee', meanings to which features like [+ for sitting on] clearly do not apply. A similar point could be made about the description of the transfer verbs *buy* and *give*. These verbs show a constellation of 'metaphorical' uses like those in (27) which contradict the feature assignments in Table 5.3, since there is no price involved in (27a), and no change of possession in (27b):

(27) a. *It's a crazy theory, but I'll buy it.*
b. *He gave them one last chance.*

These discrepancies are naturally explained by the contention that *chair, buy* and *give* have several distinct polysemous senses, and that the componential analysis does not apply to all of them.

QUESTION Do any other analyses in the preceding parts of this chapter implicitly require the postulation of polysemy? Which?

This example of the necessity to postulate polysemy is quite typical of semantic analysis. In fact, for many semanticists it is a basic requirement on semantic theory to show how many senses are polysemously associated with a single lexeme: if a lexeme is thought of as the union of a particular phonological form with a particular meaning or meanings, then it is clearly essential for the analysis to specify, for any given word, what it is for a word to have one meaning, and what it is to have several meanings. If a theory of semantics cannot do this, it will be open to the charge that its conception of one of its basic terms is intolerably vague. As Kilgarriff (1993: 379) puts it, 'without identity conditions for word senses the concept remains hazardously ill-defined'.

But polysemy is not required simply for the purposes of technical linguistic theorizing. The informal description of meaning in ordinary language would also be impossible without the recognition of separate senses within the same word. Consider for example the French noun *pièce*. This has at least five separate senses, as illustrated in (28):

(28) a. 'piece, bit': *les pièces d'un jeu d'échecs* 'the pieces of a chess set'
b. 'coin': *pièce de deux euros* 'two euro coin'
c. 'document': *pièce d'identité* 'identity document'
d. 'play': *pièce en trois actes* 'three act play'
e. 'room': *appartement de deux pièces* 'two room flat'

It would seem impossible to give any accurate definition of *pièce* that did not separate out these five meanings. This is because any definition which tried to cover all the meanings simultaneously would be excessively broad, and would apply to many referents for which *pièce* itself is not used. Virtually the only definition that will embrace the notions of a piece, a coin, a document, a play and a room is 'thing', but this definition will admit many referents to which *pièce* itself will not ordinarily apply, such as aircraft, stationery items and meals, to name only three out of the infinite number of possibilities. This excessive breadth disqualifies 'thing' as a possible definition of *pièce*, and imposes its division into a number of different senses, each of which can then receive a separate definition.

5.3.1 Polysemy, monosemy and homonymy

The different senses of *pièce* are not unrelated, as an examination of the word's history shows. *Pièce* comes from Mediaeval Latin *petia*, and the meaning shown in (28a) is the oldest sense from which the others are derived (Rey 1998: *pièce*). The other four meanings developed subsequently through ordinary processes of semantic extension which we will discuss in Chapter 11. The semantic links between many of these senses can still be easily imagined: the meaning 'coin', for example, is derived from the collocation *pièce de monnaie* 'piece of money', while 'play' is derived from *pièce de théâtre* 'piece of theatre'.

QUESTION Can you suggest how some of the other senses might be related? What problems are there in deciding?

The term polysemy is usually reserved for words like *pièce* which show a collection of *semantically related* senses. We can thus define polysemy as the possession by a single phonological form of several conceptually related meanings. We will return to this definition in a moment. The opposite of polysemy is **monosemy** (Greek 'single meaning'): a word is monosemous if it contains only a single meaning. Many technical terms are monosemous: *orrery*, for example, has no other recorded meaning in English than 'clockwork model of the solar system', and *appendectomy* (or *appendicectomy*) means only 'excision of the appendix'. Monosemous words may often be **general** over a variety of distinct readings. The English noun *cousin*, for example, is general over the readings 'son of father's sister', 'daughter of mother's brother', 'son of father's brother', etc., but is usually considered as having only the single meaning 'offspring of parent's sibling'.

Polysemy also contrasts with **homonymy** (Greek 'same name'), the situation where a single phonological form possesses unrelated meanings. A good example of a homonym is provided by the English verb pronounced [weɪv], and spelt *wave* or *waive*, depending on the meaning. The different spellings of this word are a clue to the fact that we are dealing with two historically different verbs whose pronunciations happen to have converged. Thus, *wave* derives from Old English *wafian*, whereas *waive* was borrowed into English, ultimately from Old French *gaiver*. These two words

originally had different pronunciations, which intervening sound changes have removed. In a situation like this it would make no sense to talk of polysemy. We do not, in English, posit the existence of a single lexeme pronounced [weɪv], polysemous between the meanings 'make a sign with the hand' (*they waved goodbye*) and 'forgo' (*they waived the fee*). As well as the absence of any historical relation, the two meanings are unrelated: it is hard to imagine how they could plausibly be conceptually linked.

Not all homonyms are conveniently distinguished by spelling. The French verb *louer* 'hire', for example, is a homonym of *louer* 'praise', but these two meanings were originally expressed by historically unrelated verbs: 'hire' comes from Latin *locare*, 'praise' from Latin *laudare*. A second example is also a French word starting with *l*, *livre*, which means both 'pound' and 'book'. Again, these meanings are originally completely unconnected, 'pound' being derived from Latin *libra*, 'book' from Latin *liber*.

5.3.2 Tests for polysemy

The idea of 'conceptual relation' (or 'semantic relation') featuring in the definition of polysemy discussed above is notoriously unconstrained. If polysemy is defined as 'the possession of conceptually related senses by a single word', the fact that we can conceive of a conceptual relation between *any* two meanings means that we need never diagnose homonymy. The meanings 'pound' and 'book', for instance, might be conceptually related in that books were typically quite heavy objects, weighing several *pounds*. To give another example, the French noun *pic* means both 'woodpecker' and 'peak'. These are not, however, historically related: the 'woodpecker' sense comes from popular Latin **piccus*, the 'peak' meaning from Spanish *pico*, each of which took on the same pronunciation after it entered French (Rey 1998: *pic*). However, in order to motivate an analysis of *pic* as polysemous we could posit a conceptual link between the shape of a woodpecker's beak and a steep mountain-top: the only reason that modern French dictionaries do not do this is the separate origin of the two words. Even so, it might be objected, who is to say that contemporary French speakers do not relate the two meanings in just this way? Ordinary speakers have no access to the etymological history of their own language; when acquiring French, native speakers would have heard simply the single form [pi:k], which they would have learnt to associate with two meanings. Might not they think about the two meanings as related by shape?

In languages whose histories are not well known, cases like this pose a considerable problem, and the uncertainty is aggravated when we have no clear sense of the plausibility of a conceptual relation between the meanings involved. In Warlpiri, for example, the verb *parntarni* means both 'hit on the head' and 'name, call'. Without a thorough appreciation of the cultural context, it is entirely unclear whether it would be possible to propose a plausible conceptual link between these two ideas. And even if we did have a detailed knowledge of the cultural context, it's not obvious what would constitute adequate evidence that the two meanings were 'conceptually related'. Clearly, then, the idea of 'conceptual relation' will not allow us to decide conclusively between cases of polysemy, monosemy

and homonymy. What is needed is a more precise criterion which will discriminate the three cases unambiguously. Linguists have devised a number of **polysemy tests**, of which we will discuss the most important.

The oldest type of polysemy test, the **definitional test**, due originally to Aristotle (*Posterior Analytics* II.13; Geeraerts 1993: 230), identifies the number of senses of a word with the number of separate definitions needed to convey its meaning accurately. A word has more than one meaning if there is no single definition which can be applied to all of its uses, and it has no more meanings than the number of maximally general definitions necessary to define its complete denotation. This was the criterion we applied in (28) above in order to delimit the five separate senses of French *pièce*, and it corresponds to the common-sense idea that a word has as many senses as it requires separate semantic descriptions. Thus, the definitional criterion demonstrates the non-monosemy of the noun *quarry*, since there would seem to be no definition which could simultaneously cover the meanings 'site dedicated to the open-air excavation of stone' and 'object of a search or hunt'. Similarly, there seems to be no single definition capable of describing the meanings 'palace' and 'palate' of the French noun *palais*. (Note that the definitional criterion will not of itself distinguish polysemy and homonymy.)

Definitional tests for polysemy are widely rejected (Geeraerts 1993; Schütze 1997: 69; Fodor 1998; Dunbar 2001). The most significant problem with them is that, contrary to the beliefs of their proponents, they in fact presuppose that the number of meanings to be defined is already known (Geeraerts 1993: 236). Ironically, therefore, far from being a test of polysemy, they actually require that the question of the number of senses held by a lexical item is already resolved. To see this, let us once again take an example from French and consider the adjective *drôle*, which can be defined in two different ways, shown in (29) a and b.

(29) a. *drôle*: (1) amusing, humorous
(2) peculiar

b. *drôle*: (1) funny

Is *drôle* polysemous or not? The definitional criterion will not help us to decide, since two definitional strategies, each of which gives a different answer, are equally possible and there is not any obvious way to distinguish between them. On strategy (a), *drôle* has two distinct meanings and is therefore polysemous; on strategy (b) it is monosemous. It might be thought that (29b) is a rather unsatisfactory definition, only possible because of the convenient presence in English of a word which covers the same semantic territory as *drôle* in French; *funny* in English clearly covers two distinct notions which a definition should distinguish. We can, however, easily answer this objection by rephrasing (29b) as (30):

(30) *drôle*: provoking amusement or puzzlement

This definition combines the two cases in (29a) into a single **disjunctive** definition (one that contains two clauses linked by 'or'), thereby preserving the

semantic analysis of *drôle* while abandoning its distinction into two meaning components. On purely formal grounds, there is nothing to distinguish these definitions of *drôle*: they are all equally accurate, in the sense that they may all be truthfully substituted for the definiendum (see 2.4). Yet they do not resolve the question of the monosemy or polysemy of the adjective.

Another serious problem with the definitional test is that the number of senses it diagnoses for the definiendum will vary according to the metalanguage in which the definitions are couched. The Kukatja (Pama-Nyungan, Australia; Valiquette 1993) verb *yungkala* is defined in English as meaning either 'throw and pelt' or 'grind' (it also has other senses which do not concern us here). On the definitional criterion, therefore, it is shown to be polysemous. But if we change the defining metalanguage to Walmajarri (Pama-Nyungan, Australia), a related Australian language, we could simply propose the single definition *luwarnu*, a verb which is also defined in English as 'pelt, grind'. With Walmajarri as the defining metalanguage, then, *yungkala* turns out to be monosemous. On the basis of this type of example, we can conclude that definitions should not be appealed to as evidence for the polysemy or monosemy of a lexical item.

Another frequently suggested test for polysemy is the **logical test** (first advanced by Quine 1960). A word (or phrase) is polysemous on this test if it can be simultaneously true and false of the same referent. The reasoning behind this test is that a word could only be simultaneously affirmed and denied if the affirmation and the denial applied to different meanings; otherwise, language would be self-contradictory. Examples of simultaneous affirmation and denial of the same word are given in (31), with the particular sense in question mentioned in brackets:

(31) a. *Bread is a staple* ('basic foodstuff'), *not a staple* ('stationery item').
b. *This man is a minister* ('priest'), *not a minister* ('politician').
c. *The exam paper was hard* ('difficult'), *not hard* ('firm to the touch').

The adoption of this test, however, would require us to diagnose polysemy (ambiguity) in many cases where we would not, in fact, want to recognize any more than a single meaning for the word in question:

(32) a. Said of a non-openable window:
It's a window ('transparent glass fitting') *but it's not a window* ('openable transparent glass fitting').

b. Said of someone making a half-hearted attempt:
He's trying ('going through the motions') *but he's not trying* ('making a genuine effort').

c. Said of a sixteen year old:
He's an adult ('mature') *but not an adult* ('legally adult').

d. Said of a lane:
It's a street ('thoroughfare taking traffic') *but not a street* ('sizeable thoroughfare').

Instead of demonstrating polysemy, what seems to be happening in these utterances is that the speaker is simultaneously entertaining two different points of view, under only one of which the description applies. From one point of view, for example – that according to which windows can be opened – the referent of (32a) qualifies as a window; from the opposite point of view, it does not. To diagnose polysemy, however, in every lexical item that was amenable to this sort of perspectivization would leave virtually no monosemous words in the lexicon.

QUESTION Devise some other examples like those in (32) involving the simultaneous affirmation and denial of different aspects of a word's meaning. In which cases would you want to say that the word was polysemous? What are your motivations?

A particularly common variety of test used to distinguish between polysemy (ambiguity) and monosemy (vagueness) are the so-called **linguistic tests**, which involve constructions which predicate the same information of two different subjects. In order not to sound bizarre, punning or just awkward, these constructions require that the same information be predicated of both subjects. For example, the *and so* construction in (33a) would not be appropriate if the quartet are playing a Schoenberg string quartet and Real Madrid (a football team) are playing sport; rather, it is only appropriate if the two types of playing are the same, as in (33b):

(33) a. *The quartet are playing, and so are Real Madrid.*
b. *The quartet are playing, and so is the trio.*

Examples of constructions which, like (33a), are bizarre, punning or awkward, are referred to as **crossed** or **zeugmatic** (Greek *zeugma* 'yoke'), since they cross or 'yoke together' notions which do not belong together. As a result of the contrast between (33a) and (33b), some linguists (Lakoff 1970, Zwicky and Sadock 1975) have suggested that constructions like *and so* can be used to differentiate between polysemous and monosemous expressions. Thus, (33a) demonstrates that *play* is polysemous between the sense 'perform a musical piece' and 'engage in a sporting activity'. Similarly, the fact that (34) is not appropriate when intended with the bracketed senses testifies to the polysemy of *mad*:

(34) *Sarah is mad* ('insane'), *and so is Roger* ('angry').

Constructions using *and so* are far from being the only ones to require this sort of identity between the two parts of the predication. Thus, the pronoun *it* in (35) has to be understood as coreferential (anaphoric) with its antecedent, *time*. But since two different senses of *time* are intended in (35), the resulting sentence takes on a 'punning' quality, which has been taken as evidence of the polysemy of *time* with respect to the bracketed senses:

(35) *The drummer is doing time* ('penal servitude'), *but he can't beat it* ('rhythm') (anaphoric pronoun identity).

One major problem with the linguistic test is that whether or not a sentence seems punning, bizarre or awkward is open to significant variation between subjects. Indeed, even the reactions of a single subject to the same sentence may differ at different times. For the present author, for example, the following sentences (Riemer 2005: 141) have in the past seemed both awkward and normal:

(36) a. *The Michelin restaurant judges are eating, and so are the sausage dogs.*
b. *He lacks taste and company.*
c. *The fleet reached Samos and an end to the months of waiting.*

Because of this shifting status, the linguistic test would not seem to offer the stable results required for judgements of semantic structure.

Furthermore, as pointed out by Geeraerts (1993: 238), the linguistic test cannot be relied on to give correct results where the polysemy of the word in question is not in doubt. Consider for example (37):

(37) *The newspaper has decided to reduce its size.*

There is nothing awkward or peculiar about this sentence used in the context of a paper deciding to change its format from a broadsheet to a tabloid. Yet *newspaper* initially refers to the management in charge of publishing the physical newspaper, whereas *it*, which should be coreferential with this, refers to the physical object itself. Pretheoretically, we clearly recognize two distinct meanings of *newspaper*, the 'management/board of directors' sense and the 'material object' sense. Yet these different meanings do not show up on the linguistic test.

QUESTION A possible response to this objection would be that our pretheoretical ideas about the polysemy of *newspaper* are simply wrong. Is this reasonable?

Another problem with the linguistic test is that it ignores the difference between the sense and reference of the lexemes in question. As pointed out by Tuggy (1993), the linguistic test is sensitive to the referents of the terms involved. For example, sentences on the pattern of (38) have been used to demonstrate polysemy, in this case polysemy of the verb *court*:

(38) *Hank is courting Tina and a disaster.*

The zeugmatic character of this sentence justifies the postulation of two separate meanings of the verb *court*: 'woo', which is associated with the object *Tina*, and 'knowingly risk', associated with the object *disaster*. It is the fact that each object corresponds to a different sense of *court* that gives (38) its zeugmatic quality. We can, however, imagine two different contexts in which (38) might be uttered (Riemer 2005: 141). In the first, the speaker means that *in* courting Tina, Hank is courting a disaster. In this case, *Tina* and *disaster* ultimately both refer to the individual Tina. The second context is one in which *Tina* and *disaster* are in no way coreferential: where, for

example, at the same time as 'courting' Tina, Hank is also, unrelatedly, contemplating a disastrous career-change. This suggests that it is the referent, not the sense, of the lexeme to which the linguistic test is sensitive. Questions of polysemy and monosemy, which concern sense, not reference, cannot therefore be illuminated by these phenomena.

5.3.3 Polysemy and monosemy as a cline

The fact that none of the proposed tests of polysemy seems to deliver reliable results has led many linguists to dismiss the polysemy/monosemy contrast as a false dichotomy. One of the earliest to do so was Geeraerts, who rejects the idea that we should think of meanings as 'things, prepackaged chunks of information that are contained in and carried about by word bags' (Geeraerts 1993: 259; see also Tuggy 1993, Allwood 2003). This idea is compatible with the 'conduit metaphor' discussed in 1.6.2, and once we abandon it, it is no longer important to know whether a word carries around one prepackaged information chunk (monosemy) or several (polysemy).

One possible alternative to the view of words having a determinate and finite number of senses would be to think of a word's meaning as a continuum of increasingly fine distinctions open to access at different levels of abstraction (cf. Taylor 2003: Chapter 8). Depending on the level of abstraction at which a word's meaning is considered, different elements of its meaning may appear as distinct or not, with the word consequently appearing variously polysemous or monosemous on the different polysemy tests. For example, consider the dialogue in (39), adapted from Tuggy (1993):

(39) A: *What have you two been doing all afternoon?*
B: *I've been painting and so has Jane.*

If Jane has been painting a portrait and B has been painting stripes on the road, this answer will be misleading since it suggests that they have been engaged in the *same type* of painting; as a result, B's reply could only be uttered facetiously, punningly, or with the intention to mislead. On the linguistic criterion discussed above, *paint* would thus be polysemous between two senses which we could provisionally gloss as 'engage in artistic activity involving the application of paint' and 'engage in a non-artistic activity involving application of paint'. In other contexts, however, the linguistic test does not point to different senses of *paint*, suggesting that it is in fact monosemous (general) between the portrait and road stripe-painting senses. Thus, imagine in (40) that Franz is painting a portrait, and that the speaker is painting stripes on the road:

(40) *When I'm painting I try to get the colour on evenly and so does Franz.*

How can this clash between the test results be resolved? One answer would seem to be that (39) and (40) invoke differing levels of abstraction of the concept of *painting*. The verb *paint* can be used to refer to a broad

continuum of different activities (as well as road and portrait painting, there is face-painting, painting of walls, rust-proofing, nail-painting, etc.). Strictly speaking, none of these individual instances of painting is absolutely identical to any other: two acts of wall-painting, for example, will differ in the details of their physical and temporal locations. The function of the verb *paint* is thus to categorize all of these different referents together (Taylor 2003; see 7.1 for further discussion). The relative importance of individual instances of painting is not, however, stable. When, as in (39), an accurate description of the *type of activity* being undertaken is called for, then painting a portrait and painting stripes on the road will be seen as fundamentally different activities: one is an artistic pursuit often associated with the leisure activities of amateurs, while the other takes place in the context of professional employment. Given the differing values of the two types of painting in our society, their common description by the same verb would be misleading. In (40), however, painting is considered not in terms of its wider socio-cultural import, but in terms of its actual mechanics. In this context, the differences between road-stripe painting and portrait painting disappear, since even application of colour is equally relevant to both; consequently, the verb *paint* may be used to refer to both types of situation without any punning, awkwardness or risk of misinformation. It is as though *paint* comprehends a variety of related notions, such as portrait painting, painting road-stripes, painting walls, painting the face, etc., which may be 'zoomed' in on and out from. When what is required is a fine-grained description of the type of activity in question, a 'close-up' view of the notions covered by *paint* makes each one stand out as a distinct unit, in the same way that a photographic close-up will reveal the detailed structure of an object. But when the focus is wider, the differences between the internal constituents become blurred and lose their distinctness. Accordingly, *paint* will appear monosemous or polysemous as a result of the level of abstraction or resolution at which its meanings are accessed. To think of a lexical item like *paint* as *either* monosemous *or* polysemous is therefore to ignore the fact that meanings can be accessed at a variety of levels. Rather than being absolute alternatives, monosemy and polysemy name the end points of a **cline** of semantic separateness.

This type of answer has found a number of recent adherents in discussions of polysemy (see for instance Taylor 2003: Chapter 8). In one sense, however, it does not resolve the problem, and for a similar reason to the one for which we rejected the linguistic test of polysemy: it ignores the distinction between the sense and the reference of *paint*. The cases discussed in (39) and (40) constitute different situations to which *paint* refers. But how do we know when a different situation corresponds to a different *sense* of the verb? Might not all the occurrences of *paint* we have discussed be examples of a single, schematic sense along the lines of 'apply paint to a surface' (which will cover both the portrait and the road-painting cases), even at the most fine-grained level of resolution? Difference of reference does not automatically entail difference of sense; if it did, the very distinction between sense and reference would lose its point. As a result, the

mere fact that *paint* can be used to refer to a variety of different situations tells us nothing about the number of senses involved.

By now it will be obvious that this issue involves a number of complex questions. For some investigators, the phenomena discussed in this section problematize the very objectivity of meaning as a linguistic phenomenon (Geeraerts 1993; Riemer 2005).

Summary

As well as knowing a word's definitional meaning, a competent speaker knows how it relates to other words of the language. Five important types of **lexical relation** have been identified.

Antonymy

Antonymy (oppositeness) may be characterized as a relationship of incompatibility between two terms with respect to some given dimension of contrast. The principal distinction to be made in discussion of antonymy is between **gradable** (e.g. *hot–cold*) and **non-gradable** (e.g. *married–unmarried*) antonyms, i.e. antonyms which do and do not admit a midpoint.

Meronymy

Meronymy is the relation of part to whole: *hand* is a meronym of *arm*, *seed* is a *meronym* of *fruit*, *blade* is a meronym of *knife*. Not all languages seem to have an unambiguous means of lexicalizing the concept PART OF, but meronymy is often at the origin of various polysemy patterns in languages.

Hyponymy and taxonomy

Hyponymy and **taxonomy** (*kind of*-ness) define different types of class-inclusion hierarchies; hyponymy is an important structural principle in many languages with classifiers, while taxonomy has been argued to be basic to the classification and naming of biological species.

Synonymy

Synonymy is frequently claimed to exist between different expressions of the same language, but genuine lexical synonyms prove extremely hard to find: once their combinatorial environments have been fully explored, proposed lexical synonyms often prove not to be such.

Componential analysis

The importance of appreciating a lexeme's semantic relations in order to understand its meaning is one of the motivations for a componential approach to semantic analysis. Componential analysis analyses meaning in terms of binary features (i.e. features with only two possible values, + or −), and represents a translation into semantics of the principles of structuralist phonological analysis. As a type of definitional analysis, componential analysis inherits the failings of traditional

definitions, and words for which it proves hard to couch definitions are also hard to analyse componentially.

Polysemy and monosemy

Theoretical and ordinary description of meaning would both be impossible without the recognition of separate senses within the same word. Words with several related senses are described as **polysemous**. Polysemy contrasts simultaneously with **monosemy**, the case where a word has a single meaning, and **homonymy**, the case where two unrelated words happen to share the same phonological form. In spite of the intuitive obviousness of these distinctions, there are many instances where it is not clear whether a word should be analysed as polysemous or monosemous, and no absolute criteria have ever been proposed which will successfully discriminate them.

Further reading

Cruse (1986) is a standard discussion of lexical relations in general; see Murphy (2003) for another, more theoretical treatment. Jones (2002) is a recent detailed study of antonymy. For two radically different approaches to taxonomy, contrast Berlin (1992) and Ellen (1993). Note however that both these works are primarily aimed at anthropologists, in spite of the importance of linguistic evidence to both. Chapters 2 and 3 of Quine (1961) contain discussion of synonymy from the point of view of a philosopher. Gross and Miller (1990) discuss English antonymy from a computational perspective. On the development of the componential analysis of kin terms, see the opening chapters of D'Andrade (1995). For readers of French, Rastier (1987) and Coseriu (2001 [1983]) contain useful discussions of the status of componential analysis in linguistics. On monosemy, see especially Ruhl (1989), a detailed theoretical and empirical treatment. Polysemy has recently spawned a vast literature, especially in cognitive linguistics. In addition to the sources quoted in the text, see Ravin and Leacock (2002), Nerlich *et al.* (2003), Cuyckens, Dirven and Taylor (2003) and Riemer (2005) for a selection of different views.

Exercises

Questions for discussion

1. Consider the following statements from Lehrer (2002: 504) on the use of morphology to create antonyms in English:

   Although *un-* is the most productive of these affixes and has been displacing *in-*. . . , there are interesting restrictions on its application. First, it does not attach to simple words that have negative connotations. Words like **uncruel*, **unsick*, and **unstupid* are rejected, whereas *unkind*, *unwell* and *unintelligent* are normal. Secondly, *un-* does not attach to many common positive and neutral adjectives, either, so that words like **ungood*, **unnice*, **unrich* and **untall* are also unacceptable.

   Are Lehrer's generalizations accurate? Can you develop any theory of which adjectives are compatible with *un-*?